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Why and How Tile Drainage Pays for Itself

[Written for Pacific Rural Press.]

MANY RANCHES in the San Joaquin and Sacramento valleys, and other places where irrigation is practiced or flat areas receive drainage from surrounding hills, are already showing injury to trees and crops due to lack of drainage.

Geo. H. Frith had done a lot of tile drainage in the Central West, and thought he had graduated from that sort of work. But when he landed in Santa Clara county, at the southern end of San Francisco bay, in 1913, about the first thing he did was to drain the forty acres of newly set pear trees he had bought.

In the four years since then Mr. Frith has reclaimed several thousand acres in that vicinity from the salt and sogginess that made them unproductive even for hay.

Drainage has for years been his absorbing study, and we present to our readers some of his experience and observations on the subject that indicate how far-reaching the problem is.

PROMOTES AIR CIRCULATION.

The minute you lower the watertable in your ground you draw air in to take its place. The air is warm and it warms the ground so seed will grow several weeks earlier. If winter water remains in the ground, it keeps it cold and rots the seed. After awhile, if undrained, the water evaporates, the ground bakes, and unless cultivated at just the right time it is in poor condition to work down fine and to keep enough moisture.

Too much free water between soil particles drowns the roots if held there long enough. Drain tile take only the free water and cannot take any more except the little that is taken by movement of air into and out of the soil and subsoil due to the drainage. This air circulation is necessary for best plant growth.

No more irrigation is required with drain tile deep enough in the ground than without it. Tile should be closed during irrigation, and if any great quantity of water comes out when they are opened a day or two later it will show that you have over-irrigated.

CLAY OVER JOINTS.

The stiffest kind of dirt in the neighborhood is the best to put around the joints, especially if the soil is silty, loose, or sandy. Unless so protected in sandy soil, the sand may clog the lower end of the tile line. Wherever water seeps into a trench in wet weather, it will seep through the same kind of soil put over the joints.

Water gets into tile drains almost entirely through the joints. Do not cement them. It is well to pack the dirt over tile when refilling trenches. In soft or cloddy soil the water forms eddies to the joints and may carry considerable sediment. Gophers prefer to work in the soft soil, giving water a better chance to do this.

Tile drains are much more effective after the first year. It takes some time for water to form pores or channels leading to tile joints; but, once formed, they remain.

EXTENDS ROOTS.

Wherever Mr. Frith has drained mature orchards in the district mentioned he has found the roots close to the surface. Ground water kept them there. These surface roots are broken in plowing and send up many suckers (especially with pears). Drainage leads roots deeper into the ground; but orchard trees do not clog tile.

Drainage of heavy waterlogged land makes the soil work well and take irrigation better in summer, but reduces the waste of water due to baking and evaporation. There is land here that bakes dry on the surface but spurts water into a trench four feet deep.

If you have shallow soil, the benefit may not equal the expense. But in the lowlands around the bay there is generally four feet of heavy silty adobe overlying clay. Water flows down from the hills on this clay, and the tile should be laid on or into the clay to catch all of this. Inches of added depth draw water from feet of distance sidewise.

On sandy soil, for shallow-rooted crops like grain, tile should not be laid deeper than roots are expected to go. There is no need of tile in sandy soil unless the watertable stays long nearer the surface than this. Tile covered with dirt will drain heavy land where open ditches to the same depth would not. The ditch banks get puddled.

Well-made cement tile are as good as clay tile, but very many are not well made. Mr. Frith laid over 60,000 feet of cement tile last year.

If you have a good slope, use it and reduce the diameter of your tile. Never angle across a slope if it is convenient to run the tile straight down (steep slopes not considered in this statement). The main tile into which laterals empty may be level if the laterals will give force enough to keep sediment from depositing. Tile on a grade of 1½ to 3 inches per hundred feet are self-cleaning.

REMOVES ALKALI.

Most of the water drained from adobe the first year in this district is too salty to drink. In some places you will see a layer of pure salt an inch thick before drainage. To flood alkali down and let it come up again by capillarity is more useless than playing tag. When it is dissolved and carried down, there ought to be tile drainage to carry it away.

HUMBOLDT CLOVER TILING EXPERIENCE.

There is a lot of fine land in the more level parts of Humboldt county which is rather sour, due to lack of drainage. A ditch is soon to be dredged about 24 feet wide and 8 feet deep from Salt River to the hills not far from the Ferndale "Creamery." Many ranchers in this district plan to lay tile to drain into this ditch, for clover is

(Continued on page 6.)

Pears generally occupy undrained land, but benefit by drainage. Almost every other fruit or field crop benefits more. Legumes need it especially. Drainage improves soil by aerating it, so plant food becomes more available, the soil warms up earlier, cultivates finer, and contains less alkali. Drainage does not require extra irrigation.

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EDITORIALS

WHO WILL BE HELD FIT TO SERVE?

BEFITTING National Birthday week, there comes from the President of the United States an announcement of the conditions upon which our young men will be accepted as qualified to serve their country in the present war. It is generally called a list of regulations governing exemptions from such service, but that is going the wrong way around. The patriotic pride of our youth should be in their strength and in their freedom to serve, and, judging by the way they have been filling marine corps, ambulance units, aviation and training camps, etc., that is the way the quality of acceptability is being popularly regarded. Our observation is that the happiest, most confident and uplifted young men we meet are those who have already been accepted for service, while most depressed and disappointed are those who have failed to meet the somewhat strict physical requirements. And that is right: a man has a right to rejoice in his manhood when his country calls for men to serve. But we need not pursue that line: if any of our readers should not rise naturally to such exaltation of a man's duty and privilege and his country's claim, the general writers on public affairs and civic duties will spur him up to it. It is our field rather, as undertaking promotion of a special industry, to remind our constituents that there are to be regarded in this war more lines of patriotic service than hitherto recognized in the gathering of armies for great emprise. The contribution of indispensable industry toward nation-saving and, in this case, toward world-saving, has been amply emphasized during the last few weeks: the timely thing is to throw as much light as possible upon the right way of doing these great things. The segregation of industries into those essential and non-essential to the national success and to assign capable men honestly to the pursuit of essential industries or to soldierly service, each according to his fitness, is the problem of the hour.

President Wilson announces that claims of unfitness for the martial branch shall be passed upon by boards of exemption in each city or county—one board for each thirty thousand of population. Such boards do not pass upon the industrial character of exemptions. The President says:

"In passing on claims for exemption on the ground of employment in necessary industrial and agricultural occupations, the district boards must be convinced that the particular enterprise affording such employment actually is necessary to the maintenance of the military establishment or national interest during the emergency. Certificates of exemption will not necessarily be permanent. They may be revoked with changing conditions, or may be granted only for prescribed periods."

All cases involving agricultural or industrial exemptions will be passed upon by the district boards—one for each Federal judicial district—which also will decide appeals from decisions of the local boards on other matters. It thus appears that the district boards must pass upon the character of the industry which claims for its men release from military service, and presumably it must also pass upon the relation of individuals claiming exemption to the industry which they claim to serve. It seems likely enough, from the drift of executive declarations and of public opinion, that there will be no doubt that food production will not be robbed of either employers or laborers, but there may be questions raised later as to the relation of some things agricultural to the requirements of the nation. It is evident that the district boards may have to exercise judicial functions of considerable breadth and that they will be unable to do this without most direct knowledge and clear point of view which will enable them to penetrate clouds of special pleading. It is of great importance, then, that these district boards be very discriminatingly manned and wisely constituted. It is important also to note the warning that decisions as to exemptions of industries and of men engaged in them may be temporary and subject to revision. This means that all interested in such industries must always be ready to demonstrate the relations of their enterprises and their working forces. As conditions may arise which may seem to warrant a change of policy on food production, it is essential that food producers should have their interests authoritatively presented.

SAMMY ON THE SLOT.

WE WROTE appreciatively of Samuel Gompers last week, not because we always agree with his contentions but because we consider his methods clearly illustrative of the high art of getting there. In fact, we consider Mr. Gompers as one of the most illustrative persons now standing in the sunrise of public opinion and to us he looms large—as is usual with erections standing in the path of the sunrise. At the moment we wish to convey to the reader a concrete instance of the illustrativeness of Mr. Gompers' way of doing things in contrast with a more conventional but much less effective way of doing them. We have just received a circular memorial to the President of the United States on the subject of "exempting skilled farm labor from conscription." The memorial is signed by officers of eight agricultural associations of national scope (in names, at least) and it sets forth and supports such propositions as these:

There is now not only a lack of farm laborers, but of farmers as well, so that thousands of acres remain untilled, and great numbers of farms are not tilled so as to yield up to their maximum production. The success of this war will depend as much on the men behind the plow as on the men behind the guns. We are in duty bound not only to feed our own people, but to feed our allies, and also make reasonable allowance for the food that may be destroyed. For these and many other reasons we believe that if agriculture is to be successfully organized, and the crops produced and harvested, it is of vital importance that our young farmers and trained farm help be exempted from military service.

This is, of course, reasonable and in harmony with the "selective draft" proposed by the President and the contention set forth is one eminently fit to be made. We are thinking merely of the way of making it. As agriculturists are now organized, the only way to announce agricultural convictions and demands is by proclamation from the barntop or by posting at the crossroads. As for the proclamation, the public wonders for a moment what the noise is, and forgets it: as for the poster, it is carefully studied by hoboes and is unseen by more influential citizens who fly by in a cloud of dust. If by chance anyone else should hear the voice or see the print, his comment would probably be: "The farmers are growling again: they are always growling about something." It fortunately happens that we have a transaction of Mr. Gompers, on behalf of his labor organizations, which is in sharp contrast with the inefficiency of the foregoing. It has to do with exemptions from conscription also. It came to the daily papers in a whisper-telegram which his constituency would comprehend and all others overlook. It was in such words as these: "Mr. Gompers has submitted to the President a list of names of persons well qualified to serve as members of the exemption boards soon to serve in applying the principles of the selective draft." Mr. Gompers does not hire a band of music and proclaim the claims of labor from the steps of the White House. He knows where the slot is and he slips in a list of names of qualified patriots to do the things which labor desires. Admirable Mr. Gompers!

GENUINE FARMING EXEMPTIONS.

WE ARE, of course, not intimating that Mr. Gompers is doing anything underhanded or unpatriotic. Not at all; he is simply adopting a method of really coming through with a proposition which he has a right to make and which it is his duty to make. If he succeeds in seating his qualified patriots, they will be a strong force to rule out slacking on fanciful claims that the parties are engaged in productive labor essential to the success of the country in its time of need. Our observation is that, though labor representatives may be over-exacting in claims of what is due their constituencies, they are usually resolute in requiring that those admitted to their memberships are efficient and genuine in their labor. Therefore, it may be expected that they will deny exemption to loafers who for a purpose may assume the guise of real service. We wish we were as sure that those claiming exemption on the ground of service to the agricultural production of the country would be as strictly judged. For it seems to us that, unless there is diligent and discriminating judgment exercised, there may be many slackers who will try to avoid their patriotic duty by an assumption of agricultural value which they have never demonstrated. And it will require the trained penetration of experienced farmers to detect some of the bluffs which such persons will erect to shield them from military service. Therefore, it seems to us that it is important for the real farming interests of the country not only to exert their influence to secure exemption of those really needed to maintain production, but to prevent slackers from claiming such standing to serve selfish and cowardly purposes. To this end there should be farming representatives on all bodies which have to pass upon claims for exemption on the ground of service to food production. For not all youths resident in rural communities are essential to the industries thereof. In vain have farmers needing help appealed to them and offered them rewards and opportunities which should move young men of proper quality and purposes. There is usually a bunch of worthless loafers hanging around village saloons and crossroad taverns utterly useless, if not worse, to the industry and morality of their rural environment. It is to be expected that many such parties may now claim indispensability to local farming, which they have hitherto avoided and even scoffed at. It will require nerve to certify them honestly to the exemption boards and discrimination to classify them, which only those who are experienced in farming can expertly apply. This is a matter which should be carefully looked into, not only for the maintenance of farming force but for the real good of the youths themselves, for military service may be the only experience which can overcome their present perversion and make men of them. It is no less important than agricultural exemption that such exemption shall be restricted to those who genuinely merit it.

MERCY FOR THE MENU-MAKERS.

WE MUST own we have been irreverent enough to expect some small disaster from the persistent murmurings of the menu-makers who have been unsettling good old accustomed American meals and destroying good serviceable American appetites by impelling recourse to substitutes for foods which we have grown up with. We have not doubted their patriotism nor their motives, but we have given warnings against their preachments for two reasons: they would break up the devotion of our citizens to the good old national virtue of hearty eating: they would bankrupt the producers of real things by their glorification of substitutes. And now comes, sooner than expected, the proof of the truth of our respectful contention. Lest we might be tempted to turn the facts too much our way, we take a few lines from the San Francisco Bulletin of July 2, for that journal will not be suspected of effort to sustain our attempt at prophecy:

Potatoes, onions and flour, three of the star performers in the sensational advance of prices a few weeks ago, are daily getting cheaper. In fact, potatoes were selling in the wholesale market this morning at 2 to 2½ cents per pound—prices which sound almost ridiculous compared with those of a short time ago. Few items have escaped this receding tide, including staple goods, fresh fruits and

vegetables. Business in the bean market has been reduced to such small volume that it is difficult at this time to give any definite quotations.

Economy was forced upon the consumers by high food prices. That the consumer has proved a good scholar, the present light demand for some foodstuffs would indicate. He is so busy studying the example placed before him by Uncle Sam that he has had no time to discover that prices are coming down. In the meantime the almost complete change in practically every home in the country, together with the ever-increasing supplies from the new crops, has put the much excoriated old high cost of living on the run.

Now, it seems to us it should be up to these starvation menu-makers to reverse their engines and see if they cannot run our farmers out of the slough they drew them into. Let them exalt the economy of spuds, onions and beans at every meal. Let them publish recipes for all of them as soups, entrees, salads and roasts. Something surely must be done to recoup the farmers for the speeding up which they spurted under: something also ought to be done to cheer up the amateur growers while they are eating backyard truck which has cost them twice as much as it can be bought for. If people, scared out of their accustomed eating by the hysterics of the exhorters, will now go at it with both jaws, all these things may be back to what should be their right values considering the general food requirement of war times.

BERKELEY LOAN BANK TROUBLE.

AS WE go to press we learn that two of the five directors have peremptorily resigned, and another has similar action under consideration, on the ground that the present management has neither agricultural nor banking knowledge nor ability to realize even ordinary organization for business purposes. It is announced from Washington that a representative of the central authority, the Farm Loan Board, will be sent out to investigate the local situation. It is, of course, sad to think that such an important and desirable rural credit enterprise should have gone wrong internally. It seems to justify the declaration of the poet that "every prospect pleases and only man is vile." If the condition requires a capital operation it should be done quickly while the patient is young and strong enough to make a fresh start toward a long and useful life. It is understood that there is nothing financially wrong with the bank or its officers. It seems to have been born with an internal kink which has prevented it from doing much of anything financially—either right or wrong.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Hysterical Gardening Goes Wrong.

To the Editor: I am sending a sample of soil of my garden. What is lacking? I have never worked harder to have a garden and have never had less success. Have hoed and watered repeatedly. The seeds come all right and the plants look nice for a time and then are at a standstill. My tomatoes have grown splendidly, but they drop their blossoms. I have only watered the tomatoes once. The other things have been watered often. The beans have dropped many of their blossoms. Radishes and turnips grow a few inches and then stop. Is there anything I can do so that I might still raise something this season? What would you suggest planting so late as this, provided I can get the soil in proper shape?—Reader, Chico.

Judged by sight and touch, your little soil sample represents about as good a garden soil as one could ask for and the growth of the tomatoes makes about the best kind of an analysis of its quality. The dropping of their blossoms shows that they probably did not need even the single watering you gave them, for they are making too rank a growth to set fruit well. The beans may have lost their blossoms from the same cause or from the hot spell. If they are thrifty they will set lots of beans later. The turnips often come into distress in interior valley heat and radishes may resent it also. Both are better if they get a good winter start in this State, although in cool coast situations they go it well enough all summer. You probably started too late for California and perhaps you have sloshed around water much too freely and have drowned out some things. Now you had better cool off the fever which hysterical exhorters have given you. Do more hoeing and less hosing, with the plants you have which are still thrifty, and get ready for a fresh start in September and have a good run of garden truck all winter. We would not plant anything now. We shall surely not starve in this State for three months!

Pupa Cases of Carpenter Moth.

To the Editor: I send you peculiar amber-colored, translucent, empty shells, which I find on a tree. What are they?—E. M. T., Chino.

These peculiar receptacles, nearly two inches long, and with wing-like extensions at the head end, are the pupa cases of a "carpenter moth." There are several species belonging to the cossidae. We are not familiar enough with the pupa cases to indicate the species from them. If you found these cases on a locust tree, the species is Prionoxystus robiniæ—the destructive locust-borer of the East. If you found them on a cottonwood, poplar, balm of gilead, etc., the species is Cossus populi, which is more abundant on this Coast. The grubs or borers which made the cases which you send have been living for two or three years in the wood of the tree on which you found them. From these cases have already emerged the large moths and they have laid eggs on the bark of trees of the same kind, from which will be hatched more grubs to enter such trees. These borers make the bad spots which are often found on balm of gileads and other poplars.

Throwing Walnuts into the Wind.

To the Editor: I have ten acres of black walnut seedlings, planted when the wind blew strong from the northwest, causing the trees to grow all to the southeast. I have them well staked up, but the branches do not grow much on the northwest side. The trees are in their second year growth. Also what would happen if there were only about five feet of soil to hardpan?—N. I. C., Stockton.

You have done the first thing in the staking and if you had pulled the trees a little into the wind when staking it would have been a good thing. Now you can push branches into the wind by tying—in spreaders from the stake or from other stronger branches on the lee side. These spreaders can be cut from light, stiff wood from any tree you have handy. You can shorten or wholly remove from the leeward side any heavy growth which you will not need later for grafting and which is now helping to pull the top over. You should consider the feasibility of planting a windbreak on the windward side of the orchard and you could have helped things a good deal this summer if you had planted, two months ago, a few rows of tall-growing corn between the tree rows across the course of the wind. You have soil depth enough for the black walnut root if you arrange to have water enough later to keep the trees from being dwarfed by lack of moisture.

Cutting Back Apricots.

To the Editor: The new growth on my three-year-old apricot trees is so great that some of the branches are breaking off from their own weight. Will it hurt the trees to cut off some of the surplus new growth? Also, is it advisable to scrape off the pitch that forms over last year's pruning cuts?—J. D., San Leandro.

It is often necessary to cut back the growth of apricots in summer to save the trees, as you state, and wherever growing conditions force this excessive growth it is usual to do it. Such cutting not only saves the tree from breaking down but it represses wood growth and induces fruiting the following year. Cut down to laterals which go in ways to promote good form in the tree and shorten these laterals next winter as may be desirable. It is a good idea to remove old gum, if formed in "gobs" or masses overrunning the bark, but it is not worth while to undertake the cost of much scraping. It will soften and wash off with the rain next winter.

Potatoes Going Wrong.

To the Editor: I planted some Early Rose potatoes and they are just fine. I also planted some pink-looking potatoes and took the same care of both patches. The pink potatoes are all stalks: no potatoes at all. The stalks are dying. Are they a late potato, and did they need more irrigating, and is it not time to harvest them?—C. R., Delano.

We infer that both varieties are on the same soil and have received the same treatment. If so, there are two guesses possible. One is that the variety is unsuited to your conditions. The other is that it is possibly a late variety which is stricken with blight and is dying from that cause and therefore will not be able to come through with tubers. If the variety is late and the plant healthy, it might perhaps have developed tubers later—if it had been irrigated some time ago. But as the tops are now dying, there is no reason to expect that they can now make use of more water. It is, however, not unusual for a variety to go to tops and to be locally abandoned for that reason.

Farm Loans for the Unattached.

To the Editor: I am writing to you to ask how I can borrow money from the Farmers' Loan Fund. I live where no association is formed nor can be formed.—Subscriber, Mason, Nevada.

No borrower under the Federal Farm Loan Act can approach the source of money individually. He must appear to be a member of a farm loan association or he must apply through a "joint stock land bank"—for the organization of which the act also provides, the minimum capital stock of which is $250,000, one-half paid up, the other half subject to call. We are not aware that any such joint stock land bank has yet been organized, therefore membership in a farm loan association is at present your only avenue of approach. If you are right that no such association can now be organized in your section, you can write to the Berkeley Land Bank and they may be able to indicate some adjacent association to which you can apply for membership.

Salting Alfalfa Hay.

To the Editor: Please tell me about salting alfalfa hay. I want to salt this year's crop and know nothing about the proper way to do it.—I .E. H., Fallon, Nevada.

There is much doubt of the desirability of the old farm practice of salting clover hay. Heavy salting has been shown to be unwise and the hope of saving wet hay by salt, instead of proper curing, is vain. Light salting may be desirable, making the hay more palatable and perhaps inducing cleaner consumption and less waste. Some claim that it gives the hay better texture and causes less shattering of leaves in handling or baling. Ten or twelve pounds of salt to the ton, scattered as the hay is going in, is a reasonable amount. But one has to remember that the great bulk of alfalfa hay is never salted at all.

Too Much Garlic?

To the Editor: Why is it that garlic is the only thing which has not gone up in price? This time last year new garlic was worth 35 cents per pound; now it is 3½ cents.—C. R., Delano.

It does not take much garlic to satisfy the American people and previous prices have stimulated production so that buyers are afraid to take "futures" in it with the foreign outlet for a surplus practically closed up or doubtful. We have no data on which to sketch the outlook. There will doubtless be a wide opening for garlic in central Europe as soon as General Pershing fixes things so we can get it in. Meantime they are making gas bombs of other materials.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., July 3, 1917:

Stations—	Rainfall Data. Past Week.	Seasonal* To Date.	Normal* To Date.	Temperature Data. Max'm.	Min'm.
Eureka	....	....	.02	86	48
Red Bluff	....	....	....	104	60
Sacramento	....	....	....	100	52
San Francisco	....	....	....	78	48
San Jose	....	....	....	94	42
Fresno	....	....	....	106	58
San Luis Obispo	....	....	....	86	44
Los Angeles	....	....	....	88	60
San Diego	....	....	....	78	56

*Since July 1, 1917.

Citrus Frost Preparedness Paid Well.

[Written for Pacific Rural Press.]

While some orange growers in the Redlands district have not yet found frost-fighting necessary, there are others who have believed frost preparedness profitable ever since the big freeze. Among these is Dr. M. J. Sweeney, who keeps 3,800 big pots on fifty acres. At the beginning of last season he had 37,000 gallons of oil in storage. He lost about 2,000 boxes by a two-hour 24-degree frost, November 13 last year, because the pots had not been placed so early, but he saved about 12,000 boxes by lighting five times last winter, never over 1,500 pots at once. This leads foreman A. Holt to say that the pots are all right if the man does his duty. The year before the outfit was ready and with four lightings avoided all damage.

OPERATION.

Dr. Sweeney's outfit is the best the writer found in that district, and how it is operated should interest every grower whose trees and fruit were frosted last winter.

The orchard has sixty rows sloping to the west and southwest. The southwest corner is usually about one degree the coldest, as determined by tests all over the orchard when Mr. Holt took charge three years ago. But the night air currents are from east and southeast, so if the west end is not particularly cold fires are started on the east and a thick blanket of warm air and smoke drifts over the whole orchard, obscuring stars and even the moon. Usually when wind blows there is no danger of frost.

LIGHTING.

The electric thermometer at a warm part of the orchard rings at 30 degrees F. to get the men ready. Early in the fall, when fruit is young and tender, lighting commences wherever it gets down to 28 degrees first, if it is not yet 4 a. m. Usually the temperature does not go down after that time. Later in the season, 27 degrees is the lighting point. Mr. Holt believes that navels in February would stand 24 degrees for an hour without serious injury, especially if the drop in temperature has not been gradual.

Every tenth row is lit entirely across the cold parts, or beginning on the east end if there seems but little difference. Then if the temperature continues to drop every fifth row is lighted, always attempting to keep temperature within the orchard between 28 and 30 degrees.

Five men do the lighting with torches. One man can light a row of 75 pots in fifteen minutes. The torch holds a gallon of distillate and gasoline, equal quantities. The wick is of asbestos wrapped with wire, and is kept burning all the time. To light the pots, jerk off the stack covers, open the drafts, dash a few drops of the burning mixture from the torch wick and move on. To put out the fires, replace the covers and close the ventilators.

OIL STORAGE.

In the big freeze of 1913 Dr. Sweeney was caught with not enough oil. So he put in a 40,000-gallon concrete pit for oil and covered it with a galvanized iron storage house for pots and implements. The tank is filled in the fall. Half of the oil is required to fill the pots when they are put out, so there is enough left to completely refill all the pots on short notice. Last year only 500 gallons were used for refilling. The oil cost 2¾ cents per gallon by the carload three years ago, but was worth 4 cents last spring.

COST 10c PER BOX SAVED.

Interest on investment plus operating expenses shows the cost of saving the crop in the hard winter just past:

Tank and storage house	$1500
Hamilton orchard heaters (5 gal.) 2500 @50c	1250
Citrus pots (5 gal.) 1000@67½c	675
Hyslop heaters (10 gal.) 100@$1.65	165
Dunn heaters (8 gal.) 200@$1.40	280
Oil, 40,000 gal. at 4 cents	1600
Thermometers, 7, including electric alarm	50
Taking up oil in spring, cleaning and dipping pots, storing, and replacing in the fall, per year	200
Total fixed investment	$5720

Interest on this at 6 per cent equals $343.20 per year. Add this to the cost of oil used and labor in lighting, which costs 35 cents per hour for five men, and you would have the actual cost of operation. Exact figures were not available for last winter, but probably not over 12,000 gallons of oil were burned, and the extra labor cost for lighting was not over $50. This would bring the cost of saving the 12,000 boxes marketed to $873.20, using liberal estimates. Not all of the 12,000 boxes would have been lost anyway, but if we allow that three-fourths of a box per tree would have been saved without frost fighting we still have a charge of only 10 cents per box for the fruit saved. This is worth while after putting all the labor, fertilization, irrigation and interest on investment into the crop.

Special Fertilizers for Different Fruits.

To the Editor: Now that all producers are asked to contribute to the supply of provisions for the United States, would it not be in order for our State University to furnish the right formulas for making the sorts of fertilizers adapted to each kind of fruit generally grown, so that the effort will be made with the greatest efficiency instead of putting the fertilizer adapted to pears on cherry trees and that adapted to vegetable growing on fruit trees? In other words, give the producer the very best information as to which particular fertilizer he needs, and not leave it just a broad statement that he should fertilize his trees to get the best crops. Efficiency is talked of in other branches of industry, why not in fruit growing also? Would not this promote production better than any other way, by making an exhaustive analysis of the real needs of the trees, so they can be fed properly and produce generously, the same as has been figured out for stock in giving them a balanced ration?—F. E. Britton, San Jose.

[Answer by Dr. C. B. Lipman, University of California.]

Commenting upon the inquiry from Mr. Britton, permit me to say that there is no fertilizer formula that will apply particularly to each kind of fruit tree, nor is it possible by an analysis of the material of the fruit tree to determine upon the fertilizer formula for use on such tree. I do desire to say, however, that in connection with the present emergency it is proposed within the next three or four months to issue very brief but pointed statements in the form of circulars bearing on the fertilization of the most important groups of crops and giving such detailed information as Mr. Britton desires. I presume, therefore, that you could assure Mr. Britton that practically all of the instructions on fertilizing which he seeks, for the purposes of next year's crops at least, will soon be forthcoming.

Berkeley, June 27.

Just as many in weight and better peaches can be gotten if thinning is practiced when the trees are heavy laden; and then there will be no danger of losing the tree from breaking.

The apple is the most important fruit grown in the United States, considering the quantity produced, value of product, and wide distribution of cultivation.

The 1915 olive crop of California is estimated to have produced 1,000,000 gallons of oil and 1,800,000 gallons of packed olives.

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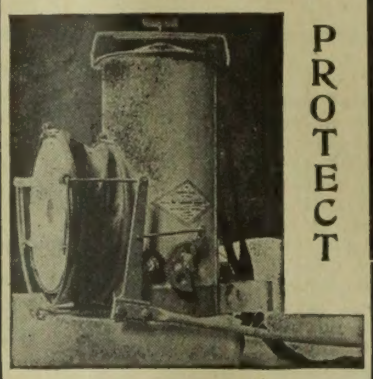

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

The Prune Association.

The California Prune and Apricot Growers have been devoting their efforts in the field to the collection of subscriptions, and on June 15 had already collected $550,000 in cash and notes, according to H. C. Dunlap. Owing to labor shortage, they will attempt to get the trade to use as much unfaced dried fruit as possible. They pay packers $1.25 per ton for receiving and grading; $16.25 per ton for packing unfaced 25-pound boxes, and $20 per ton for packing faced 25's. All prunes bought from outsiders by packers who are members of the Association are to be turned over to the Association the same as if sold to it by the grower. No prunes except Association prunes will be kept in any member's packing house. Most of the big canners, including the California Packing Association and Libby-McNeill, have agreed to turn over to the Association all apricots dried by them because of overripeness or unsuitability for canning.

Leveling Soil Leaves Hard Spots.

When C. H. Clement leveled ground for an orchard in Santa Clara Valley he left it level and did not irrigate for four years. Then, when he did irrigate, the places filled in with dirt settled low, while the places from which he had scraped dirt settled not at all. This left the orchard in such shape that in many parts it must now be irrigated by checks in order to hold water for each tree long enough to soak in. He would prefer furrow irrigation, but on the uneven surface, with hard soil underneath in some places and looser soil elsewhere, the water would simply slip over the high, hard spots and waterlog the lower, softer spots. Thus all the trees would suffer. With furrow irrigation a small stream could be run a long time without excessive loss by evaporation or baked soil if the ground were leveled the cutting of so much of its reserve right.

Irrigation and Skinny Prunes.

Late prune irrigation does not make watery prunes if they have been kept growing all through the season. W. M. Scott of Santa Clara county irrigated until July 10 last year and his prunes dried only a little more than two to one. But if you let them stop growing for lack of water and then give it to them, says he, many of the prunes will crack and the rest will dry away all the water given them. Mr. Scott's prunes were dried in the same yard last year with a neighbor's who hadn't irrigated at all, and Mr. Scott says there was practically no difference in the proportion dried away.

"Don't let the leaves get limp any time during the season," says he. "If you have, even a light irrigation may crack the fruit and there will be worse and more cracking if such irrigation is done during a hot spell."

Pedigreed Citrus Budwood.

Over 25 per cent of trees in California citrus orchards are of inferior strains and bear light crops of poor quality, is the latest conclusion of A. D. Shamel of the United States Department of Agriculture, who has been studying the subject several years. In plots on which records have been kept by Mr. Shamel, the loss due to these undesirable bud sports has averaged $100 per acre per year. He believes that two years' records are enough to locate drone trees. The Fruit Growers' Supply Co. has arranged to keep records for a term of years on selected orchards in various sections and to furnish desirable bud sticks with the fruit on them to sell at cost to any citrus grower who wants to work over his drone trees.

Prunes Dry on Trees.

French prunes in Tehama county do not drop so readily as in more southern districts, and it has happened in Will Beresford's experience that they dried less than two to one on the trays. Last year the 150 tons green fruit harvested was estimated to have been 200 tons before it began to dry on the trees.

One summer the trees were loaded with fruit, the branches bent low in June. There was no drop, but in July the branches began to lift up. He picked sample lots several times to weigh and to estimate the average sizes, but in July the prunes got smaller. The shrinkage was simply evaporation, which would otherwise have taken place on the trays.

Protect Trellised Berry Vines.

With Mammoth and Logan berries, if you run a few long canes out on the trellis wires, making a thin rope of them, there is not enough foliage to protect the fruit or canes, and the sun cooks the sap before it gets to the end of the canes. To avoid this, J. J. Irving of Sonoma county says to pinch the ends of young canes when they stand three feet tall. This forces three or four laterals, which grow nearly as long as a single cane and make a thick rope to go on the wires at pruning time. It will make more of healthy, strong fruit wood; which will be better protected by its denser foliage while bearing.

Callus Fig Cuttings Butt Up.

An observer of plant habits notes that to get the best callused fig cuttings they should be heeled in in bundles with the butt end upward, but covered lightly with soil. The warmer earth near the surface encourages callus formation on the butt end while the tops in cooler earth are kept dormant. Often when heeled in top end up the growth starts before callus forms and before roots can start. Then the top growth robs food that there is little left with which to make roots. Then the whole thing dies.

Smudged Unpollenized Almonds.

H. Losee of Butte county smudged unpollenized almonds fifteen times last spring between first blossoming and the time nuts were the size of a bean. The crop had already been lost, for the first time in nine years, due to rain and hard wind during bloom. Unpollenized almonds show no defect for a month, while most frozen nuts can be told in seven or eight hours. But this experience did not dampen his ardor for frost-fighting.

"Does the work cheaper, better"

is what W. H. Heideman of Sandpoint, land clearing expert of the Idaho Experiment Station, says regarding Giant Farm Powders. "A ton of dynamite had been used with very poor results," he writes, "and finally I got

GIANT FARM POWDERS
STUMPING — AGRICULTURAL

—two brands, Giant Stumping and Eureka Stumping—to test out. Eureka is one of the best pullers I have ever used; it takes out the *roots*. Both gave entire satisfaction and did the best all around work."

Eureka Stumping Powder will save you money in stump blasting in dry soil. Giant Stumping Powder is the most efficient explosive for wet work. Both of these are made especially to meet Pacific Coast *farm* conditions and do their work cheaper and better than ordinary dynamites made for general use.

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It contains many illustrations showing you how to save explosives in loading stumps. It explains how you can get the stumps out cleaner and easier with Giant Farm Powders. Other books, on Tree Planting, Subsoil Blasting, Ditch Blasting and Boulder Blasting, are also free on request. Mark in the coupon the books that you prefer.

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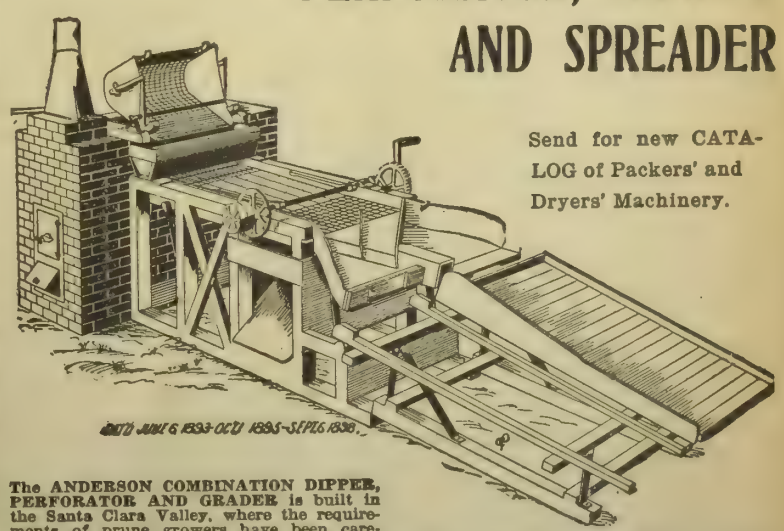

Send for new CATALOG of Packers' and Dryers' Machinery.

The ANDERSON COMBINATION DIPPER, PERFORATOR AND GRADER is built in the Santa Clara Valley, where the requirements of prune growers have been carefully considered and every possible advantage incorporated into the machine. Can be furnished with or without rinse tank. Made in various sizes for hand or power.

SEND FOR 1917 CATALOG.

It illustrates and describes the entire Anderson-Barngrover line of Fruit Packers and Dryers' Machinery. A copy will be sent free to all who are interested. A postcard will bring it.

Anderson-Barngrover Manufacturing Co.
20 WEST JULIAN STREET SAN JOSE, CAL.

Poisonous Burma Beans.

To the Editor: Who are eating of the six carloads of poisonous Burma beans which are said to have been foisted upon the people of the Middle West as a cheap substitute for navy beans? I discovered a week ago that imported beans which are dangerously high in cyanogen content—or prussic acid—were being sold for food by innocent merchants. On June 15 and 16 the statement was made to me that six carloads, or about a half million pounds, recently have been received from the Orient by way of Japan and Vancouver, B. C., and have been widely sold through many states, and that larger importations are planned for in the near future.

These poisonous beans are so dangerous that the military authorities of France, Germany and other European countries forbid their importation, especially this year, according to a statement received by me from Prof. G. M. Shoemaker of the U. S. Department of Agriculture at Washington. In fact, each shipment into France and Germany must be accompanied by a sworn statement as to the amount of cyanogen content. Some years the use of these beans cause wholesale poisoning in India.

I desire to enter a vigorous protest against allowing the American people being cheated in this manner, and against the possibility of injury to the staple food of the army and navy. I propose rigid prohibition against importation to protect against crippling and possible ruin of the legitimate bean industry of the nation which amounts to many millions of dollars annually. These beans are sold at wholesale much cheaper than navy beans.

These Burma beans, although about the size of a good sized navy, have a faint yellowish tinge with many fine lines or rays out from the eye like spokes on a wheel. There are some colored ones of light brown, dark brown, mottled and speckled, various shades of brown and red brown. These beans are also a form of small lima from Burma but flatter and have the same characteristic rays out from the eye. They are equally poisonous, but at least cannot masquerade for the navy bean. We should guard against these two beans and also other dangerous beans from the East Indies such as the Java, which is even more deadly. The poisonous principle, according to Mr. Viehoever, of the U. S. Bureau of Chemistry, is called phaseolunatin, a glucoside, that in the presence of certain enzymes in the intestinal tract may release the cyanogen or prussic acid as one of the products. There is the danger of having sufficient cyanogen released after eating the beans to cause illness, if not death.

Whether any of these poisonous beans got into your State or not I do not know but you will realize what unrestricted importation of these poisonous Burma beans means to the bean industry of the United States. California is one of our largest bean states. I enclose a sample of this white form of Burma beans with a dangerously high percent of cyanogen. Unless something is done a new importation of a million pounds is counted on for next September or on the earliest boat. The bean men of the United States ought to do something about this.

The port and border laboratories of the Bureau of Chemistry are under instructions to make examination of all shipments of such beans offered for entry, and to effect their detention. N. E. HANSEN,

Horticulturist, South Dakota Experiment Station.

Brookings, South Dakota.

[We have in our office the sample of Burma beans which Prof. Hansen describes and shall be pleased to have it examined by all in the production or bean trade in this State. —Editor.]

WHY AND HOW TILE-DRAINAGE PAYS FOR ITSELF.

(Continued from first page.)

their main crop, and clover does poorly on sour soil.

They have a good example of drainage in the ranch operated by L. J. Lindrum, where about 2,000 feet of tile had been laid before he came there. Two years ago Mr. Lindrum laid five or six thousand feet, and thought so well of the whole proposition, due to improvement in crops and workability of the land, that he doubled the tile-drained area last year.

"Wherever niggerheads (grassy, tough, clump-rooted, heavy-headed marsh weeds) grow you need drainage," says Mr. Lindrum. "In this country the clumps get several feet across and several feet high. The large ones must be grubbed out before the land can be plowed. Cattle don't like these weeds. We have a subsoil of blue clay in a good many places, averaging maybe two feet underground. This holds too much water."

The 12,000 clay tile were bought in Eureka and hauled 12 or 15 miles by wagon. There was less breakage, thinks Mr. Lindrum than there would have been with cement tile; they are much lighter, and equally permanent. They cost $15 per thousand in Eureka for the three-inch tile. Four-inch tile were used where the flow was likely to be larger or the grade more level. They were laid in lines 200 feet apart and three feet deep. They drain into open ditches. Tile along the side next to the hills was not considered worth while because so large a proportion of hill water could easily run under such a line and come up farther out in the field.

A contractor dug the ditches with spades 22 inches long and just wide enough for the tile to fit in. He charged 30 cents per rod including the laying of the tile, and made about $5 per day. Mr. Lindrum filled the trenches.

Roots have never interfered with the free flow of water in the tile and they have never been stopped up. The old tile was stopped when Mr. Lindrum moved onto the place, but the trouble was easily located by water coming up from that point, and the obstruction was quickly removed.

Caution people against overloading their tractors is the advice of J. D. Cox of Sonoma county, who has used one several years in orchard and vineyard work.

TWO ROW BEET PLOW

WITH HAND WHEEL LIFT

CATALOG No. 105

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The sale of medium size tractors has made a demand for a strong two-row beet plow, capable of doing the same deep work as the regular four-row plows. This plow is simple in construction, but very strongly built and uses the same shares and points as the large plows.

Used without shares, it is one of the best subsoil plows on the market.

On account of the shortage in the steel market, orders should be placed as early as possible for tools of this kind.

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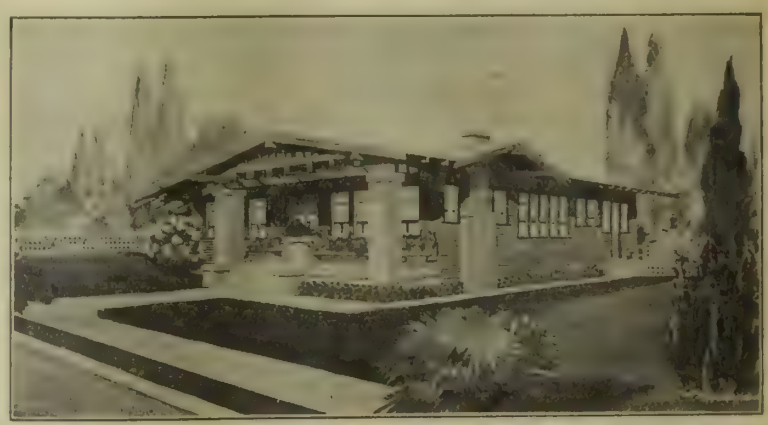

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

Get Water Ahead of Sorghum Seed.

In some other irrigated sections as well as in Imperial Valley getting the soil full of water before planting sorghum is a way of insuring a good crop. The Farm Bureau Monthly says Imperial farmers have done this and brought full crops through temporary shortages. They have filled their soil with water in June or early July before they planted. Every year a high river gives us unlimited water at that time. On soft and medium land plow, irrigate long and thoroughly, when soil is right work up seed bed and plant. Keep this mulch undisturbed until you must irrigate. On hard lands which are not too steep and on lands poorly leveled, or somewhat alkaline, or where a stand is secured with difficulty soak the ground and plant on ridges like cotton. Cultivate after early irrigations. Don't depend on planting dry and irrigating up, for the surface will pack and frequent irrigations be necessary.

Weed Cutter Aids Subirrigation.

That a weed cutter enables irrigation water to sub two or three times as far sidewise in the red land east of Marysville as it spreads where the weed cutter has not been used, is demonstrated on the Valley Farms Development Company's ranches. The land had been plowed about four inches deep and worked down fine. Then ten acres were worked with a weed cutter running about four inches deep, while the rest of the piece was not touched with the weed cutter. Beans were planted and irrigated at once. It was noticed that on the land not worked with the weed cutter, every row had to be irrigated; while on the part mulched with the weed cutter, water seemed to run along under the four-inch cultivated layer, so only every second or third row required irrigation and the cultivation following to prevent baking.

Killed Alfalfa in August.

Alfalfa roots are a great bother to the cultivated crop that follows. The following experience of R. Malan may be applicable anywhere:

If you want to kill alfalfa and rot the roots quickly in Imperial Valley, flood it in August deep as the borders will hold, and keep the water on for three hours at midday. It won't do the job so well later in the season. Of a 16-acre piece one-half was scalded out in August while the other half was left until October to save the hay. On the October-scalded piece, the alfalfa had to be fought all through cantaloupe growing the next season. The crop on that half was 300 crates of cantaloupes, while on the August-scalded half, it was 400 crates with far less labor.

Tiling Removes Alkali.

An artesian well in the Santa Clara district drained for years across country into an area of perhaps 50 acres. This area became crusted white with alkali at times and of course nothing much grew on it. Six or eight acres at the lower end belongs to Geo. H. Frith. In 1913 and 1914 he had to wear boots in August to get his horses out of the place. He put a line of tile across the lower end and the piece is now as firm as any. The salt has washed out so much that it is almost in condition for crops. Several lines of tile are really needed, to keep it dry enough and to carry away alkali-loaded water.

Saving Cantaloupe Seed.

Cantaloupes that get too ripe to ship are saved for seed which sells locally for over half what the melons would have brought, by C. W. Carter of Tehama county. Seeds and pulp are stirred around in a tub of water. Good seeds settle to the bottom, while light ones float with the pulp. The good ones are then dried slowly.

Less Harness Handier.

Chain tugs that unhook at the hames, and a harness that omits backpad, belly-band, etc., make P. M. Anderson's unhitching from plow and field implements quick and easy, and avoid the annoyance of swinging or dragging traces when going to and from the fields.

Peas on Wire Fence.

Telephone peas climbed to the top of a 4½-foot woven wire cattle yard fence and bore tremendously for Mrs. Geo. Woodcock of Humboldt county. The old fence row on the windward side of the woven wire was spaded up, and the wind blew them nicely against the fence as they grew.

No Beans on Alkali.

Don't plant beans where salt grass grows, says Austin Kramer of Sutter county. He has a small piece of alkali, flooded every year, but it does not wash out nor will beans mature on it, and the alkali continues to show.

Spring and early summer seedings of alfalfa, unless the weeds threaten to choke out the young plants, should not be clipped until they are 12 to 15 inches high and beginning to bloom. The cutter bar of the mower should be set high, as the alfalfa is likely to be injured if cut low.

-wide awake ranchers are now planting SUDAN HAY!

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Do you know that Sudan is recommended by agricultural experts all over the country? It grows so fast and thick that it crowds out all weeds. It is twice as nutritious as barley, timothy or rye—and gives twice the yield per acre. Farm papers throughout the State are urging ranchers to plant Sudan hay to counteract hay shortage.

If you want to add substantially to your bank account with mighty little trouble and effort—plant Sudan now—the safe, sure, "easy-to-grow-and-handle" crop. Ask the editor of any farm journal. Read the last bulletin on Sudan grass issued by the University of California. Big free illustrated folder will be sent by return mail.

Special July Prices

Single pounds (enough for 50x50 feet)—36 cents.
10 lb. lots—(Will plant half an acre, sown broadcast)—34 cents per lb.
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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

PUMP IRRIGATION DOUBLED DRIED PEACH CROP.

[Written for Pacific Rural Press.]

The first crop from 900 Muir peach trees on rich clay loam on the Weeks ranch, in Tehama county, in 1909 were very fair size, but in 1910 many of the trees had such small peaches that they dried on the trees, not being big enough to cut, though the soil had been moist all summer eight inches underground. The same thing happened in 1911. All of these trees were marked for death because it was thought they might be from poor stock. In 1911 the crop was ten tons of No. 1 dried fruit. In 1912 it was a ton better, including fifty boxes of Lovells, which were dried. In 1913 the Muir crop was the same, but the Lovells from 1,000 young trees increased the crop another ton.

In 1914 the crop was considerably more than doubled, and in 1915 this bumper crop was equalled, though the Lovells did poorly. One hundred and fifty Elbertas helped. Their crop had been shipped green previously. In 1916 the crop was between twenty-nine and thirty tons, and in 1917 there was much hand thinning to do about the middle of May.

In the 1914 crop the Muirs that had been bearing small fruit, mostly made big fruit, and in 1915 all of them made big fruit and plenty of it. Some of the condemned trees are now the best producers.

Large sized peaches are now desired because they sell by grade, the Weeks' being members of the California Peach Growers, Inc.

PUMPING PLANT DID IT.

The grand doubling of the crop in one year and increasing the value of each peach was due to the installation and use of a pumping plant. It was found that where peaches before irrigation had to be thinned to six inches apart, with water they should be left only four inches. In previous years the trees, especially Lovells, would bloom and grow till the jackets were shed, raising hopes of a big crop; then they would drop off, having been weakened by drouth the previous fall.

Now the orchards are irrigated three times per season. For two years there was only one irrigation before harvest. But, on the principle that water soaks more readily through a wet sack than a dry one, as mentioned by F. H. Weeks, it is believed that the soil should be irrigated before it is dry. So the first watering comes about June 1, the second before harvesting, to help in the final growth and sugaring-up, and the third time after the crop is off about September 1, before the trees are entirely dormant and while the sap is still in the leaves but not circulating enough to start new growth.

Once they irrigated too late and got three or four inches of new growth, which wasted the reserve food of the tree needed for a good start next spring. With the warm well water to stimulate sap circulation at the right time, the buds are developed and ripened so they do not fall off in the spring before or after blooming.

DIFFICULTY IN IRRIGATION.

When Mrs. F. G. Weeks and her family came to Red Bluff twenty-three years ago, and for many years afterward, irrigation was considered unnecessary. The trees were planted without leveling the land and there is little chance to level now. Where it is level enough, the orchard is flooded. On the hillsides, six-inch surface pipe is used, with a two-inch spout every two rows. The stream from this is broken into as many furrows as can be plowed. Better growth seems to be obtained under the flooding, because more water is used.

To save the moisture the orchard is cultivated with a light harrow as soon as it can be used. By the time that is done, a heavy four-horse cultivator goes as deep as possible. This also prepares loose dirt to take the next irrigation readily. It has to be shut off to move the pipe, and takes a day to irrigate about one and one-half acres.

ONE CROP PAID MOST OF COST.

Had there been a five-cent market for peaches in 1914, the twelve-ton increased crop would have paid over two-thirds of the cost of the whole pumping plant. It cost $1,700 put in running order, more than was necessary because of the Weeks' inexperience. Three wells were drilled before they got water. The last one is 254 feet deep, but water never pumps down over 45 feet below the surface. It has a 12-inch casing 100 feet deep, a four-inch centrifugal pump, and a 10-horsepower engine. The pump and engine cost $700 delivered at Red Bluff, drilling the well cost $485, and the casing $100. The engine uses about 1.2 gallons per hour of No. 2 engine distillate. More power would be desirable. An excess is to be preferred rather than to overload an engine.

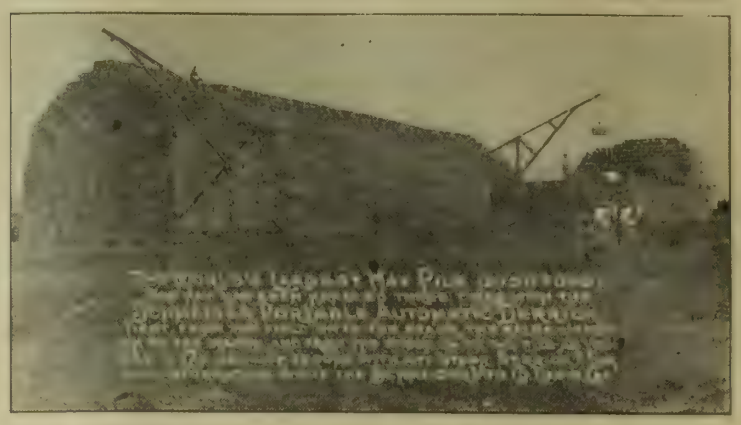
"We feel that we have thoroughly proved that we can't depend on rainfall for peaches after they are ten years old, and we most heartily approve irrigation," is the way the Weeks' feel after twenty-three years' experience with rain and irrigation.

HOME-MADE MUFFLER.

To the Editor: Please give me a good suggestion for a cheap and economical home-made muffler for a gasoline engine.—J. L. K., Lindsay.

The object of a muffler is to provide a large enclosed space into which the explosions may expend their force and noise. But this space should have an opening at its far end equal to the exhaust pipe. It may well be out of direct line with the exhaust, and a short piece of pipe leading from it may reduce noise. Perhaps you can fix up an old plunger pump cylinder to fit these objects.

"The Schmeiser Way Makes the Farm Pay"



If you are paying more than 35c per ton for stacking your hay, you are losing money. You can stack it for less than that if you use the

SCHMEISER IMPROVED PORTABLE AUTOMATIC DERRICK,

"The World's Greatest Hay Stacker,"

Stacks hay baled or loose, Saves Labor, Saves Time, Saves Money.

More Schmeiser Portable Automatic Derricks are sold on the Pacific Coast than all other hay stackers combined. The reason is:

"The Schmeiser Way Makes the Farm Pay."

For particulars, write today to

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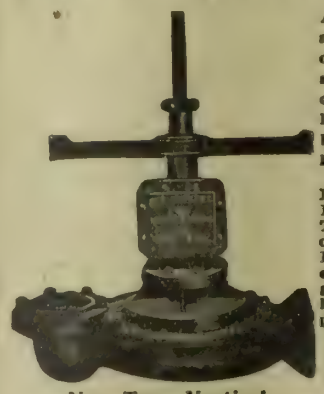
12 Mechanic St., Davis, Cal.

Manufacturers of

Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; Schmeiser Alfalfa Land Leveler and Checker, Martin Farm Ditcher and Road Grader, and

SCHMEISER IMPROVED PORTABLE AUTOMATIC DERRICK.

The KROGH Vertical Pumps



New Type Vertical

Are automatically water balanced and require no adjustment of any kind. All weights of shafting and rotating parts are carried on the water film absolutely without the use of thrust bearings or adjustment of any kind.

No BALANCE RINGS or PLATES in KROGH PUMPS. They are unnecessary, and mean only continual trouble. KROGH PUMPS with the least number of parts means less friction and greater efficiency. Get our Bulletin No. 78 before deciding on a pump.

AWARDED PANAMA PACIFIC INTERNATIONAL EXPOSITION GOLD MEDAL AWARD GIVEN HIGHEST AWARD GIVEN

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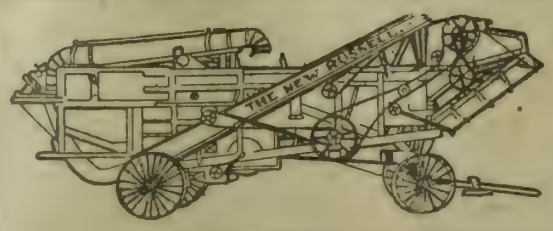

RUSSELL 2-cylinder THRESHER

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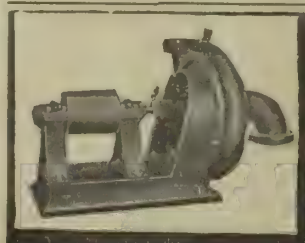
Built specially for California work

A. H. Averill Machinery Co., San Jose



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Pipe, Pipe Fittings, Brass Goods, Tanks, Wind Mills.

Send for our large No. 36 Catalogue Mailed Free. GASOLINE ENGINES Inquire of your Local Dealer for full particulars.

DEMOUNTABLE RIM CASE DECIDED.

[Written for Pacific Rural Press.]

All demountable automobile rims have been under control of the $10,000,000 Perlman Rim Corporation after a suit closing the Standard Welding Company's plant in February, 1916. One exception, the Firestone Tire & Rubber Company, refused to sell its rim plant to the corporation or to close down. The Perlman people tried to get an injunction against Firestone last April, but this was denied and the case set for trial in June. The June trial developed unsavory history for Perlman, who had based the corporation's activities on a claim that he had invented demountable rims in 1903, though the patent was not issued until 1913, five years after Firestone began making them. Cross examination of Perlman himself got so hot that his attorneys moved dismissal of the case, leaving the field open for all to make such rims.

SELLS WATER TO NEIGHBORS.

[Written for Pacific Rural Press.]

"This pumping plant is the most profitable thing on the ranch," said W. G. Micke of San Joaquin county watching the life giving fluid rush from his well at the rate of 1,000 gallons per minute to water neighboring ranches at $1 per hour. His own 25 acres of peaches are always sure of plenty first. They need some whenever the rainfall is less than 20 inches. The centrifugal pump in a 10-foot pit is operated by a 15 h. p. electric motor. Not long hence, the plant will have paid for itself by water sold to other people.

CARBON FROM TOO MUCH PRIMING.

[Written for Pacific Rural Press.]

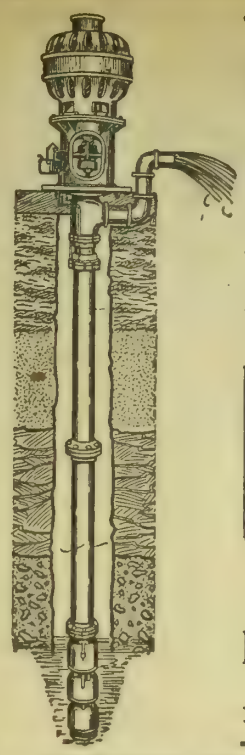
Two weeks after E. T. Nielsen started using a tractor in his Santa Clara orchard he had to take off the cylinder heads and clean out the carbon. Since then, he has run it several months at this writing, and it does not yet need cleaning.

He had been over-priming with gasoline, and then warming up on distillate until he could see black smoke from the exhaust before closing down the needle valve. Now he uses less gasoline in priming, and shuts down the distillate before black smoke comes.

OIL MADE CLUTCH TROUBLE.

Oil used in the friction sleeve of the drive shaft in a recent model of a well known tractor worked out along the shaft and spokes of the main drive gear onto the clutch drums making the clutch slip and causing much annoyance for the driver. More recent models pack the inner shaft in grease and employ a grease cup to replenish the supply. This seems to work better because the grease does not spread to the clutch.

A clearing house where idle tractors could be listed and people needing tractor power temporarily could get it, was proposed at a recent meeting.

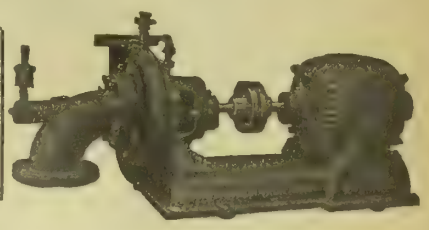


DEEP WELL TURBINES

No valves to pack or plunger to get out of order. For use in any well ten inches in diameter or over.

A complete line of irrigating pumps of all descriptions, horizontal, and vertical for belt drive or direct connection to electric motor.

Prices as low as are consistent with good quality and workmanship.



WRITE FOR CATALOGUE NO. 67.

BYRON JACKSON IRON WORKS, Inc.
SAN FRANCISCO.
LOS ANGELES, STOCKTON, VISALIA

Save Your Crops

WITH A

SAMSON SIEVE-GRIP

Reg. & Pat. U. S. & Foreign Countries

TRACTOR

Full, steady power gets your silage cut, grain separated and other farm work done with least loss and cost to you.

Direct drive from motor to belt-pulley—not a gear in motion—means no waste of power or wear of gears.

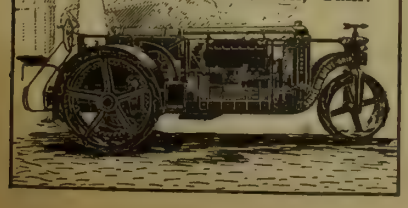
Easy to place in position and to attach pulley and belt.

Use a Samson Sieve-Grip for your harvesting and then for your Fall plowing. Let us tell you more about it.

Two Sizes—Model S-25 and Model R-12

Ask for our new Catalog.

SAMSON SIEVE-GRIP TRACTOR CO.,
Stockton, Calif.

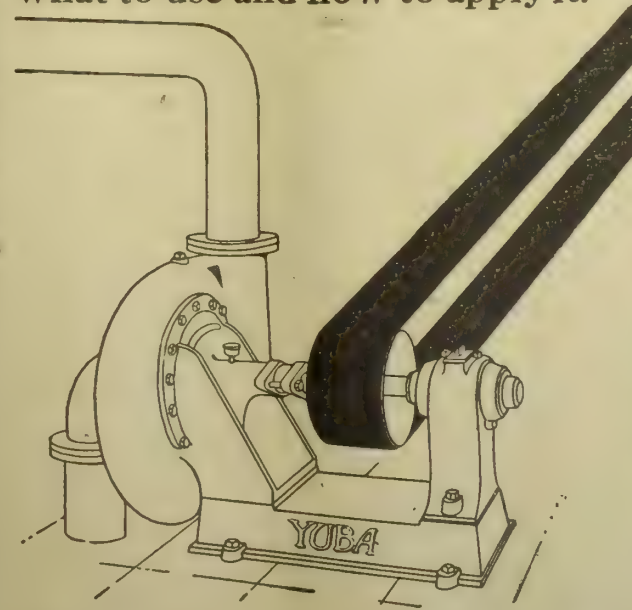


BELTING

The intelligent farmer of these days understands many mechanical principles; he comprehends what the scientist has proved in the relation of luguminous plants to nitrogen in the soil; what is meant by r. p. m. and by differentials, magnetos; distillate and grease; but it seems he has no conception of the difference between TEST SPECIAL belting and all the other kinds offered to farmers, with no manufacturers' guarantee to back them.

TEST SPECIAL BELTING is made to wear---to give long and satisfactory service---to give years and years of work the cheap belting doesn't do and can't do. It is foolish to buy poor belting, just as it is bad judgment to invest money in wildcat schemes---or cheap machinery that won't stand up to the work.

Write us in detail about your needs---let our engineers suggest what to use and how to apply it.



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Send me samples of Belting that you will guarantee to give satisfactory service on my work and quote prices delivered at

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A pocket memo. booklet giving speed and power tables will be sent FREE to all who mail this coupon.

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General Agricultural Review

Field Crops.

Apples look very good in Lassen county.

Serious damage has been done to the bean crop in the Poplar and Woodville district by rabbits, say leading growers.

Negotiations are on foot with Edward C. Holt and associates of Burlington, North Carolina, to establish a cotton mill at Santa Ana.

Records for wheat prices were established at Porterville when local brokers paid C. L. Crowe of Terra Bella $6 per sack for 5,000 sacks of wheat of a high grade, making $30,000 for his crop this season. Last year the same acreage brought him $11,000.

Tomatoes are being shipped from Merced in carload lots. The quality is good and the tomatoes are graded and carefully and honestly packed. The pack of four baskets in a crate the same as used for grapes is popular with the buyers.

The rice output of the Dodge Land Company in the Sacramento Valley this year is expected to reach between 290,000 and 300,000 sacks, and the marketing of California rice in distinctive packages, branded as a purely American product, will be pushed in the East.

At a meeting of the Seeley farm center at El Centro, recently, cotton raisers passed resolutions calling upon the County Farm Bureau to call a meeting of cotton raisers of the valley to consider the advisability of building a co-operative cotton gin at El Centro.

Supervisor Judge W. M. Finch of Glenn county recently told the State Railroad Commission that the destruction of the pumping and siphon plants at Willow Creek crossing of the Sacramento Valley West Side Canal Company would cause the loss of the crop of rice on 30,000 acres. Guards are asked for.

Reports from Southern California indicate that the potato acreage for 1917 will be about 11,000 acres, or about 2,660 cars, against last year's figures of 3,600 acres, or 871 cars. Estimates for Northern California river district, near Stockton, are about 25,000 acres in potatoes, 1916 figures being about the same.

Several large potato growers in the Fortuna section, Humboldt county, complain that their potatoes are rotting in the ground. The trouble is due in part to the fact that a number of the growers failed to treat their seed for rhizoctonia, scab and similar diseases. Dipping in the corrosive sublimate solution would save much trouble for the growers.

C. D. Hyland is growing two varieties of dry land alfalfa on his farm near Oakville, in Napa county, from seed brought from Russia by Prof. M. E. Hansen of the Agricultural Experiment Station, South Dakota. One variety, the Semapalatinsk, is inclined to creep, but the other, the Cossack, stools out and stands erect. The seed from the second crop of Cossack is now ripening. Mr. Hyland plants seed in beds and transplants in spring or fall, planting 2½ feet each way.

Deciduous.

Picking of apricots for the canneries will begin at Napa this week.

Pears in Lake county have been dropping on account of the hot weather.

Portland papers report that the prune crop of Oregon and Washington will be less than last year. Packers are offering higher prices.

In some Eastern cities Seedless and Muscatel raisins are selling at a lower price than that last named by the California Associated Raisin Co.

Nine dollars per tree is what D. R. Bannister of Oakdale received for his crop of Royal Anne cherries this year, or at the rate of over $900 per acre.

The Prune and Apricot Growers' estimate of the dried apricot crop is 12,000 tons, with probable changes due to canners' demands. There is quite a heavy drop now in process.

The California Fruit Canners' Association at Hanford will start working about the 15th of July and will hire about 160 people for the entire run, which lasts about two months.

The Enterprise Cannery is putting up loganberries for Eastern shipment. About a thousand cases will be shipped on an order of a San Francisco firm, the fruit going across the continent direct from Healdsburg.

Since England has put a ban on importations of fresh apples, Pacific Coast growers are preparing to can and dry them. One San Francisco broker recently got orders to sell 1,000 tons of Oregon dried apples. He thinks this is more than have ever been dried there before.

A new disease that has attacked apricot trees in the San Joaquin Valley is receiving the attention of G. H. Hecke, State Horticultural Commissioner; H. S. Maddox, secretary for the State Commission of Horticulture; Dr. Barrett, plant pathologist for the State University at Riverside, and Fred P. Roullard, County Horticultural Commissioner.

A meeting of twenty-eight growers, who produce 300,000 boxes of pears, in the delta district, was held at Courtland last week in conference with five growers from Contra Costa county, for the purpose of discussing the market situation. At that time buyers were making no offers, but were talking of paying about $35 per ton. At the meeting the price the growers should get was discussed and $55 seemed to be the general opinion producers should stand out for. A tentative information organization, with McLain of Courtland as secretary, was started, which may grow into a strong co-operative effort to care for the marketing of the pear crop in the future.

Citrus.

The Valencia shipping season around Lindsay is about over. Only a few scattering cars will be sent out from now on.

The Maxwell Tribune says the Mills Orchard Company shipped from Maxwell the first car of Colusa county grown lemons.

About 25 growers to date have signified their intention of joining the new lemon association being organized by W. S. Shippey. Grapefruit as well as lemons will be handled by the association.

The shipment of figs by the California Ripe Olive Company of Oroville is under way. The first crop was disposed of as fresh fruit, while the second crop is being packed. In addition to the packed figs, the company will place a fig jam on the market this year.

Young avocado trees should be protected from the sun when first set out. This can be done by wrapping the trunk with burlap, tree protectors, whitewashing the trunk or by erecting a burlap screen. If they are not protected from the sun, they are sure to get sunburned and the tree stunted.

Grapes.

Lodi has been selected by President Frank T. Swett as the meeting place for the grape growers and winemakers of the State on Saturday afternoon, July 21.

Experiments to ascertain the possibilities of growing Zante currants in the South San Joaquin are being carried on by the Moreno Vineyard Company, Inc., at their big vineyard at Weston.

The Stockton Independent says that the Producers' Fruit Company of Lodi bought the crop of Tokay grapes on the John Bittner 91-acre vineyard for $7,000 cash. They also paid Fred Bechtold $1,250 for the crop on a ten-acre patch of Tokays.

The finishing touches have been put on the new packing house of the Dinuba Grape Growers' Association at North Dinuba, where a thoroughly up-to-date plant for green grape packing has been built.

Miscellaneous.

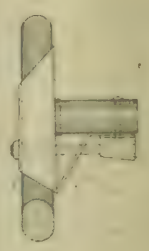
H. Giddings of the Pacific Fruit Express of Sacramento, states to Turlock shippers that there will be no car shortage, over 3,000 refrigerator cars having been added to the number available last year. Loading to maximum capacity of cars is urged by the railroad officials.

Here is the Ladder *You* Need for Real Service

SECURITY Orchard Ladders

(of course the first cost is more)

Your pickers will work faster on Security Ladders because they will have no fear of falling. They will be able to reach out and work nearer the top than if they stood on wabbly, insecure ladders. Result—more fruit picked in less time, which means money saved.



Every SECURITY LADDER made with the Step-Joint illustrated. Stile is machine-wrapped with steel.

Step-changing made quick, easy and without loss of ladder's rigidity. Tough, long life Douglas Fir stiles and steps.

Your "Security" Dealer's Name is Listed on page 706 Pacific Rural Press for June 9

Refer to it now or write me direct and I will see that the safe, wage-saving "Security" is demonstrated to you.

These Users of "Security" Ladders Can Tell of Profit-Saving Experiences from Equipping Their Orchards with "Security Ladders"

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Used by half of orange and lemon packing houses in Southern California.

J. B. PATTERSON

Manufacturer

82 Franklin St., Oakland, Cal.

The Supervisors of Yuba county are to re-establish the county chain gang. The men may be let out to fruit growers to aid in the harvest of the crops of the county, consent to do such work to lessen their term in jail.

Water was turned into the main canal of the Anderson-Cottonwood irrigation district near Redding, July 1, for the first time. The irrigation system will furnish water for 30,000 acres of land at a cost of less than $30 an acre.

For the purpose of advancing needed funds to farmers who are unable to purchase necessary seed and implements, the San Diego County Council of Defense has started what is known as the Farmers' Guarantee Loan Fund with a capital of $25,000.

At a joint meeting of the Oakdale and South San Joaquin Irrigation districts held recently in Manteca, the proposition of the Sierra and San Francisco Power Company, to sell storage water to the district this year for 50c an acre foot, was accepted.

The last Legislature passed a law requiring property owners to keep their premises free from ground squirrels and the Supervisors of Fresno county have withdrawn their bounty of four cents apiece believing the law sufficient incentive for the future.

Truck crop acreage of the Imperial Valley this year is reported by the Japanese Farmers' Association as follows: Cantaloupes, 13,232 acres; peas, 768; onions, 351; tomatoes, 321; lettuce, 822; watermelons, 825; summer squash, 385; strawberries, 90, and potatoes, 198.

More than 1200 acres of sedimentary river bottom, reclaimed and overflow land on the north bank of the American River are to be cleared and prepared for farming as the result of a loan of $75,000 which has been negotiated by the North Sacramento Land Co.

Niles Searls, general fire inspector for the Southern Pacific, explains that the $200,000,000 annual fire loss in this country equals the total amount paid out in dividends by all the railroads in the country, or one-half of all the gold and silver mined within the borders of the United States.

The labor shortage, so far as it applies to Southern California, is more imaginary than real, according to the report of E. J. Sullivan, special investigator of the State Labor Bureau, submitted to the State Council of Defense. Reasonable wages and housing conditions get plenty of men to fill positions.

Four years ago 1,000,000 tons of German potash, worth $40 a ton, were used by American farmers as fertilizer. Now a company of Chico is using potash made from kelp, harvested off the coast of California. An ocean mowing machine cuts and brings to shore near Santa Barbara 200 tons of kelp daily.

The American Can Company has announced that it will co-operate with the government in furnishing war supplies, filling its orders before any others, but that the situation has improved somewhat, and there seems to be no doubt about there being enough cans to care for the fruit products of California.

The level of prices paid producers of the United States for the principal crops increased about 3.8 per cent during May. On June 1 the index figure of prices was about 99.8 per cent higher than a year ago, 97.8 per cent higher than two years ago, and 107.2 per cent higher than the average of the past nine years on June 1.

From reports received in the Bureau of Crop Estimates, United States Department of Agriculture, it is estimated that the commercial acreage of garlic in California is 110 acres. The counties in which this odoriferous bulb is grown mostly are Imperial, Los Angeles, Riverside, San Joaquin, San Mateo, Santa Cruz and Santa Clara.

According to the United States Department of Agriculture the acreage planted to barley this year is 102 per cent of that of a year ago and 95 per cent of the normal acreage; oats, 91 per cent of that of a year ago and 90 per cent of the normal acreage; alfalfa, 99 per cent of that of a year ago and 100 per cent of the normal acreage.

The new "squirrel law" goes into effect July 26. It provides that the county horticultural commissioner, upon ascertaining the presence of injurious insects or animals named in the bill, shall notify the property owners, and if within ninety days after serving such notice the nuisance is not abated the commissioner is authorized to abate such nuisance and the cost of the work shall be a lien upon the property.

A cotton crop worth $15,000,000 at the present prices will be harvested this year by growers of the Imperial Valley. Buyers from the Orient and from England have visited the fields and made arrangements for the purchase of large quantities. The acreage this year on the American side of the international boundary line is about 75,000 acres. Last year only 44,116 acres were planted. The Mexican acreage is about 40,000 acres.

The semi-monthly report of the Office of Markets and Rural Organization, Department of Agriculture, on the cold storage holdings of eggs shows 5,752,225 cases in 338 storages on June 15, 1917. Partial holdings reported show an increase of 1.7 per cent as compared with the same period last year. The semi-monthly report on the cold storage holdings of creamery butter shows 23,057,122 pounds in 284 storages on June 15, 1917. Partial holdings reported show a decrease of 17.3 per cent as compared with the same period last year.

Hugh E. Macbeth, a widely known colored attorney of Los Angeles, in a communication to the State defense organization, says that many thousands of colored workers, equipped racially to withstand the summer heat of the harvest fields, can be mustered in Los Angeles in the event that any real labor shortage materializes. The availability of colored workers and Macbeth's suggestion that they be used in Imperial Valley cotton fields and in Central California counties, where extreme heat precludes the use of white labor, is being investigated by the State Council of Defense.

Grain Smuts

The U. S. Dept. of Agriculture recommends the use of Formaldehyde for cleansing seed grain before planting. It guards against the development of stinking smut and loose smut in wheat—

FORMALDEHYDE
The Farmer's Friend

The loss through smut in this country amounts to millions annually. This can be prevented by treating all seeds before planting with Formaldehyde solution. Pint bottles at your dealers, 35 cents, treats 40 bushels. Complete directions for using Formaldehyde, U. S. Dept. of Agriculture reports and hundreds of valuable suggestions in our big illustrated booklet sent free.

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IT'S a holiday in the zest with which you go at the day's work, knowing you are cool and feeling you look it. You increase your efficiency to produce on the job and your capacity to enjoy while off it.

In our own modernly equipped Cotton Mills at Lexington, N. C., Nainsook, from which Loose-Fitting B. V. D. Undergarments are made, is produced in a scientific manner from selected cotton to insure durability in wash and wear.

In our own B. V. D. Factories the garments are skilfully cut, strongly stitched, accurately finished—to fit and to be cool and comfortable all day long.

If it hasn't this Red Woven Label
MADE FOR THE B.V.D. BEST RETAIL TRADE
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B. V. D. Coat Cut Undershirts and Knee Length Drawers, 50 cents the Garment. B. V. D. Closed Crotch Union Suits (Pat. U. S. A.), $1.00 the suit.

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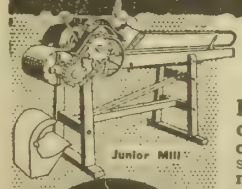
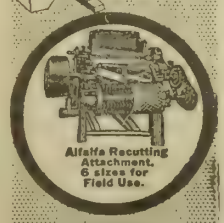
This Silo Filler Makes Alfalfa Chop





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FREE

Prize-Winning Cows and Reasons Why

[Written for Pacific Rural Press.]

One hundred and fifty-nine common farm cows produced over 60 pounds of butterfat each, in May, 1917, in the Ferndale Cow Testing Association. Of the 73 herds tested, containing 3,609 cows, the one belonging to Gilbert E. Trigg headed the list. In the previous month, five of Mr. Trigg's grade cows had won the State Dairy Cow Competition prize offered monthly by the Pacific Rural Press for highest production by five grades headed by a registered sire. They averaged 82.372 pounds butterfat from 1,744 pounds milk, testing 4.7 per cent. This was the best record of nine herds competing.

The annual report of the Ferndale Cow Testing Association will show four cows which produced over 600 pounds of fat in the year ending February 15, 1917. Three of these are Mr. Trigg's. It will show 180 cows which produced over 400 pounds of fat. Mr. Trigg's entire herd averaged 439.5 pounds fat in the year as shown by Secretary Bernard Crowley of the Association.

Fifteen grade cows have been entered by Mr. Trigg in the State Dairy Cow Competition. The winning five cannot compete again for the Pacific Rural Press prize, but Mr. Trigg's reply to our congratulations was the confident though not boastful assertion that he intends to win the prize twice more with the remaining ten cows and "our 1917 record will beat that for 1916," says the young man. He wants a Ford, but he refused in advance, the offer of a Ford in exchange for his winnings in the State Dairy Cow Competition. The basis for his confidence is over eight years of testing his cows for production. He knows his cows.

CONCENTRATES PAY MORE THAN COST.

Two reasons for the performance of this herd are outstanding. Only last year Mr. Trigg awoke to the value of feeding concentrates. He had been feeding concentrates lightly for short periods in previous years. In 1916 he did it consistently. His herd average in 1915 was 344.6 pounds fat for 32 cows. His herd average in 1916 was 439.5 pounds fat, a gain of almost 100 pounds fat per cow per year. The concentrates he fed produced double their cost in the form of extra butter from the same cows with very little more labor. The fact that he fed concentrates in 1916, enables his cows to eat twice as much per month in 1917 as in 1916. These concentrates in the form of butter fat are worth more than double their cost; and were instrumental in helping to win the honors. Abundance of green feed, root crops, cool climate, and absence of flies enabled the cows and concentrates to do their good work.

BREEDS AND KEEPS BEST COWS.

But all the concentrates in the world, fed in the most appetizing form, would not make some cows produce much butterfat. The Trigg herd's ability to produce was born in them. Mr. Trigg's father bought some registered and some high grade Jerseys and a registered Jersey bull in 1905 or 1906. Registered Jersey bulls have been used exclusively. Not a cow has been bought since, except two registered Jerseys. Otherwise every one in the herd is part of the original purchase or their descendants sired by purebreds.

Queen produced 91.7 pounds fat. She is a magnificently deep-bodied, finely built cow with great heart girth, long distance from hip to tail bones, straight back, and square bag hung well forward and high behind. One of her daughters looks a good bit like her; and $325 recently offered for the daughter did not tempt Mr. Trigg.

"If I sold her," says he, "I'd spend the money for another cow that might eat more and produce less. Then her buyer would make the profits out of her that I intend to." Two daughters and two granddaughters of Queen have been entered in the competition.

The five cows which won the prize were fed and cared for in the regular herd with no extra attention except a little extra feed such as is given in a rather haphazard way to all the highest producers. Two men do all the work on this dairy farm. The cows were all milked twice only, per day, and kept in the barn only during milking.

PREPARED FOR THE TEST.

"While a cow is dry is the time to put her in condition for the next lactation period," says Mr. Trigg. "They get thin from the long milking, but most of mine are nearly as fat as beef when they come in. Most of them are dry at the same time for about six weeks previous to the first part of March." It may be that they were too fat; for while there was no difficulty in calving, four of the 15 cows entered in the contest had milk fever, and Mr. Trigg always watches for this trouble. A dose of salts occasionally, and always just before calving, "doesn't hurt them any."

The herd was kept in the barn nights through the winter, but turned out every day, rain or shine. Storm sheds would have helped get them in better condition, but were unavailable. The ryegrass and clover hay on hand looked scarce, so about three tons of straw were fed. This is not considered advisable if hay can be had. The cows were given somewhere around 1½ pounds of cocoanut meal and bran twice a day and all the beets and carrots they wanted, carrots being fed July 15 to November 15 and beets later. Even so they were not in quite so good condition as desired at calving.

"You can raise the test of your cows by having them in condition when they calve; and you can make the raise permanent by keeping them in condition. You can't raise the test by a month or two of grain feeding or by intermittent feeding of concentrates."

(Continued on page 18.)

HOT WEATHER

the season when a

DE LAVAL SEPARATOR

saves most over any other separator or skimming system

IT'S A GREAT MISTAKE for any dairy farmer without a separator or using an inferior machine to put off the purchase of a New De Laval Cream Separator in the summer months, especially with butterfat at the present unusually high price.

Great as are the advantages of the New De Laval over all other separators, as well as over any gravity setting system, at every season of the year, they are even greater during the mid-summer season than at any other time.

This is because hot weather conditions occasion greatest butterfat losses with gravity setting and render it most difficult to maintain quality of product with any gravity system or unsanitary separator, while, moreover, the quantity of milk is usually greatest, and any loss in either quantity or quality of product means more.

Then there is the great saving in time and labor with the simple, easy running, easily cleaned, large capacity New De Laval machines over all other methods or separators, which naturally counts for more at this time of the year.

Hence the great mistake of putting off the purchase of a New De Laval Cream Separator in summer, whether you already have a poor machine or none at all, and every dairy farmer should keep in mind not only that a De Laval will pay for itself in a few months but may, if desired, be bought on such liberal terms as to actually save its own cost while being paid for.

Every claim thus made is subject to easy demonstration, and every De Laval local agent is glad of the opportunity to prove these claims to you, in your own dairy, without cost or obligation on your part.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for new catalog or any desired information.

Every New De Laval is equipped with a Bell Speed-Indicator

DE LAVAL DAIRY SUPPLY CO.

LARGEST DAIRY SUPPLY HOUSE ON THE PACIFIC COAST

Alpha Gasoline and Distillate Engines, Ideal Green Feed Silos, Acme Ensilage Cutters and Blowers, Irrigation Equipment, Centrifugal and Deep Well Pumps and Alpha Spraying Outfits. Send for Special Catalog.

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Do You Want Long Distance Backing?

We have a son of the California State Champion three-year-old for sale. Born October, 1915; Sired by PRINCE ALCARTRA KORNDYKE, whose dam is TILLY ALCARTRA.

The Dam of this young bull is not a fifty-pound cow, but she has to her credit 21,208 pounds milk and 860 pounds butter in one year, which is the largest record ever made in California by a Junior three-year-old.

If you are in the market for a bull, it will pay you to visit our ranch and see what we have to offer—at prices that will surprise you.

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DAIRY HERD FOR SALE

Over 100 head of choice Holstein and Guernsey Grades. For full particulars address

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WHY NOT

Buy a bull from one of our tested cows to head your herd?

Do a little figuring, and see just what you are losing by using a bull at the head of your herd that should have been sold for veal in the first place?

Stop the loss now, by buying a good bull?

Get into the profit producing class?

Write now for descriptive booklet of a remarkable offering of males and females.

GOTSHALL & MAGRUDER

THE HOME OF THE STATE CHAMPION TWO YEAR OLD

RIPON, CALIFORNIA

New Dairy Laws in Force August 1.

[By F. W. Andreasen, Secretary State Dairy Bureau.]

Two dairy bills have been signed by the Governor and will become effective in August of this year. The Satterwhite bill was mentioned in these columns last week. The Rose bill provides that cream must be cooled within one hour after the milk is drawn from the cows. This is a very important change because there was some doubt before whether the Legislature intended that the word "milk" should include cream. Now that the law has been amended to read that a dairy shall be insanitary if the milk or cream shall not be cooled to as low a temperature as practicable within one hour after it is drawn from the cows, there can be no doubt about the intention of the Legislature.

All cheese manufactured in California, shall, at the place of manufacture, be branded distinctly and durably on every cheese and upon the package when shipped, the grade of cheese manufactured.

This bureau will furnish the brands suitable for the marking of the different kinds of cheese, upon request.

All cans, bottles, or other containers in which milk, cream, or ice cream has been transported by any common carrier or by the creamery or factory in its auto truck must be thoroughly cleansed and sterilized by boiling water or superheated steam before they are returned to the consignor or shipper, and all empty cans, bottles, vessels or other containers in which milk has been delivered to the consumer by the retailer shall be thoroughly and immediately cleansed before returning the same to the distributor or dealer.

It shall be unlawful to read the butterfat in the test bottles at any other temperature than the correct one, which is one hundred thirty degrees to one hundred forty degrees Fahrenheit. Also all testing of milk or cream purchased on the basis of butterfat shall be done by a licensed tester who shall supervise and be responsible for the operation of the Babcock test of milk or cream. The license shall be issued to such persons by the State Dairy Bureau whose duty it shall be to examine all applicants for such license.

All creameries, shipping stations, milk plants, cheese factories, ice cream factories, condensories or any other person, firm or corporation receiving or purchasing milk or cream on the basis of the butterfat is required to hold a license to do so. The license shall be issued to such creameries, etc., upon the condition that they comply with the sanitary laws, rules and regulations of the State of California and upon complying with this act.

Every person or firm receiving or purchasing milk or cream on the basis of butterfat as determined by the Babcock test shall use the standard Babcock test bottles, pipettes, and accurate weights and scales. Babcock test bottles and pipettes shall have been inspected for accuracy by the State Dairy Bureau.

SHEEP MULTIPLY WITH LITTLE CARE.

[Written for Pacific Rural Press.]

While sheepmen of the State generally are having their lambs come in February or March, J. A. Warren of the mountainous Campo district of San Diego county is raising his own early lambs with very little care, having them begin to come early in December. He had twenty-eight mixed Merino ewes last fall and bought forty-one young ones from a butcher in San Diego. They were all bred to big Persian bucks and when seen January 19 were having a fine lot of lambs. Twenty-two ewes had already dropped thirty-five lambs in December and January, and only two had been lost, in spite of the hard winter. A small bedded shed was provided for lambing, but they were as likely to be dropped outside.

In cold weather Mr. Warren aimed to watch and keep new-born lambs dry three or four days, after which they would live unless thoroughly soaked and chilled. That was the cause of the loss of one, while the other starved because the ewe didn't have milk. Aside from a little wild hay, the sheep pick up their own living in the brush and meadows.

DISLIKES WOODEN TROUGHS.

[Written for Pacific Rural Press.]

"I don't like a wooden pig trough, tank or barrel around a breeding establishment," says John F. Myers, formerly field man for the Berkshire Association. "Wooden hog utensils get contaminated in spite of you. A pig fighting a lot of germs cannot make the growth it ought. I would have cast-iron or galvanized iron slop containers, and would have every corner of the trough open for pigs to get noses and tongues in, so no feed would be left there."

SMALL HOG PENS—PNEUMONIA.

"California is a great State for hog pneumonia," says John F. Myers, formerly of the American Berkshire Association, and speaking especially with reference to coast districts. "Yesterday they suffered with heat; this morning a cold, windy fog came. But we've had 13 to 18 sows in a big pasture, with two portable houses, here on Carruthers Farms, several months, and none of them have been sick. All that we have lost from pneumonia have been in small pens."

Two more cheese factories, on modest scale, have opened in Dixon, making four for the locality.

Hillcrest Stock Farm
THORNTON S. GLIDE, Prop.
DAVIS, CALIFORNIA
Breeder and Importer of
SHROPSHIRES and MERINOS.
Shropshires sired by rams imported by me from England.
The Famous Glide Merinos.
My purebred range-raised yearling Shropshire and Merino rams are now ready for inspection at my place.
FOR SALE IN INDIVIDUAL OR IN CARLOAD LOTS
A FEW SHORTHORN BULLS FOR SERVICE.

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
GEO. P. ROBINSON CO.
426 J Street,
Travelers Hotel Building, Sacramento.
LIVESTOCK BROKERS

Edgemoor Farm Guernseys

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Pretty
Productive
Profitable
Few Animals of Either Sex for Sale
SANTEE, CALIF.
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PURE-BRED SHROPSHIRES FOR SALE
500 RAMS, one and two years old, 300 yearling EWES
These sheep are of SUPERIOR QUALITY and are offered in lots to suit at
REASONABLE PRICES
MILLER & LUX, Inc.
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Champion Ram P. P. I. E.
SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

Purebred Registered
HOLSTEIN CATTLE
Prof. Carlyle of the Wisconsin Experiment Station asserts that "It will be readily seen that the Holstein cow has the ability to digest coarser feeds and work them over to a better advantage than Jerseys and Guernseys and this is a strong point, in which I contend that the Holstein has a great advantage over any of our smaller breeds, and it is a point which is going to appeal to the farmer in the future far more than it has in the past." There's big money in the big "Black and White" Holsteins.
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Blake, McFall Co., Portland, Ore.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

Dairy.

Butter holdings in storage June 15 are 17.3 per cent less than last year.

The Borden milk factory at Modesto, costing $150,000, is nearly ready to operate.

The California State Board of Control has decided to convert the State prison farm, near Yountville, in Napa county, into a dairy and stock farm for the benefit of State institutions.

At the last meeting of the Fresno District Fair Directors it was decided to add to the premiums in the sum of $350. The American Shorthorn Breeders' Association of Chicago has also agreed to pay one-third of the awards in the shorthorn section.

Dairymen of Humboldt county want a readjustment in the price schedule used by cattle buyers in purchasing beef stock from the dairies in that county. They claim that many prime beef cattle have been sold with too great a reduction for loss of weight.

Last year there were 6,780,000 pounds of butter shipped from Imperial Valley, and the monthly output is close to 600,000 pounds. In 1911 Humboldt county was first in production in the State, with 5,238,382 pounds; Stanislaus was second, with 5,166,515 pounds, and Imperial was seventh, with 2,885,941 pounds. In six years conditions have so changed that Stanislaus is first, with a gain of 193 per cent; Imperial second, with a gain of 235 per cent; Humboldt third, with a gain of 8 per cent.

The possibilities of Hereford breeding in California are illustrated by the fact that the University of California Farm has just sold for a thousand dollars a three-months-old Hereford bull calf, bred at the University Farm. The buyer is John A. Bunting of Centerville. For the dam of this calf, Sophie, a 1700-pound cow, the University paid $250, and for his paternal grandsire $400. The sire was Hopeful Prince, a half-brother to the steer with which the University of California recently won the Grand Championship at the International Livestock Show.

The Bonita Stock Farm of Lodi, Cal., Joseph Scholefield, manager, last week made some notable purchases in Wisconsin. Fifty purebred Holstein heifers were purchased, which will calf this fall. Without doubt these fifty heifers are as a whole the best individuals ever leaving the State in one shipment. More attention was paid to the production of the different herds as a whole than a few scattering abnormal A. R. O. records. Eleven of these heifers are bred to King Segis Pontiac Polkadot, 31 pounds, son of King Segis Pontiac, and contains 100 per cent of the same blood as the $50,000 bull, King Segis Pontiac Alcartra, both being sired by the same sire and their dams being full sisters. The Bonita Stock Farm also recently purchased a son of King of the Black and Whites.

Swine.

J. H. Wagner, Selma, has recently purchased a Berkshire boar from E. J. Barker, Thorntown, Ind.

F. A. Brush, Santa Rosa, has recently sold a Berkshire boar to J. Francis O'Connor, Santa Rosa.

J. M. Bomberger, Modesto, has purchased a Berkshire boar by Star Leader from the University of California.

The James Mills Orchards Corporation has purchased seventeen Berkshire sows from Edwin R. Sheldon, San Francisco.

Fontana Land Co., Fontana, has sold four Berkshire sows to F. L. Purvis, San Francisco, and one sow to Thomas O. Toland, Los Angeles.

Superior California Land Co., Willows, has recently added to their splendid herd of Berkshires a number of sows purchased of A. B. Humphrey, Escalon, and Oak Grove Dairy Farm, Woodland.

Butte City Ranch, Butte City, Cal., reports the recent sale of a Berkshire boar and two sows to R. J. McCan, Marysville, a boar and sow to Charles Beretta, Willows, and a boar to A. Lynch, Germantown.

Beef Cattle.

Two hundred head of cattle were shipped from Porterville, June 22, from the ranges of the Gill Brothers, the stock approximating $20,000 in value.

Attorney-General U. S. Webb has rendered an opinion that the new State meat inspection law does not take precedence over local ordinances with regards to meat inspection. State Veterinarian Charles C. Keane requested the opinion, which is to the effect that shippers cannot force their meats, through provisions of the law, into cities requiring Government inspection.

Sheep.

Owing to the difficulty experienced of late in getting wool from Australia, Japanese mill owners are now obtaining supplies from Africa and are also sending agents to South America with a view to purchasing wool.

While in the Central West buying shorthorns, T. T. Miller of Los Angeles got twelve imported Hampshire Down sheep, one ram and eleven ewes through the Anoka Farms, Waukesha, Wis. These sheep are to be used as a foundation for a flock of purebred sheep here on the Coast.

Sheepmen from all sections of California met in Stockton last Saturday and formed the Central California Sheep and Wool Growers' Association. The object of the organization is to secure co-operation among the members and to urge Congress to increase the allotment of range in the U. S. Forest Reserves.

Livestock Miscellaneous.

The California Rodeo and Salinas Big Week will be held from July 18 to 22.

Two sugar of milk plants, each to cost $20,000, are to be built at Gustine and Crows Landing, near Modesto.

Triplets and twins, five calves from two cows, is the record established on the H. G. Vincent ranch, in the Woodville district, Tulare county. The mothers of the calves are thoroughbred Herefords.

Dr. C. F. Keane, State Veterinarian, has announced that eight new inspectors will start a systematic police campaign in the State against tuberculosis among cattle and hog cholera in swine, beginning July 1.

Great Holstein Sire for California.

One of the most important improvements ever made to the Holstein blood in California comes through the purchase of the great sire, King of the Black and Whites, by Henderson Company, Sacramento. While the purchase price has not been made public, it was undoubtedly the longest price ever paid for a bull of any age or breed by a California breeder, for King of the Black and Whites is insured for $30,000. King of the Black and Whites ranks as one of the topnotch young sires of the breed, unexcelled in the uniform high production of his female ancestors, and carries a combination of what is probably the greatest proven transmitting blood of the breed. He was bred by A. A. Hartshorn, New York, formerly president of the Holstein-Friesian Association of America, a man who has devoted the greater part of his life to a herd of registered Holsteins that today has no equal in all the world in respect to number of families with consecutive generations of cows with official records above 30 pounds butter in seven days.

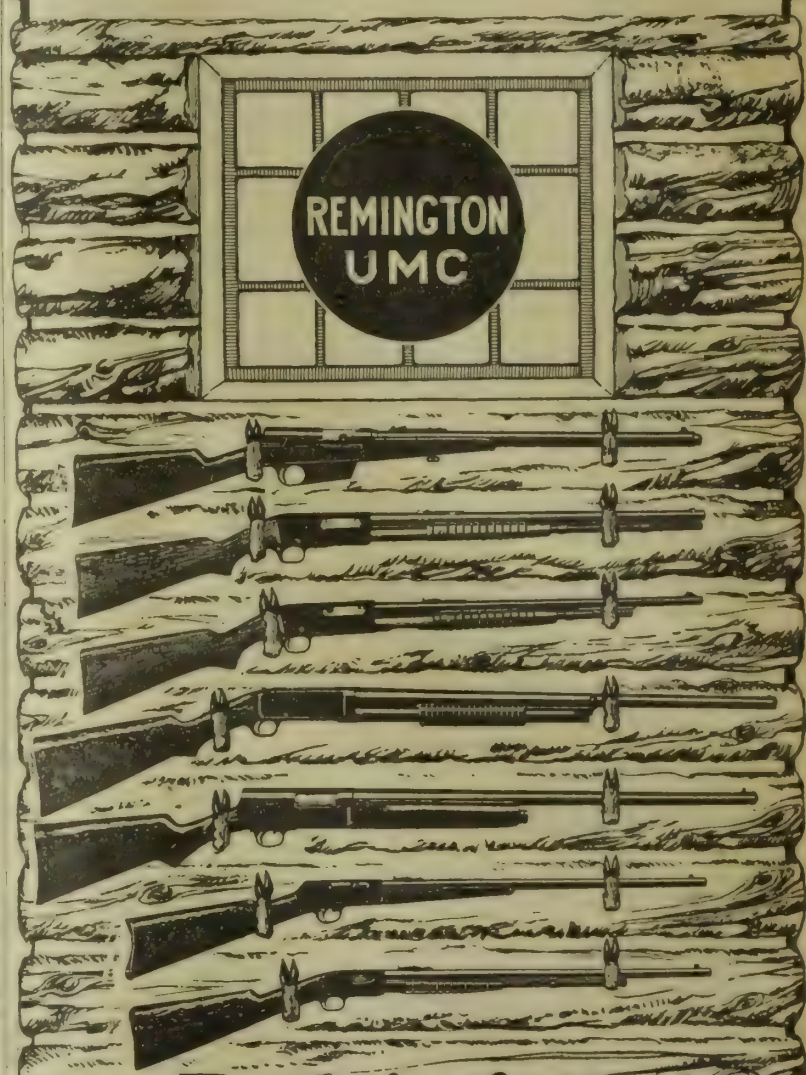
King of the Black and Whites was the first bull of the breed whose seven nearest dams averaged over 30 pounds butter in seven days, and the records of all seven of these dams are remarkably uniform in high milk flow and a most desirable average percentage of butterfat. Six of the seven nearest dams have records above 30 pounds butter in seven days, and the average for the whole seven is 574.9 pounds milk, 31.04 pounds butter in seven days, average per cent of butterfat 4.31.

King of the Black and Whites now has 20 A. R. O. daughters, several with records above 20 pounds butter in seven days as two-year-olds. He will be given a large opportunity in the splendid herd of over 300 head that Henderson Company already has, and the benefit that the dairy industry of California will derive through the bringing of this great young sire to the State can hardly be overestimated.

Choose YOUR Remington

WHATEVER your favorite form of shooting, here is the arm for it—whether it is the Autoloading Shotgun or Pump Gun; and in Rifles, everything from the light .22 single shot (not illustrated) to the high power .35, in both Autoloading and Slide Action Repeating models.

A complete series of arms enjoying nation-wide approval never equalled by any other make of firearms.



Remington UMC

As for Ammunition, everybody knows and likes "Arrow" and "Nitro Club" (the *steel lined* "speed shells")—the "New Club" (*black powder*)—and Remington UMC Metallic Cartridges, made in all calibers and loads for every make of rifle, pistol or revolver.

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Clean and oil your gun with REM OIL, the combination Powder Solvent, Lubricant and Rust Preventive

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Largest Manufacturers of Firearms and Ammunition in the World
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35 years in this business. I sell direct to the consumer. You act as your own agent and save 20%. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.

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DISPERSION SALE OF ALL OUR POLAND-CHINAS—Having rented our ranch, I will sell all of our high-class and prize-winning P.-C., including I. B. A. Wonder, Reserve Champion of the P.-P. I. E., and without doubt the best large type boar this side of the Rocky Mountains; three years old, will weigh easily 1,000 pounds, in show shape and a sure and good breeder and kind to handle. Also four good brood sows, two with litters and two bred for early fall litters. Also two 1st of Sept. last gilts from the Isaac Overton herd of Knoxville, Iowa, sired by the famous Big Knox and out of his prize-winning sow, Miss Model 2nd. These gilts are the best I ever saw; will weigh now about 400 pounds, and as fine as they make them; they will surely win the blue this fall for someone, as they are very fine animals indeed. Then we have about 20 head of pigs from three weeks to four months old; some of these have been entered in the Futurity and are large and fine pigs. Have a share of the American Record Co., with Six Vol, for sale, also a good breeding crate. Here is a chance to get into the P. C. game in great shape for a reasonable price; this stock is all in good shape to fit for the show this fall. Someone ought to buy the boar and the four or six sows, and I will bespeak a good word for them, as the stock is as good as anyone has. Get busy, as they must sell. This ad. will not appear again. W. A. Young, Lodi, Cal.

SPECIAL SALE of weaned boar pigs of the famous Whitten Ranch Poland-Chinas. Get one and grow him out. He will put money-making qualities into your herd. Prices very low; satisfaction guaranteed. Send for free booklet, "Hogs for Profit." Packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, 610A Security building, Los Angeles.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

POLAND-CHINA HOGS—Large type. 200 lbs. in 6 months. I guarantee to please you. O. L. Linn, Linview, Modesto, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REGISTERED POLAND-CHINAS and Duroc-Jerseys. Cholera immune for life. T. H. Beckman, Lodi, Cal.

POLAND-CHINAS—Three extra fine boars, one large and two medium type. W. Bernstein, Hanford, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS—A few gilts left at $15 each. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of Champions. At the 1916 California State fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin Co., Cal.

REGISTERED BERKSHIRES — Progeny of Improver B. Young stock now ready for sale. Start your herd with breed and strain of established reputation for California conditions. Geo. G. Meckfessel, Berlin, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

BERKSHIRES—Young stock from prolific stock now ready. Can furnish trios or more if desired. Write for prices. W. G. Thompson, Napa, Cal.

IMMUNIZED NORMANDY BERKSHIRES—Good type. Breeding stock, any age, for sale at all times. Cast iron guarantee. Arlington Smith, Visalia, Cal.

ROSE CREST BERKSHIRES—Rivals Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Second annual sale August 1st, 1917. Mayfield, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Lawa, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

REGISTERED BERKSHIRES—Geo. M. York, Modesto, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 Third. Prices $20 and up. Haden Smith, Woodland.

RANCHO RUBIO DUROCS—Only a few September gilts left. One corking good fall boar by Orion Model, son of the last International Grand Champion. Place your orders now for weaned boar pigs. Best I ever raised. Elmer Lamb, Ceres, Cal.

REGISTERED DUROC-JERSEYS — Service boars from prize-winning stock are money-makers. They grow faster. New England California Corporation, Ripon, Cal.

DUROC-JERSEYS — Herd boars, E. N.'s Colonel and Tulare Boy. Sweepstakes winner at Fresno, 1915. Choice breeding stock. J. P. Walker, Visalia.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. B. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROCS — Crimson Wonder stock. Young stock, both sexes. L. D. Collins, Denair, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duvepeck, Ukiah, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 631-637 Brannan st., San Francisco.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Chester Whites.

THE BILLIKEN HERD of Chester Whites—Every rancher, every fruit grower, every one who can possibly do so, should keep at least one brood sow; we must increase our meat supply. I am offering some bred gilts and sows at very reasonable prices to help this along. 2 young tested sows to farrow in July; 6 spring gilts to farrow in September; 18 fall gilts to farrow in October; boars ready for service; weaned pigs, both sexes, ready for delivery. Write for special price lists and circulars. C. B. Cunningham, Mills, California.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

SPECIAL SALE DURING JULY — Registered Holstein bulls, three weeks to thirty months of age. Sunnybrook Ranch, Willits, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

PACKWOOD FARM HOLSTEINS — Fine young bulls of serviceable age out of tested A. R. O. cows. W. F. Mitchell, Visalia.

TWO SERVICEABLE SONS of Colantha Sir Pontiac Aaggie for sale. Moorland Farm, K. W. Abbott, Milpitas, Cal.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

Owners of
LAYNE & BOWLER PUMPS
—always pleased

Llano Rosa Ranch

Orange Grove California Feb 5th, 1916.

Layne & Bowler Corporation,
Los Angeles, Cal.,

Gentlemen:-

We are very much pleased with your pumps, they giving us complete satisfaction in every particular.

Plant #1 delivering 22 inches of water with 5.45 H.P. Motor, being a 61 foot lift during summer irrigation. Water level in this well being 29 feet when idle.

Plant #2 delivering 53 inches of water with 10 H.P. Motor, with old style pump, new style pump should reduce this considerably. Water level when idle 29 1/2 feet, with a lift of 67 feet when pumping full head.

Would recommend your pump to all who want an efficient plant. No pit and best of all no trouble.

Very truly yours,
Llano Rosa Ranch
By J. F. Wagner

Ask for Our Catalog No. 25.

LAYNE & BOWLER CORPORATION,
900 Santa Fe Ave., Los Angeles.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

GOTSCHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN-FRIESIAN CATTLE—J. M. Campbell, Escalon, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

A. R. O. HERD OF HOLSTEINS—Alex. Whaley, Tulare, Calif.

Jerseys.

N. H. LOCKE CO., LOCKEFORD, CAL.—Jerseys. Bull No. 432, born Dec. 2, 1915; sire, King's Valet; dam, Derrien's Lassie of L. She produced 604.6 lbs. fat in 351 days at 4 years. Price, $200. Bull No. 491, Oct. 20, 1916. King's Valet-Sunshine of L. 56.9 lbs. fat third month. Price, $100. Records made under dairy conditions at a profit. Service bulls and bull calves with profitable production backing. Prices, $50 and up. Poland-China boar Big Wonder, over 400 lbs., a good breeder, $50. Chester White Swine—Boars and gilts.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL Calves at reasonable prices. O. J. Ames, Oakdale.

CHOICE REGISTERED JERSEY FEMALES—Fresh and Springers. Breeding and individuality the very best. McLouth, Orland, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

REGISTERED GUERNSEY BULL — No. 24342 from A. R. and imported stock. Write for prices and pedigree. A. G. Lane, Amsterdam, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

Ayrshires.

AYRSHIRES — Registered — 75 head. All ages. Young stock for sale. Le Baron Estate Co., Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

PLEASANT VALLEY AYRSHIRE FARM—Registered bulls for sale. Write for prices. Sullivan Investment Co., 1942 Folsom street, San Francisco.

BEEF CATTLE.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

SCOTCH AND SCOTCH-TOPPED SHORTHORNS—We have the largest herd of straight Scotch cows in California. Foundation stock of both sexes for sale; also a choice lot of range bulls. Barco Ranch, Hollister, Cal.

D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, Bulls and Heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM — Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

GEORGE WATTERSON—Breeder registered Herefords. Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of Hampshire Ram Lambs, sired by Walnut Hall and Butterfield; rams purchased at Salt Lake, August, 1916; lambs ready for delivery after July 15, 1917. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

KAUPKE BROS., WOODLAND, CAL.—Breeders and Importers of Hampshire sheep.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and Importer of Rambouillets. Hanford, Cal.

HORSES AND MULES.

REGISTERED PERCHERONS—Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

FOR SALE—Dairy of choice cows, two to four years old. Full blood unregistered Holstein and Jerseys, all milking. Also full blood Holstein bull, weight 2,000. R. S. Burrough, Cloverdale, Cal.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal—the best California calf raiser. Geo. H. Croley Co., Inc., 631-637 Brannan st., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, Cholera Immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

WANTED TO BUY—30 head of Duroc-Jersey weanling sow pigs. J. L. Brodie, Dutton's Landing.

Expert Hints on Hog Advertising—II.

[Conclusion of Address by R. H. Whitten at Meeting of California Swine Breeders' Association.]

How much money should be spent in advertising? That, as well as the size of your advertisement, should be determined largely by the quantity and value of the stock you have for sale. As a rule, your advertising expenditure should amount to one-tenth of the value of the stock you expect to sell through the advertisements. But don't put all of your money into a few big advertisements. Persistent advertising is the only kind that pays. An advertisement may not bring satisfactory returns for three months, six months, or even the first year. But it is doing its work right along, and if you keep everlastingly at it you will be fully repaid in the long run for every dollar invested. It has been found by repeated tests that even a small advertisement appearing every month will bring more replies than a large one appearing irregularly. The classified columns, which are carried by nearly all agricultural and livestock magazines nowadays, afford an opportunity to do effective advertising at a low cost. But even in these columns don't run mere announcements that you have stock for sale.

AN INQUIRY NOT AN ORDER.

Now, let us suppose that you put in some good, hard licks on your advertisement. You weighed every word for pulling power and the final draft gave you such a good impression of your stock that you actually hated to sell any of it. You selected good mediums. The advertisement was attractively arranged, and it looked fine in print. Best of all, it pulled well, for now the inquiries are coming in at a lively clip. Dozens of customers eager to buy your stock—that is, in your enthusiasm you think they are. But calm down a moment and consider what an inquiry really amounts to.

Too many persons feel that advertising itself will prove the panacea for all their selling troubles. They think that every inquiry is as good as an order.

But what a mistake! An advertisement is an "opener" for business, but not a closer. An inquiry gives you an "opportunity," not an order. And your success depends, not upon the number of inquiries you receive, but upon the way you handle them. When you place an advertisement in a magazine you enter in competition with other advertisers. Similarly, you must compete with others when you answer an inquiry, for it is safe to figure that each person who writes to you also writes to at least a half dozen other breeders.

STUDY YOUR PROSPECT CAREFULLY.

When you receive an inquiry study it carefully in order to get a clear conception of the writer's circumstances and needs. I go through the prospect's inquiry very carefully, often reading more between the lines than in what is actually written. A powerful imagination may be brought into play, for not one person in a dozen states his requirements clearly, and you must be able to size up the situation from the material at hand and determine what is wanted. Visualize your prospect before you write him. See clearly his circumstances and needs. In writing sales-bringing letters, as in advertising, every word which does not add selling force positively weakens the text. A good beginning is half the winning, and the quicker you grip a reader's attention after starting your letter, the better your chance will be to sell him.

AVOID CONVENTIONAL EXPRESSIONS.

Avoid all time-worn expressions and weather-beaten phrases. No formal opening is necessary. Pick out what you think he wants and describe it carefully and clearly. Picture it so vividly that he will see it right before him—complete in every detail. The most important and deciding part of your plea is your final argument — the so-called "closing talk." Yet few business letter writers even know that there is such an element in a good letter as an effective climax. To give the most vivid and convincing description possible and end up with a blunt quotation of price is almost like pouring cold water on a flame. In closing your letter you must fan the sparks of desire you have created into a roaring flame, and in quoting your price you must add a few words to show your prospect that it is the right price—that he will receive full, honest value for his money. And back up your quotation with a

SPECIALS ON
Pure-Bred Poland Chinas

Commercial hog prices are higher. Our prices on pure-breds have not raised.

The Grand Champion P. P. I. E. Herd

ROUGH'S GREENFIELDS
Arlington Station, Riverside, Cal.

HOG CHOLERA

L. B. Green, Coast Manager for the Stock Yard Serum Co., the Dorset & Niles System, is a Serum man of several years' experience and only wishes he could say something that would be convincing to the skeptical hog raisers of California of the successful results obtained by the use of this Serum. Three years ago the Morris Packing Company realized the wonderful losses in hogs by cholera throughout the United States and they became interested in hog cholera preventive, and convinced of its worth got behind the Stock Yard Serum Company and said: push it along. We want to save every hog, as we need them in our business. Today they have the largest output of any serum company in the United States—why—the results.
L. B. GREEN, Mgr.,
401 Bryson Block, Los Angeles
Phone Main 1107.
(Cut this out for future reference.)

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes.
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

2nd Annual Sale
BERKSHIRES

CARRUTHERS FARMS
MAYFIELD, CALIFORNIA

WEDNESDAY,
AUGUST 1st
1917

Sows are bred to Ames Rival 100, son of Rival's Champion Best; Iowana Rival Majestic 3d, a son of Rival's Champion; and Mayfield Champion, son of Ames Rival 70th.

44 Sows and 6 Boars

In this sale will be included ten sows and two boars, comprising the best show herd that has ever left Carruthers Farms.

Entire Show Herd will be Sold

Mighty Good Pigs
Moderately Priced

ANCHORAGE FARM NOW HAS FOR SALE SOME VERY GOOD SPRING PIGS, SIRED BY MAYHEWS LEADER 6TH, A PRIZE WINNER AT THE P.-P. I. E., AND A SON OF THE $3,000 WORLD'S CHAMPION, GRAND LEADER 2ND.

THESE PIGS WILL BRING FINE BLOOD INTO ANY HERD. THEY ARE MODERATELY PRICED AND ANCHORAGE FARM STANDS BEHIND EVERY ONE. SEND FOR DETAILS.

We are glad to answer your letters. Address

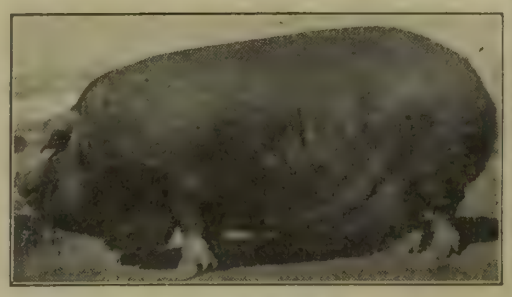
ANCHORAGE FARM
Orland California
Quality Products

All Anchorage Farm Pigs are cholera immune.

THE HOME OF STAR LEADER

GREATEST BERKSHIRE IN THE WEST

BASSETT'S POLAND CHINAS



GRAND CHAMPION SOW,
P.-P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.

Young stock, $30 Up.
M. BASSETT,
Box 1, Hanford, Cal.

Spineless Cactus as a Stock Feed.

[By Professor F. W. Woll, University of California.]

Editor Pacific Rural Press: In view of the fact that the trial with spineless cactus for milch cows conducted last year at the University Farm has been repeatedly criticised in the press, as well as by correspondents, I would ask you to publish the enclosed correspondence with a Santa Clara county farmer in the Press.

"Have you experimented with spineless cactus in regard to feeding it to stock? I have been growing it for several years and was of the opinion that animals would eat it, but now I am trying it on a pig. It will not eat it if it can get anything else, and it seems to have no substance or food value after it is eaten. You must have made experiments by this time. I wish you would be good enough to let me know the results."—G. D. C., Santa Clara county.

Your experience with spineless cactus for pigs coincides with ours in trying to feed slabs of this plant to milch cows. We could not induce our cows to eat more than a few pounds of it at a feed (maximum amount eaten per head daily, 15.5 pounds). An account of this trial will be found in the annual report of the Director of the College of Agriculture for 1915-16. Our position in regard to the value of spineless cactus for stock feeding may be seen from the following extract from a circular of the college now in press:

"A trial with spineless cactus as a feed for milch cows conducted in the University dairy herd showed it to have no more merit than suggested by its chemical composition (92.8 per cent moisture, 0.3 per cent digestible protein, 3.9 per cent digestible carbohydrates and fat). It proved unpalatable to our cows, but undoubtedly in some cases it has been eaten by cows and hogs with a relish and in considerable amounts. As 100 pounds contain less than eight pounds of dry matter, and but slightly over four pounds digestible nutrients, it can only be looked upon as an appetizer to stock that have become accustomed to it, and cannot be considered a substitute for either roots or silage, as is sometimes claimed."

guarantee of satisfaction to remove all doubt and hesitancy. The object of your final paragraph should be to make it easy for your prospect to order. The less effort he has to put forth, the better your chance of getting his order.

Don't fold the letter and seal it after you sign it—at least not until you have become proficient in writing business-bringing letters. Don't even mail a letter unless you are absolutely sure that it would influence you if you were the intending purchaser.

A FEW GENERAL SUGGESTIONS.

A printed letterhead gives prestige and will quickly pay for itself. But don't use a cheap letterhead unless you want to give the impression that you have cheap stock. If you can afford it, get a typewriter, but remember that a well-written longhand letter is preferable to a poorly typewritten letter. Be sure to spell the person's name correctly. If you don't you will antagonize him at the start. Use common words, and have your sentences and paragraphs short. Make your letter easy to read—a plain heart-to-heart talk, using the same language that you would in a personal interview. Reply to all inquiries promptly and be sure to answer all questions fully. Keep a 5x3 or 6x4 record card for each inquiry, and on it record the name and address of the prospect, the date of the inquiry, the magazine in which your advertisement was seen, the nature of the inquiry, and the substance of your reply, and, later on, as your business grows, you may want to circularize these persons.

CASTOR OIL FOR SCOURS.

[Written for Pacific Rural Press.]

If a pig gets scours, stop them as soon as possible. Keep it away from so much feed or milk and give it a teaspoonful of castor oil. A syringe with a rather large hole in the nozzle is very convenient for this. Just squeeze the jaws apart and squirt the oil in. It does not run out. This is the procedure recommended by John F. Myers.

HORSE SNAGGED HIS FOOT.

To the Editor: We have a horse that snagged a place in his foot just above the hoof. I have doctored it with healing oil, but can't get it to heal. Am afraid it will turn into a running sore. Can you advise me what to do for it?—T. J. M., Hickman.

Call in a veterinarian and have him examine and treat this case.

Beef stock on the ranges of Tulare county is being very rapidly cleaned up. There appears to be about the usual supply of feeders available, however.

ARMY HORSE AND MULE REQUIREMENTS.

[Written for Pacific Rural Press.]

The Quartermaster-General of the United States Army has issued detailed specifications for cavalry, artillery, draft, riding and remount horses and draft, riding and pack mules. The country is divided into zones for purchase of these animals, which is now done at intervals as advertised, from the lowest bidder with the required number of horses to sell. A price for each class was at first advertised, but this is withdrawn. To get in touch with army buyers, intending sellers should apply to United States Depot Quartermaster Remount Depot, El Reno, Okla., who is the purchasing officer for the "Southern Zone," which includes California.

The following points are taken from the detailed specifications: Disposition, eyes, and freedom from material defects are emphasized. No stallions or mares will be bought unless exceptionally fine individuals and then only by special authority. No white or gray horses will be accepted. Horses must be between six and ten years old, and mules between five and ten years. Heights and weights are: For cavalry, 15 to 16 hands and 950 to 1200 pounds; light artillery, 15½ to 16 hands and 1150 to 1300 pounds; siege artillery, 16 to 17 and 1400 to 1700; medium draft, 15½ to 16½ and 1200 to 1400; light draft, 15½ to 16¼ and 1100 to 1250; draft wheel mules, 15¾ to 16¼ and 1150 to 1250; draft lead mules, 15 to 15¾ and 1000 to 1150; pack and riding mules, 14½ to 15½ and 950 to 1150 pounds. Lighter animals are used for Panama service.

SHORTHORNS
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Whittier State School, Whittier, reports the sale of two Berkshire sows to George H. Sutliff, Sunnyside, a boar to Peter P. Hooley, Brawley, a boar to E. M. Cover, El Monte, and a sow to F. G. Wells, Delta.

CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

Fighting with Cherries and Hops.

To the Editors: The various commission and defense committees continue to comfort us with claims that there has been enough labor found for cherry and hop harvesting and therefore they reason that our food production will rise to the measure of our obligation to feed our allies! Women and children have picked cherries, hops, worked in canneries and drying sheds and in orchards since the first peach ripened in California, and they are doing so now in no greater numbers than ever. So, we are assured, we will feed fat on hops and cherries, and what need have we of the great cereal crops and potatoes, beans, onions, garlic, turnips, peas, beets and cabbage? Hops and cherries will keep us fit as a fiddle and put fighting vim into our allies! England went hungry listening to such plans, and now is plowing up her parks and game preserves and importing shiploads of Chinese farm laborers to till them and make the most of her limited agricultural resources. France is doing the same, while here we are told to be impressed by the importance of hops as a food crop! France is nearly bled white. England is hollow-eyed on short rations, and here we are listening to such piffle peddlers and the actual farmers are outlawed from all commissions, defense committees and other public bodies which are coating the situation with the paraffine of their wisdom. A very rude awakening may come, but too late.—Jno. P. Irish, Oakland.

Too Much Hushing.

To the Editor: Your Editorial on "Hushing the Farmer" is the right stuff. The farmer is the under dog because he is too individualistic in these days of unions and trusts. The best thing said at that meeting was by Judge Shields: he advised us to bring our sons back to the farm by starving them out of the city. Farming will become respectable when we get good prices for our crops, we will be able to pay the hired man good wages. If the city people grumble let them take up land and compete with us. The spread of tenant farming is a pressing danger. Non-resident landowners should be specially taxed to check it.—Old Farmer, Placerville.

PRIZE-WINNING COWS AND THE REASONS WHY.

(Continued from page 12)

FEED DURING LACTATION.

The striking thing about Humboldt county until late July is the almost unreal greenness and luxuriance of its meadows and pastures. April and May are the best pasture months of the year, and the Trigg pastures are well managed. There are about 27 acres fenced into six or seven fields. None of them are pastured so close as to give weeds a chance to crowd out the ryegrass and red, alsike, and white dutch clovers. If there is too much feed for the cows so that some of it threatens to get too ripe for succulent pasture, one or two fields are reserved for hay and the others grazed heavy enough to keep the grass and clovers tender and growing.

Some time during each day during that month the concentrate feed was mixed in a cart and wetted. For the entire herd including the fifteen in the contest, each day's feed consisted of about 120 pounds cocoanut meal, 30 pounds bran, and 50 pounds beet pulp. An equal ration was given each cow and then a little extra to the heaviest producers.

WINNING INDIVIDUALS.

Queen has been mentioned. She produced 91.7 pounds butterfat in the April test, 611.9 pounds in the year ending February 15, 1917, and 91.76 pounds in May, 1917.

Lady Fern, a granddaughter of Queen, is built a good bit like her, holds her good condition well, is fine boned, and long between hip and pin bones, a large cow like Queen. She made 82.26 pounds fat in April and 82.46 in May.

Irene, a daughter of Queen, produced 82.3 pounds in April and 89.9 in May. She has a large deep rather rectangular body, good back, wide between pin bones, fine bones and head, big square bag; a well-nigh perfect cow, always in good condition.

Brindle is half Jersey out of a Durham-Holstein cow, of greater weight than the others, roomy behind, good square bag, fine head. She made 77.1 in April, 88.66 in May, and over 646 in 1916.

Mabel has the most refined type of the five, and is the smallest. She has a nice back and square udder, and all the good dairy points except size. Her April record is 78.6, and her May record 66.96.

Since a registered bull is a fundamental requirement in winning this prize, we mention the breeding of the youngster now being bred to several of the competing cows. He is Frosty's St. Mawes bred in Oregon and a year old June 1. He is by St. Mawes of Ashburn which is out of a full sister to the dam of St. Mawes Beauty whose record is 879.96 pounds fat. The sire of St. Mawes of Ashburn sired St. Mawes Beauty. Frosty is out of Palmer's Frosty which was sired by the sire of Old Man's Darling whose record is 960 pounds. Mr. Trigg paid $355 for Frosty before he was a year old. High records and good type have been required in all of the Trigg bulls; for one poor bull could reduce the herd average, if his heifers were kept, more than years of upbreeding could counterbalance.

Because rhubarb leaves contain certain substances which make them poisonous to a great many persons, housewives are warned against using this portion of the plant for food.

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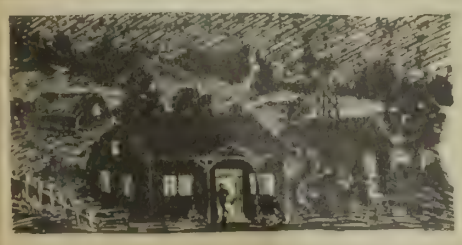

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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

NOTES FROM THE POULTRY COURSE.

At the three day course in "Poultry Husbandry," 150 students registered and everybody present took a keen interest in what was done. Many of the ideas were of little practical use to this section of the country, for everybody must work with local conditions as they find them. But figures and experiments gone into by the State give a good working base to those who apply them to their own climate and conditions.

There is too much stress laid on the "balanced ration." As was shown by figures, the hens that were fed from seven to ten per cent of any kind of animal food laid just as many eggs as those that had been fed 30 per cent. A statement was made that an all-grain diet would not keep hens in laying condition; in fact, it was said the hens would not lay on an all-grain ration. Well, if I had hens that I could afford to feed plenty of grain to, and give them exercise with it they would lay, I am sure, especially so if they had a pan of sour milk once in awhile. Hens need some form of animal food, of course, but the insects that hens pick on range are largely water, now offset this with 30 per cent of dry animal food, and common sense will tell you that it does not in any sense tally.

THE RATION.

Below is the mash recommended by the Professor of Poultry Husbandry at the University. It is highly concentrated, and will make hens lay, provided they are the laying kind. If they are not that kind you can't afford to keep them: Wheat bran, 50 pounds; shorts, 50 pounds; barley meal or ground barley, 50 pounds; beef scrap or fish meal, 30 pounds; soy or linseed meal, 20 pounds; charcoal, 5 pounds; salt, 1 pound. The day's rations should consist of something like this from 45 to 50 per cent grain; fed in deep litter, at least a foot deep; and from 25 to 30 per cent mash; ten to 15 per cent green feed; 7 to 10 per cent animal food and 5 per cent mineral. This means mineral outside of what is gotten from the grain and other food, in dry form. All grains contain mineral. It is mineral that makes the wheat straw strong enough to hold up under the weight of the head. Oats do not contain as much mineral in the straw as wheat, hence they lie down under a heavy wind and rainstorm. All green feeds contain mineral, some more than others. A good grit that is sharp and hard is generally fully 75 per cent mineral, and oyster or clam shells are well adapted to giving the full per cent of mineral. Hens on free range can usually supply themselves with all they need, unless the ground has been well run over without plowing or spading up.

Besides supplying mineral matter, all greens contain a tonic and they aid digestion, supply bulk and have real food values besides. If they had no food value, how do wild birds that live away from any grain regions live?

HENS HAVE TAPEWORM.

To the Editor: My hens are troubled with intestinal worms, the big flat, long ones that have rings around them, or rather are a series of rings. I am at a loss just how to rid them of this nuisance. Have been advised to use sulphur mixed with moistened bran. The hens have free range, and are fed mostly gyp corn, gyp wheat, cracked rice, barley, and scraps. Is it the feed?—V. L., Biggs, Cal.

This is tapeworm, and it is harder to get rid of than the common round worm. It is not likely that all of your birds have it and if you could locate a few that you know do have the worms and treat them you would save expense. They are caused chiefly by chickens eating mice, and are the same kind of tapeworm that cats have. It is claimed they breed from the fluke of the mouse's liver. You may try the sulphur. I don't believe in it, because it causes paralysis—at least in some cases. If you could keep the birds without food for thirty-six hours and then feed them a big mess of boiled garlic cut in small lengths, you could bring the whole worm away. The next best thing is to keep them without supper and next morning feed a little mash, allowing 6 drops of male fern oil and a teaspoonful of castor oil to each bird. Mix the two oils in a little warm water, then mix the amount of mash you intend feeding and see that each one gets a share. Feed lightly for a day or two and let the feed be warm mash.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

FEEDS AND FEEDING.

The question "What shall I feed?" is uppermost in the poultryman's mind at the present time. There is no best ration. Some poultrymen succeed with a ration that to others would spell failure. Hens are individuals with diverse tastes and habits. They must be happy and contented before we can expect results. To feed right is an important matter.

OBJECTS OF FEEDING.

(1) Maintenance of bodily heat. (2) Repair waste tissue. (3) Reproduce young. (4) Form new tissues or organs. (5) Perform muscular labor. (6) Secrete various products. (7) Lay up reserve stores.

MATERIALS FOUND IN THE BODY.

Water. — Water constitutes two-thirds of the weight of the body, entering into the composition of all tissue and all its fluids. In few foods is water present in this measure, so that it is necessary to feed water separately. Never let the water trough be dry any length of time. Running water is best.

Mineral Matter. — This comprises about five per cent of the body weight. It enters into the formation of the bones, regulating the density of the blood, and other fluids of the body. The mineral matter is mainly lime, potash and phosphoric acid, with varying amounts of sodium, iron, magnesia, sulphuric and hydrochloric acid, silica, etc.

Nitrogenous Matter.—Found mostly in the muscle and gelatinous part of bones and tendons, brain, nerves, and internal organs. Nitrogenous matter also is known as protein or albuminoids. It is found largely in the white of egg, "Myosin" of lean meat, gluten of grains, etc. Other nitrogenous matter is present, among them being "amides," found in foods of vegetable origin. These act similar to fats and carbohydrates.

Nitrogen constitutes 16 per cent of albuminoids. Proteins are essential to the body and cannot be changed from other materials and secured in this way. The most common "high protein" feeds are meat scraps, soybean meal, etc.

Non-Nitrogenous. — This part of the body is principally fat, which is used in the generation of heat and energy. The source of non-nitrogenous matter is those portions of feed free from nitrogen. They are divided into two classes—carbohydrates and fat. Carbohydrates are first changed into fats and then used as fuel. When there is a shortage of these elements, the fat of the body is drawn upon.

Fat varies in amounts more than any other substance of the animal body, varying from 6 per cent to 30 per cent

CHEMICAL COMPOSITION OF AN EGG.

	Fresh-laid Egg.	Dry Matter.	Dry Matter Exclusive of Shell.
Protein	13.2	38.5	49.8
Fat	8.9	25.4	38.5
Shell	11.4	35.6	3.4
Other ash	.8		
Water	55.7	...	...

These materials must be supplied in the food, and in proper proportions.

PHYSIOLOGICAL TREATMENT OF FOOD.

Food is first taken into the crop where it is acted upon by "ptyalin," starches being changed into more digestible sugars. The food is soaked in liquid and made soft and spongy, passing to the stomach in small quantities. The stomach in the fowl is only a small sac. Here hydrochloric acid and the gastric juices break down the protein material. There is no rennet in the fowl's stomach to curdle milk, this taking place in the small intestine. For this reason the feeding of sour milk or buttermilk is advisable.

(To Be Continued)

Poultry Breeders' Directory

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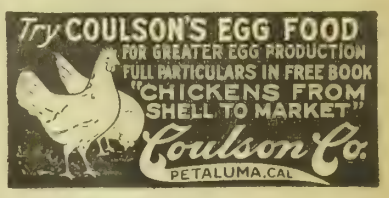

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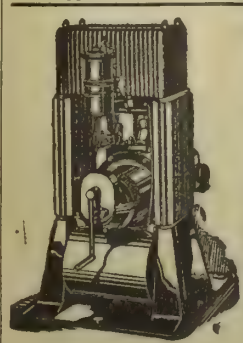

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Mrs. Best's Letter.

MODISH MILLINERY, SUMMER SKIRTS, ETC.

My Dear Friends: At this mid-season, there are not so many new things being shown, the windows and shops being full of the season's goods at much reduced prices. There is a new mid-summer hat, though, of white—a toque completely covered with breast feathers, that is wonderfully attractive; and there is also a combination of Leghorn and black velvet that suggests good possibilities to the owner of a Leghorn that needs to be freshened. These Leghorns are in moderately high crowns, with brims of varying widths, but most of them rather wide.

In some of the hats the entire crown is covered smoothly with the black velvet with an inch wide binding on the edge, while others have a broad band of velvet around the crown and a facing underneath the brim. Velvet for midsummer wear seems on a par with midsummer furs, but they are both good style, therefore are above criticism.

It has been a long time since the separate skirt was worn so much. You can find it in any style and any combination of color and almost any material. The full pleated skirts in the soft plaids are so pretty as well as in the plain serges, both blue and white. In the white skirts, many of them have a broad band of contrasting color, black and white check on the bias, or bright green on the bottom. This would be a good way to freshen up an old skirt that was somewhat worn.

Not all of the skirts are pleated, however; many of them are three gore models, plain in front and softly gathered in the back, but one and all, they must have belts, the wider the better, and usually in more than one piece. Some of the belts are in two parts, buttoning on both sides of the waist, while others are long enough to pass around the waist twice and have hanging ends at the back. Another very popular style is the belt that is much larger than the waist and one side passes through a slit in the other, making both sides button a few inches from the center on either side.

For machine or traveling wear, some of the stores are showing a very full line of dusters in linens, Palm Beach cloth and blue and grey mohair. These garments are all practical and some of them are very smart. They range in price from $8 up.

ROSABELLA BEST.

SOY BEANS.

Since soy beans contain almost twice as much tissue building material as meat and a large proportion of fat as well, they can be substituted for meat as well as the more expensive white bean. They lack starch, so should be served with rice, bread and potatoes.

The length of time required for cooking soy beans is about the same as for any dried bean. A soaking for 24 hours improves them and shortens the time necessary to soften them by cooking.

To make cream soy bean soup, take 1 cup soy beans, 2 tablespoons butter, 2 tablespoons flour, 1 quart milk, 1 teaspoon salt, ⅛ teaspoon pepper, 1 tablespoon onion. Soak the beans 12 hours; cook in water four hours or until tender, then rub through sieve. Brown the chopped onion in the butter, add flour, milk and bean pulp, boil 1 minute, stirring constantly; season and serve.

For baked soy beans, take 1½ cups yellow soy beans, ½ cup white beans, 1-3 cup sugar, ¼ teaspoon mustard, 1 small onion, ¼ lb. salt pork. Soak beans 12 hours, put into baking dish with the salt pork, onion, sugar and mustard. Cover with cold water and cook in a slow oven at least 12 hours. Add water as needed. If desired to use soy beans alone, add 2 tablespoons of flour to the sugar.

For fresh soy beans, soak beans 12 hours; then boil about 4 hours or until tender. Allow most of the water to evaporate in cooking. Season with butter, pepper and salt.

THE HOME CIRCLE

GRAPE LEAVES FOR FOOD.

Editor Home Circle: I would like to ask if the leaves of the wine grape vine are of any use for food, such as greens or salad. Would there be any harm in trying them?—Cupertino.

There is nothing dangerous to health in the leaves and it is therefore simply a question of suiting them to the taste. Young leaves are tender and sour; old leaves are tough and hairy generally, and would not please the palate. The only way to determine the matter is to try. We never heard of any attempt to use them by any kind of people.

STRAWBERRY CREAM CAKE.

Cream ¼ cup of butter with 1 cup sugar, add beaten yolks of 2 eggs and ½ cup sweet milk, then 2 scant cups flour, sifted twice with 2 heaping teaspoons baking powder and the beaten white of 1 egg. Beat thoroughly and bake in layer tins. For filling, beat 1 cup cream until stiff, then add 3 tablespoons powdered sugar, stiffly beaten white of 1 egg and ¾ cup of strawberries, mashed smooth. Spread this between layers and on top of cake.

VEGETARIAN ROAST.

Mash two pounds of beans, either canned or cooked; one-half pound grated cheese and enough bread crumbs to shape, season with salt, make a roll and bake, basting with drawn butter. Serve with a sauce made of one small strained can of tomatoes, seasoned with salt, pepper and onion juice, added to one tablespoon melted butter to which has been added a heaping tablespoon of flour.

HOUSEHOLD HELPS.

If the bureau drawers stick, rub the edges well with soap.

Heat the potatoes in hot water before putting in the oven to bake and they will bake in much less time.

Use pieces of old net to mend a worn net curtain. Dip the pieces in starch and place over the worn spot and iron on.

Have your kitchen table fitted with castors that it may be easily moved from place to place in the kitchen.

DRIED APRICOT MARMALADE.

Soak one pound dried apricots, in water to thoroughly cover, over night; in the morning add one pound of sugar, one can grated or shredded pineapple, one orange sliced very thin. Stir well and simmer about an hour and a half, stirring often. When cool, turn into jelly glasses.

CORKS.

After filling bottles with catsup, grape juice, etc., place a piece of stout cord, doubled, under the cork, leaving the ends extending beyond top of bottle. After cork is in, cover with sealing wax or paraffin until ready for use, when cork can be easily removed by pulling the cord.

TOMATO PASTE.

We have a query from one of our readers regarding the manufacture of tomato paste, which is so generally used by the Italians. If any of our readers have any knowledge on the subject, will they be kind enough to "pass it along."

A TEMPTING DESSERT.

An appetizing dessert is made of equal parts of pineapple and marshmallows. Dice the pineapple, quarter marshmallows with shears, whip ½ pint of cream, add powdered sugar to taste and vanilla. Mix together, serve cold in glasses with a Maraschino cherry in each glass.

RICE MUFFINS.

Separate 1 egg, add to yolk 1 cup sweet milk and 1 cup boiled rice, mix thoroughly, add 1½ cups flour, beat thoroughly, add rounding teaspoon of baking powder and salt, beat again, fold in well-beaten white of egg, then turn into greased gem pan, bake in quick oven 20 minutes, serve hot.

It is often said that celery is a nerve food, but there seems to be no warrant for such a statement; the belief is probably a survival of the time when specific virtues were attributed to almost all plants and vegetables.—Bulletin United States Department of Agriculture.

CAN SURPLUS FOOD, BUT USE JARS AND CANS WISELY.

Don't have an empty preserving jar in your home next fall. There may be some difficulty in securing cans and preserving jars. Reserve regular tight-sealing containers for vegetables, concentrated soups, meats, and fish. Concentrate products so that each jar or can will hold as much food and as little water as possible. Put up jams, jellies and preserves in glasses sealed with cork or paper and paraffin. Pack fruit juices in ordinary bottles. Don't can anything that can be kept just as well dried or in other forms. Dry navy and mature lima beans for winter use.

Good Health.

[By H. E. Pastor, M. D.]

Care of Infants in Hot Weather.

If hot weather is uncomfortable and dangerous for adults and grown children, it is doubly so for infants, who have a very fragile hold on life, and cannot readily adapt themselves to extreme changes of temperature. Mortality is higher in the first year of life than in any other. The excessive heat of tropical and semi-tropical climates, such as we have in parts of California, are especially menacing to children. The great heat of the summer season, so far as it affects the child, should be counteracted as much as possible by keeping the baby's room well ventilated and clean, and shaded from the direct sunlight during the hotter hours of the day. Sunshine, however, is an incomparable disinfectant, and in the absence of great heat should have free access to the apartments occupied mostly by the child. Baths—tepid, of course—given several times a day in hot weather are helpful in keeping baby's temperature down to a comfortable level. Sponge baths are best. Don't swathe the baby in too much clothing in hot weather—never enough to cause sweating.

Next to the above considerations is proper feeding. Mother's milk is the food nature intended her offspring to receive, and no substitute fully and satisfactorily takes its place, especially during the first twelve months of its rather precarious life. If the mother is unfortunately unable to secrete enough milk for her babe, cow's milk, modified to bring the fat and sugar percentages to conform to human milk, is the best substitute; but this substitute should be obtained from healthy, clean cows under sanitary conditions—that is to say, handled from the cow's teat to the child's mouth with scrupulous cleanliness. Average city market milk is unfit for human use, and this writer has seen much milk on farm homesteads still worse. Raw milk is the most nutritious and digestible, but if the mother or nurse is at all doubtful of the milk's quality she had better pasteurize it—which is done by heating the milk to a temperature of 144 to 145 degrees Fah. and holding it there for twenty or thirty minutes. Don't forget to keep bottles and nipples absolutely clean. Have no tubing of any sort between the bottle and the nipple—tubing cannot be kept clean. Let the baby have plenty of sleep—fifteen to seventeen hours daily. Dirty diapers should be removed promptly and not replaced until thoroughly washed and dried—both the wet and the soiled. Exclude all insects, especially flies, from the baby and its surroundings. Flies are undoubtedly responsible for much disease and death in infant life. They crawl with germ-infected feet over the baby's milk and the vessels holding it, leaving the poison which a little later sets up an obstinate, perhaps fatal, case of summer diarrhoea.

And one word more: Let the baby live outdoors every hour age and weather will permit. In hot weather an outdoor place in the shade is, as a rule, cooler than indoors and the air is purer.

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Animals for Household Pets.

Cats, dogs and such like household pets are very interesting to young children, but nevertheless dangerous companions. Infectious diseases of various kinds are thus communicated by the too close intimacy encouraged by innocent children between the player and the pet. Try to interest children in something else. Animals naturally have unclean and unsanitary habits.

Prickly Heat.

The breaking out on face, neck and arms of red spots, which burn badly at times, is likely to be prickly heat. To relieve this, apply cooling lotions. The following is good and inexpensive:

Two ounces each of liq. plumbi subacet. dil., and rose-water.

Sponge the face with this frequently. Drink lemonade, apollinaris water, etc., freely. Saline cathartics are helpful.

Bee or Other Insect Sting.

The effects of a bee sting vary with the susceptibility of the person stung. Among the best applications are ammonia water, or a solution of bicarbonate of soda, or of common salt, or a weak solution of carbolic acid. A weak solution of any alkali neutralizes the formic acid.

OPEN THE DOOR.

Open the door, let in the air;
The winds are sweet and the flowers are fair.
Joy is abroad in the world today;
If our door is wide it may come this way.
Open the door!

Open the door, let in the sun!
He hath a smile for everyone.
He hath made the raindrops gold and gems;
He may change our tears to diadems.
Open the door!

Open the door of the soul; let in
Strong, pure thoughts which shall banish sin;
They will grow and bloom with grace divine.
And their fruit shall be sweeter than that of the vine.
Open the door!

Open the door of the heart; let in
Sympathy sweet for stranger and kin;
It will make the halls of the heart so fair
That angels may enter unaware.
Open the door!

The tortoise is a great sleeper. The Spectator has had a story of one which was a domestic pet in an English house. As his time for hibernating drew nigh, he selected a quiet corner in the dimly lit coal cellar, and composed himself to sleep. A new cook knew not tortoises. In a few months the tortoise woke up and sallied forth. Screams soon broke the kitchen's calm. On entering that department, the lady of the house found the cook gazing in awe-struck wonder, as she pointed to the tortoise: "My conscience! Look at the stone which I've broken the coal wi' a' winter!"

Though most commonly eaten raw, radishes, especially the larger sorts, are also cooked and served like creamed turnip, which they much resemble in flavor. The leaves can be used for greens, or if they are very tender can be added to salads. —United States Department of Agriculture.

PANTRY LOVEMAKING.

"Do you love me?" said the paper bag to the sugar.

"I'm just wrapped up in you," replied the sugar.

"You sweet thing!" murmured the paper bag.

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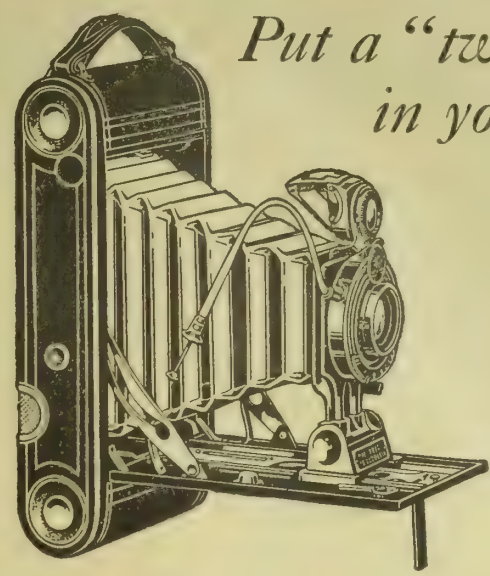

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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, July 3, 1917.

WHEAT.

The grain exchange has been closed since Saturday's session of the call board, the proceedings of which were adjourned till Thursday morning. On Saturday there was a dearth of transactions and values were unaffected by the unsettled conditions in the East, although the same tone of uncertainty prevailed. Until further Government declarations of policy towards grains there can be no reliable quotations.

Sonora wheat, recleaned	None offered
Northern Club	None offered
California Club, per ctl	None offered
Northern Bluestem	$4.75@4.80
Northern Red	4.55@4.60
Russian Red	Nominal

BARLEY.

Saturday's session of the board developed some little firmness in choice seed, which advanced 5 cents. Receipts of barley had been small during the week, and speculators seemed willing to buy in small lots. However, the advance may not be taken as any indication of a rising market, as it may be only a temporary revival.

Shipping, per ctl	Nominal
Brewing	Nominal
Choice Feed, per ctl	$2.05@2.20

OATS.

There has been very little trading even in stocks of new red. No white is offering and quotations remain unchanged. General outlook is unsatisfactory at present and hard to predict. After the holiday, transactions may show more definite indications of the future.

White Feed, per ctl.	$2.55@2.60

BEANS.

Nearly all lines of beans have taken a tumble. Large whites, red kidneys and garbanzos were the only varieties to stand the strain. There has been a lack of demand lately, and some of the speculators, being unable to carry their stocks, have been forced to let go. The canners also are in a predicament, being unable to can because of the Government veto, and they are endeavoring to place their surplus stocks.

Bayos, per ctl	$10.00@10.50
Blackeyes	8.75@ 9.25
Cranberry beans	11.50@12.00
Horse beans	4.00@ 4.50
Small whites (south)	14.50@15.00
Large whites	15.50@15.75
Pinks	10.00@10.50
Limas (south, recleaned.)	12.50@13.00
Red kidney	13.50@14.50
Mexican reds	10.00@10.50
Tepary beans	None offered
Garbanzos	$6.25@6.50

CORN.

In Chicago corn has reached the record price of $1.78 a bushel. This has prevented any decline here in Eastern yellow, although the demand is none too brisk. Quotations on Egyptian show a marked decline caused by deficiency in quality. Good clean stocks will fetch more than prices quoted.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, per ctl., bulk	$3.30@3.40
California, sacked	3.30@3.35
Milo Maize	None offered
Egyptian	$3.40@3.50

HAY.

Receipts of hay for the past week were 1,997 tons, against 1,511 tons for the previous week. The entire receipts have been of the new crop, old hay having been entirely cleaned up. Baling has been somewhat slow, owing to hot weather, and the output has been reduced from what it might have been. Baling outfits are going ahead and receipts for the present week should be much heavier. Farmers have been holding their hay at what dealers here claim are far in excess of normal prices, and purchases have been reduced to small dimensions. It is only with difficulty that top quotations quoted can be maintained, and lower range of prices may be looked for shortly. Alfalfa, with small receipts, shows practically no change.

Wheat, No. 1	19.00@19.50
No. 2	17.50@18.00
Tame oats	19.00
Wild oats	14.00@16.00
Barley	15.00@16.50
Alfalfa, new, first cut	14.00@15.50
Stock hay, new	10.50@12.00
Straw, per bale	1.00@ 1.10

FEEDSTUFFS.

The only change in values is shown by bran, which has declined $2. Oilcake is again in the market, selling readily at $50 to $55. Some trading has taken place in coconut meal, but in other lines there has been no activity.

(Per ton, San Francisco.)

Beet Pulp, per ton	$38.00@40.00
Alfalfa meal, per ton	30.00@32.00
Bran, per ton	36.00@38.00
Oilcake	50.00@55.00
Coconut cake or meal	38.00@39.00
Cracked corn	72.00@73.00
Middlings	49.00@50.00
Rolled barley	45.00@46.00
Tankage	None offered
Rolled oats	$53.00@54.00
Rice middlings	None offered
Rice bran	$30.00@33.00
Shorts	43.00@45.00

POTATOES, ONIONS, ETC.

Potatoes stiffened on Tuesday and prices were more firmly held. Considerable quantities are being shipped to fill orders from various Eastern and Southeastern points. Shippers are now transporting potatoes East in refrigerating cars, which is a new departure. Onions continue very cheap and weak. Green onions are off the market.

Asparagus, per box	$1.50@2.00
Peas, per lb	2@3c
String beans, per lb	2@4c
Wax beans, per lb	2@5c
Hubbard squash, per lb	None
Summer squash, per box	$1.25@1.50
Cucumbers, per box	65c@$1.00
Lettuce, per crate	50c@$1.00
Celery, per crate	$1.00@1.50
Tomatoes, per crate	50c@$1.00
Potatoes, Salinas	Cleaned up
Oregon	None
New, per ctl	$2.25@2.75
Sweets, per lb	None offered
Onions, yellow, per sack	75c@$1.00
Garlic, per lb	3½@6c

POULTRY.

For the first time in the history of the San Francisco produce market, the dealers, imbued with a keen spirit of patriotism, declared a truce to all business on the Fourth of July, and every house in the produce market closed its doors. There is no change in prices except that live turkeys are no longer quotable. No Eastern stocks are arriving, which gives the dealers a chance to sell stocks out fairly well. Live Belgian hares have been in good demand lately.

Turkeys, live, lb	Nominal
do, dressed, large, lb	Nominal
Broilers, 1½ to 2 lbs	25@28c
do, under 1 lb	20@21c
do, 1¼ lbs	23@24c
Fryers	28@30c
Hens, extra, per lb., colored	21@25c
Small leghorn	17@18c
Smooth young roosters, per lb. (3 lbs. and over)	30c
Old roosters, per lb	12@14c
Geese, per lb	19@20c
Squabs, per doz	$2.50@3.00
Ducks	18@20c
Old	17@18c
Belgian Hares (live)	14@15c

BUTTER.

Considering the amount of supplies and no ready means of disposing of surpluses, prices realized seem rather high. There are no fresh Government contracts over and above the usual ones, although the Navy is buying some stocks to ship East. There was a good deal of buying on change Tuesday, chiefly for storage purposes.

	Thu.	Fri.	Sat.	Mon.	Tu.
Extras	35½	35½	35½	35½	36
Prime firsts	35	35	35	35	35½

EGGS.

Prices are well maintained, though dealers do not seem very optimistic as to future operations. There has been a good deal of lower grade stock in the market due to hot weather.

	Thu.	Fri.	Sat.	Mon.	Tu.
Extras	31½	32	32	32	32
Extra 1sts	30½	30½	30½	31	31½
Extra pullets	29	29	29	29	29½
Ex. 1sts pul	28	28	28	28	28

CHEESE.

Cheese is weaker, especially on flats. Large offerings and a glutted market are the causes for less interest in California stocks. Jacks have slumped; they are hard selling today at any price from 10 to 17 cents.

Y. A.'s	24c
Fancy Calif. Flats, per lb	19½c
Monterey cheese	10@17c

DECIDUOUS FRUITS.

There was feverish haste to dispose of stocks on Tuesday because of the general closing on the Fourth. A new cantaloupe, developed during the last two years, has arrived from Imperial Valley in moderate commercial quantities. It is called "honeydew," is of fine texture, well sized and delicious flavor. Apricots, peaches, plums and figs are arriving in heavy supply and have fallen considerably in values.

Apples, per box	75c@$2.00
Cantaloupes, per crate	$1.25@1.75
Currants, per chest	3.50@5.50
Cherries, bulk, per lb	4@7c
Royal Anne, per lb	6@7c
Apricots, per crate	50c@$1.00
Peaches, per crate	50@75c
Figs, per box	50c@$1.00
Plums, crates	50c@$1.00

CITRUS FRUITS.

Valencias have not advanced in price, but a rise in values is not improbable. The amount of damage to the Valencia crop in the South has yet to be determined, but the extraordinary and prolonged heat of last month wrought havoc, according to report. Lemons still in heavy demand, but values are fully as high as they should be, possibly a little top heavy.

Oranges:	
Valencias	$3.25@3.50
Navels, fancy, per box	3.00@3.50
do, Choice	2.75@3.00
Lemons:	
Fancy, per box	$6.00@6.50
Choice	5.25@5.75
Standard	3.75@4.00
Lemonettes	3.25@3.50
Grapefruit, fancy	3.00@3.25

DRIED FRUITS.

At a meeting of the Prune and Apricot Growers' Association, held at San Jose, July 2, the opening price of prunes was set at a 6-cent basis. No action was taken as to apricots. Values of all lines of dried fruits remain steady, with only moderate amount of trading in any of them.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop	9@9¾c
Apricots, per lb	16¼@16⅝c
Figs, black, 1916	8c
do, 1917	5¾@ 6¼c
do, white, 1917	6 @ 6½c
Calimyrna, 1917	9 @10 c
Prunes, 4-size basis, 1917	6⅞@ 7¼c
Prunes, 1916	8¼@ 9 c
Pears	8 @10 c
Peaches, 1917	8½@ 9½c

BERRIES.

Strawberries, per chest	$8.00@9.00
Longworths	7.00@9.00
Blackberries, per crate	1.00@1.25
Raspberries, per chest	8.00@12.00
Longanberries, per chest	4.00@5.00
Gooseberries, per lb	6@7c

LOS ANGELES.

Los Angeles, July 3, 1917.

BUTTER.

Receipts of week ending July 3....329,000
Receipts of same week last year....378,500

A steady and very good consumptive demand was had the past week, though there was no speculative interest in the market. There was also some little movement south and the receipts were pretty well taken care of by the trade. The weakness in the San Francisco market was not noticeable here. Chicago declined ½c up to Monday on extras, and New York 1c. This failed to influence this market. This weakness being offset by lighter cold storage stocks than this time last year. There was in cold storage here in Los Angeles June 28, 216,561 pounds against 291,214 pounds the same date last year. There was taken into cold storage for the week ending June 28 only 17,584 pounds against 36,640 pounds the same week last year. It was a 37 market throughout the week against a 26c the same week last year. On call 37 was bid for extras, but no sellers, holders being firm.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	37	37	37	67	37	37
1916—						
Extra	26	26	26	26	26	26

EGGS.

Receipts (railroads) for week ending July 3, 1917, 3,620 cases.

Receipts (railroads) for week ending July 3, 1916, 2,865 cases.

There was more life to the trade and a stronger market the past week. The receipts were the best for some weeks and heavier than the same week last year. San Francisco advanced ½c up to Monday and Chicago ½c on first for the same time, while New York was bid up 2c on first. This influenced a stronger and more active market here. Extras were advanced 1½c up to Monday, case count the same and pullets 1c. Case count are now 10½c higher than this time last year. There was in cold storage here in Los Angeles June 28, 1917, 80,249 cases against 65,131 cases the same date last year, an increase of 15,118 cases. Yet in the face of increased holdings the market remains a firm one. Tuesday the very light receipts and Wednesday being 4th of July, caused dealers on 'change to bid extras and case count up ½c.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	33	34	34½	34½	34½	35
Case count	32	33	33½	33½	33½	34
Pullets	30	31	31	31	31	31
1916—						
Case count	24	24	24	24	24	24

POULTRY.

A dull and lower market was had the past week for nearly everything. There was a rush of broilers in and the receipts of hens were heavy, especially of light hens. Broilers were not only slow sale but lower, and the same may be said of hens. Fryers held steady and in fair demand. Ducks lower. Turkeys dull but steady.

We quote from growers:

Broilers, 1¼ to 2 lbs	20@21c
Fryers, 2½ to 3 lbs	22c
Hens over 4 lbs	20c
Hens under 4 lbs	10@11c
Ducks	16c
Geese	15c
Roosters, 3 lbs. up (soft bones)	25c
Turkeys, heavy, 12 lbs. and up	29@30c
Turkeys, light	24@25c
Squabs, live, per doz	$1.50@3.00
Dressed	3.75@4.50

FRUITS.

While the market was very well supplied the past week with most deciduous fruits, its tone was stronger under the improved quality of the offerings. Apricots came in less freely and made a fair advance the last part of the week. Peaches were more plentiful and lower and slow of sale. Apples steady and in fair demand. Cherries firmer under lighter receipts and demand very good. Plums arrived more freely and quality better and sales fair.

Apples, White Astrachan, per box	$2.50
do, Red Astrachan, per lug	$1.10@1.20
Avocados, per doz	4.00@5.00
Cherries, black Tartarians, per lb	10@12c
Royal Anne	11@12c
Bings	10@11c
Gooseberries, per lb	6@7c
Apricots, per lug	50@75c
Peaches, local, per lug	50@65c
do, Northern, per lb	3@4c
Figs—Black, one layer box, 6 to 7 lbs.	40@50c
do, White, per lb	2c

MELONS.

Not so many in the past week and a steadier market was had for cantaloupes. Honey Dew melons and watermelons, however, were in better supply and lower, but in fair demand at the prices.

We quote from growers:

Cantaloupes, Imperial, standard crates	$1.25@1.50
do, Imperial, pony crates	1.20@1.25
Imperial Valley Honey Dew Melons, per crate of nine and ten	1.50
Watermelons, per cwt	1.50@1.75

VEGETABLES.

The market remains much the same as a week ago. Offerings were very good as a whole and sales rather slow. Potatoes sharply lower. But few shipping orders in and offerings in excess of the home demand. Onions continue slow sale and weak. String beans unchanged, while peas were dull and lower, few good ones arriving. Tomatoes are in good supply, but with the quality of the offerings improved they sold fairly well. Summer squash dull and lower and the same may be said of cucumbers. Green corn in light supply and

Special Citrus Market Report

Los Angeles, July 3, 1917.

Shipments of citrus fruits from Southern California from November 1 to July 1: Oranges, 31,871 cars; lemons, 6,044 cars. Same time last year: Oranges, 25,249 cars; lemons, 4,863 cars.

Shipments from Central California from November 1 to June 29: Oranges, 4,755 cars; lemons, 154 cars. Same time last year: Oranges, 5,390 cars; lemons, 146 cars.

There is little new to note in this market the past week. The Eastern markets started our review week out slow and weaker under the influence of good receipts and the freer arrivals of deciduous fruits. But since the opening of the current week the markets at all the Eastern trade centers has strengthened up again. Demand good for all highly colored fruit of popular sizes. Others slow sale. Lemons in good demand and firm to a little higher, the hot weather favoring the market for them. Locally the market remains much the same as last week. Too much deciduous fruit coming in for the good of the orange trade. A fair demand was had for the larger sizes of highly colored oranges, but all other were dull. Local packers still bidding 1@1½c per pound in the grove picked for navels and miscellaneous varieties. For Valencias 1½@2c per pound in the grove picked. Large sizes grapefruit moving a little better, while small sizes are as dull as ever. Packers paying 1½@2c per pound in the grove picked. Lemons moving better and choice stock is higher. Poor, still draggy and cheap, and have to be sold for what they will bring. For choice, packers are paying 1½@3c per pound in the grove picked.

AUCTION SALES.

New York, July 2.—Forty-seven cars of oranges and three cars of lemons sold. Market is stronger and higher on both oranges and lemons. Weather fair. California navels averaged $1.75@3.55, Valencias averaged $2.90@4.75. Lemons averaged $5.50@5.95.

Boston, July 2.—Market unchanged on Valencias; easier on other varieties. Lemons unchanged. California navels averaged $1.60@3.10. Valencias averaged $1.75@4.80. Lemons averaged $1.80@5.85.

Philadelphia, July 2.—Eighteen cars sold. Market firm on oranges at prevailing prices. Market strong and higher on lemons. California navels averaged $2.10@3.00. Valencias averaged $3.50@4.50. Lemons, $4.00@5.95.

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, July 3, 1917.

An unusually active demand still prevails in all markets on deciduous fruits. Practically little or no effect is felt from the competition of Georgia peaches. A recent hailstorm in Georgia very greatly affected the quality and quantity of the crop. Advices we have at hand indicate that the area for distribution is limited. In fact, we anticipate a strong market on all varieties of California fruits throughout the season and look for practically no interference from the sale of peaches up to the first of September. The apricot shipments are practically at an end and all cherry sections have completed their shipments with the exception of San Jose, which will probably last about a week. Early fruits are small in size, due to the unseasonable growing weather in the spring, but the quality is such that it enables the fruit to carry better than for several years.

Canners are still inactive with regard to the purchase of pears, though indications are that there will be a flurry as soon as the crop begins to move East. Thompson Seedless grapes have already begun to move from the Imperial Valley and within a week Malagas will also be ready.

The following prices have ruled for the week:

New York.—Royal apricots averaged $1.75, Climax plums $2.25, Formosa $2.50, Burbank $2.20, Tragedy $2.65, Beauty $2.30, Clyman $1.85, H. B. Wilder pears $2.40, Tartarian cherries $1.20, Royal Anne $1.75, Bing $2.60.

Boston.—Formosa plums averaged $2.90, Climax $2.80, Burbank $2.50, Tragedy $3.30, Clyman $2.30, Royal apricots $2.05, Tartarian cherries $1.00, Royal Anne $1.95, Bing $2.65.

Chicago.—Royal apricots averaged $1.65, Bing cherries $2.18, Tartarian $1.35, Royal Anne $1.35, Republican $1.45, Alexander peaches $1.25, Triumph $1.40, Formosa plums $2.25, Clyman $1.65, Climax $2.15, Tragedy $2.75.

Total shipments to date, 1,374 cars; total shipments same date 1916, 2,189 cars.

PRUNE CROP AND MARKETS ENCOURAGING.

California Prune and Apricot Growers' prices were decided, July 2, as follows: 6-cent basis with 1-cent premium on 30's, ½ cent on 40's, and ¼ cent on all sizes for September shipment. Prices guaranteed to January 1, 1918. No differential on outside prunes.

The prune crop promises to be the biggest ever, 200,000,000 pounds being the estimate of the Association, of which a little less than half is in Santa Clara Valley, with a reduced estimate likely, according to F. M. Coleman. A Sonoma packer estimates 10,000 tons for his section, which never before produced over 7,000 tons, and it seems this way everywhere outside Santa Clara Valley, for greatly increased acreage has come into bearing. Export situation serious, with prunes piling up in New York for lack of steamer space. This, not being consumed, becomes an increasing menace to the 1917 crop. But with the growers' organization refusing orders for Santa Claras since May 4 and now refusing all orders except for San Joaquin and upper Sacramento Valley prunes, having reduced some large orders to 15 per cent (probably to prevent speculation), outside packers paying high prices and half of the Association pack reported sold at opening quotations, there is every reason for movement of the whole crop at high prices, unless transportation is denied. The Oregon prune crop is good, but less than last year, while European prunes are now so scarce and poorly handled as to be of little importance.

higher. Lima beans coming in more freely and lower. Cabbage steady but dull.

We quote from growers:

New potatoes, per cwt	$1.25@1.50
Peas, per lb	4@4½c
New onions, crystal wax and Bermuda, per crate	$1.00
Onions, Northern, cwt	1.35
String beans, wax, per lb	5c
do, Kentucky Wonders, per lb	5½@6c
Imperial tomatoes, 4-bskt crate	50@60c
Tomatoes, local, 4-bskt crate	$1.25
do, do, lug	$1.50@1.75
Summer squash, lug	35@40c
Cucumbers, per box of 2½ to 3 dozen	25@35c
Green corn, lug	$1.00@1.10
Cabbage, per 100 lbs	50@60c
Lima beans, per lb	4@4½c
Okra, per lb	6@8c

HAY.

The market was without feature the past week. Buying was slow and the tone of the market weak. Only such lots were taken as had to be had for immediate use, no one seeming to care to buy ahead. Receipts, 97 cars for the week.

We quote f. o. b. Los Angeles:

Barley hay, ton	$19.00@21.00
Oat hay, ton	20.00@22.00
Alfalfa, northern, per ton	16.00@17.00
Alfalfa, local, ton	18.00@19.00
Straw, ton	9.00@10.00

Special Livestock Market Report

San Francisco, July 3, 1917.

CATTLE.—The cattle market has been somewhat weaker the past week, owing to an oversupply of stock. Prime fat cattle, however, are in good demand at good prices. The market for average stuff is expected to recover in a few weeks. Quotations follow:

Grass Steers—	
No. 1 weighing 900@1200 lbs	8½@8¾c
No. 1 weighing 1200@1400 lbs	8½@8¾c
Second quality	8 @8¼c
Thin undesirable	6½@7½c
Grass Cows and Heifers—	
No. 1	6¾@7 c
Second quality	6¼@6½c
Common to thin	4@5½c
Undesirable	
Hay-fed Cattle ½@¾c higher.	
Bulls and Stags—Good	5½c
Fair	5@5¼c
Thin	4@4½c
Calves—	
Lightweight	9@9¼c
Medium	8@8¼c
Heavy	7@7¼c

SHEEP AND LAMBS.—Sheep and lambs are still scarce and there is a good demand at steady prices. Word has been received here that prominent Chicago packers are engaging to return to farmers for breeding purposes all ewe lambs falling into their hands for slaughter. A slight advance in prices may be noted.

Lambs—	
Yearling	12@13c
Milk	12@13c
Sheep—	
Unshorn wethers	10½@11c
Unshorn ewes	9½@10c

HOGS.—Hogs are in very fair supply and there is little change in the market situation.

Hard, grain-fed, 100 to 150	13 c
Hard, grain-fed, 150 to 300	14¾@15 c
Hard, grain-fed, 300 to 400	14¼@14½c

DRESSED MEATS.—There is a slight decline in dressed beef and an advance of 1c in dressed hogs. Following are the quotations:

Steers, No. 1	13c
Second quality	12@12½c
Cows and heifers	11@12c
Calves, as to size, etc	12@15c
Lambs—Suckling	20@21c
Yearling	19c
Sheep—Wethers	18c
Ewes	17c
Hogs	21c

WOOL.—The wool market in California is very quiet. Some small sales of lamb's wool in the South are reported at 40@43c. Some sensational sales are reported at the North, one lot of low-grade, coarse wool, the kind in demand for Government use, bringing 72c. The Eastern wool trade is quiet, owing to the inability of dealers to forecast the future, not yet knowing whether or not the Government authorities will place a price on wool.

(Prices paid in country.)

Red Bluff	55@60c
Sacramento Valley	50@52c
Mendocino	55@60c
Southern	40@45c

Los Angeles, July 3, 1917.

CATTLE.—A steady and fair demand was had the past week for all fleshy cattle, both cows and steers. There was no disposition, however, to bid prices up by killers, as the beef market is dull. A fair run of grass steers was in, though owners of prime fed steers were inclined to hold back for a later market. Calves continue slow sale, though what are coming in brought old prices.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt	8.00@9.00

HOGS.—Not many hogs in the past week and no great number wanted. What are arriving mainly half grown and half fat hogs, which was not encouraging to killers. Really good, fully grown, well matured hogs are scarce and hard to get and killers are bidding a premium for what few of these kind are needed. As usual during the hot weather, the demand for pork is light, which causes killers to go slow.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs	$12.00@12.50
Mixed, 200@250 lbs	13.50@14.50
Light, 175@200 lbs	13.50@14.50

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP.—While the demand the past week was only moderate, yet it was more than equal to the arrivals. Flock-masters, encouraged by the high price of wool and continued high markets East, are slow to let go their holdings, and killers are finding it hard to get what few sheep and lambs wanted. Hence a firmer tone to the market and the tendency seems to be upward.

Per cwt. f. o. b. Los Angeles:

Prime wethers	$ 9.00@10.00
Prime ewes	9.50@10.00
Yearlings	10.50@11.00
Lambs	13.00@14.00

PEAR MARKET CONDITIONS PUZZLING.

Pear growers and canners are at loss to know how to proceed. What the Government will do in regard to the manufacture of tin cans and transportation of fruit is as uncertain as the effect of the household-economy campaign. Since over 50 per cent of our canned pears go to Great Britain, England's rumored action in cutting down imports to 25 per cent of normal will have some effect, though scarcity of steamer space might prevent shipment of even that much. Dried fruit, which has more food value per ton, is piling up in New York for lack of ships. The domestic demand for canned pears is heavy, and canners state that, if price is reasonable, a normal amount can be marketed, counting on 25 per cent of normal exports. If price is high, canners' requirements will be reduced proportionately. A normal supply of cans will be provided unless the Government interferes. Sugar is convenient but high priced. The crop is fully normal and of fine quality so far. There are no canned fruit carryovers except pears and apricots, which are small. The proportion of pears canned is so small as compared with those shipped fresh that prices offered to growers for fresh fruit markets may largely determine the price to be paid for canning. The canners seem to feel easy about filling their requirements, though it is reported that $50 is offered in Contra Costa county, without sellers, and Sacramento River growers recently declared for $55.

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PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

WANTED—Second-hand Williams crushing and grinding mills; state location, price, terms, size, style and condition of mill, and when bought. Box 640, Rural Press.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

YOUNG MAN—Single, sober, reliable, 22, understands diversified farming, cow testing, hog raising, etc., desires a permanent position on a ranch to work with owner; particulars as to experience, references, etc., furnished on request. Box 660, Pacific Rural Press.

WANTED—Position to handle orchard or grain ranch; understand work thoroughly; large acreage preferred; wife can handle scales or fruit shed; have two horses, wagon and tools; would rent if party wanted. Box 630, Rural Press.

COUNTRY LANDS.

DEEP LOAMY RIVER BOTTOM—25 acres alfalfa, 30 wooded pasture; irrigated; big barn; thirty good cows; Vina Ranch bulls used five years. Manuel Veter, Los Molinos.

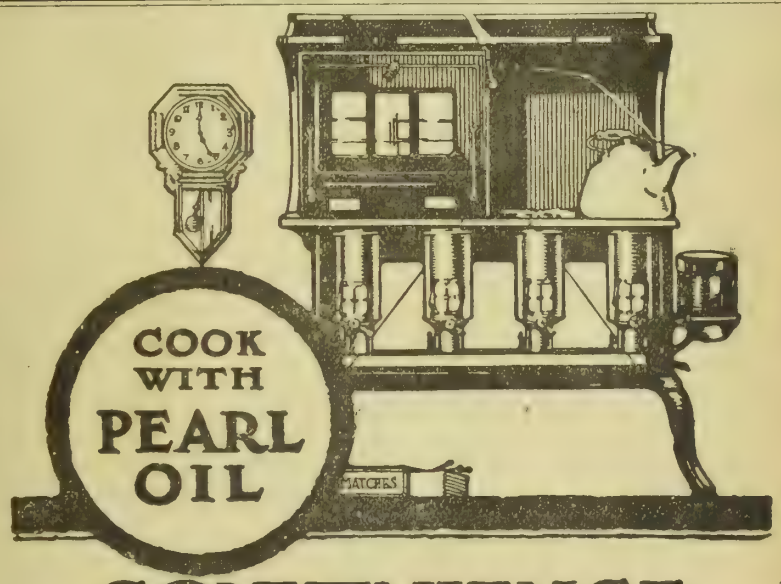
320 ACRES of excellent Modoc county river bottom land; ideal location for dairying; creamery one mile; must sell at once; snap. Mrs. M. S. Courtright, Lookout, Cal.

HUMBOLDT STOCK RANCHES—Dairy land. C. E. Robertson, 105 Montgomery street, San Francisco, or Fortuna, Cal.

WANTED—To hear from owner of good ranch for sale; state cash price, full description. D. F. Bush, Minneapolis, Minn.

SEEDS, PLANTS AND TREES.

CAPRI FIGS—Well colonized; ready July 5 to August 10. Tribble Bros., Elk Grove, Cal.



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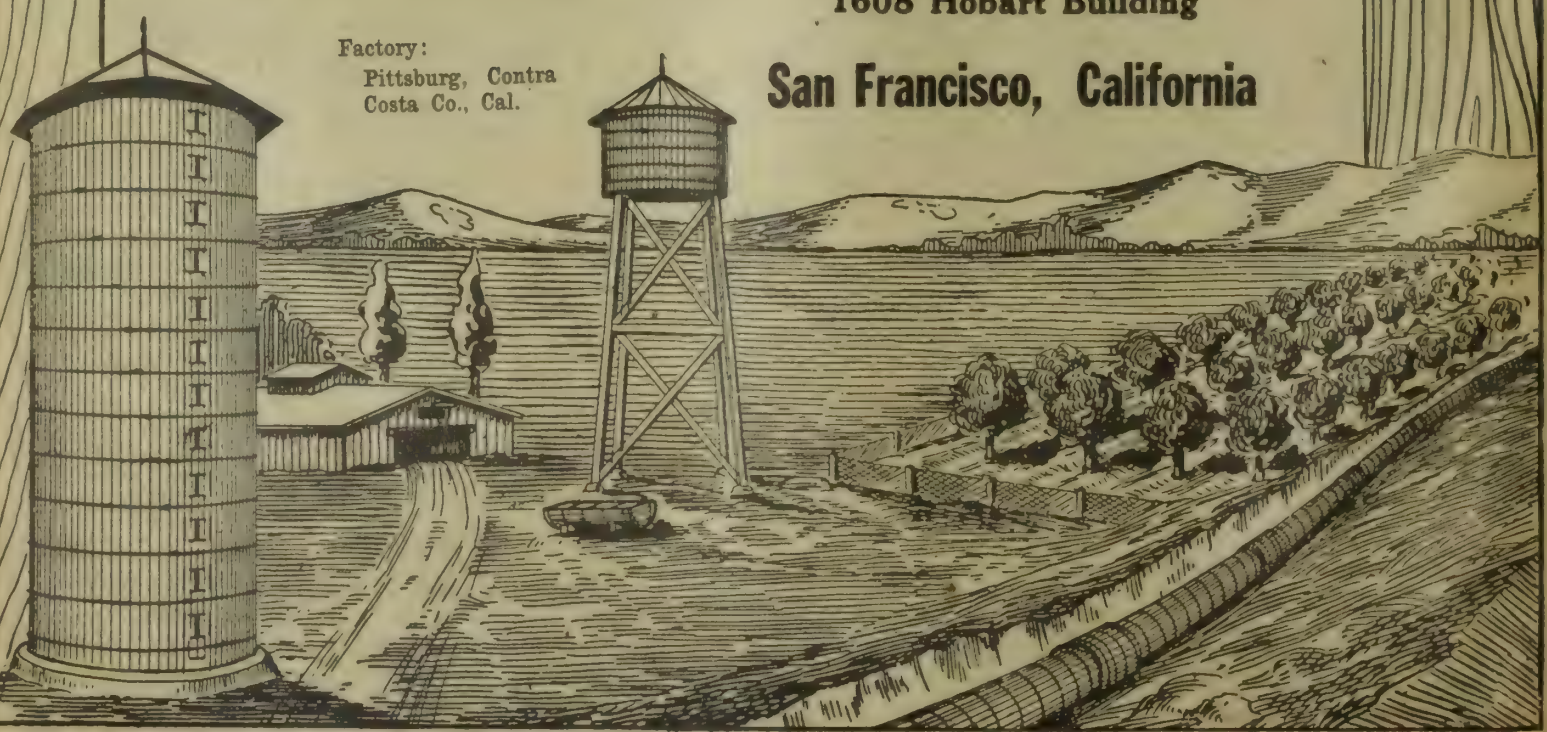

Vol. XCIV—No. 2 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO JULY 14, 1917 LOS ANGELES

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Watermelon Requirements and the Yield

[Written for Pacific Rural Press.]

WANTED—a remedy, or, better still, a preventive of watermelon blight, the scourge of a great industry in a country eminently suited for it—the Turlock-Livingston district. Yet the acreage would not be so small, except for the cold weather and other causes, which reduced the area to 600 acres, the estimate given us by A. J. Eddy of the T. M. & G. In that organization the watermelon acreage is not over 20 per cent now of what was contracted to them and planted last spring. The crop from this cannot be foretold on account of the blight. Among the growers the former glories of this delicious fruit are always tinged with sadness, for it was not until natural causes made the yield uncertain that the T. M. & G. made marketing reasonably certain for most of the crop.

CULTURAL SUGGESTIONS.

"Do not irrigate watermelons—they naturally have a deep root system and don't need it if the ground has been properly prepared. Irrigation is likely to be followed by root disease; and, if not, it delays maturity," says T. F. Clifton, field man for the T. M. & G., who has been growing and handling melons more or less in this district since 1902. His yield averages about fifteen tons per acre, which is above the average of the good fields in the district.

SEED BED PREPARATION.

But to omit irrigation without proper preparation of the seed bed and proper cultivation until vines prevent, would be nearly as bad as too much water. L. D. Love has a system of preparation which seems most reasonable. The melons require a firm seed bed that will draw capillary moisture without drying out. Many different tools are used in the district to firm the seed bed, often too late in the spring. Some of them merely make a crust on top of loose dirt. Mr. Love started to save his moisture and firm the seed bed to the bottom of the furrow this year on January 29. The wheels of a disk cultivator are set straight and weighted with sand bags to make them cut deep and to close all underground openings. This is done twice in winter and is followed through the spring with spike-tooth harrows and weed cutters, often alternately, to make a fine mulch about three inches deep over the firm capillary seed bed. Now, says he, you could ball the earth in your hands in July after kicking off this fine mulch, while a field across the road handled differently is dry way down. He would not leave the surface rough much later than January for fear of not being able to fine it down if rains should stop early. J. M. Warner, however, points out that fine top cultivation is all right for heavy soils that are not blown in the north and northwest winds that frequently cut or cover young plants with drifting sand in lighter soils. A spike tooth leaves his ground too smooth and he prefers a shovel cultivator. Damaging winds may come all spring up to June. A neighbor of Mr. Warner planked his field so smooth that "you could see a gnat's tracks on it" one year. The crop came up fine, for this smooth surface-packing brings moisture to the top; but the young plants were beaten and cut up with sand and wind three times. Then he turned the ground up rough with a shovel cultivator and it did not blow in the wind. The melons were a long time making any growth and the crop was late.

Cultivation must be laid by in June, because vines interfere. It should be shallow the last few times, for roots extend farther than vines. One vine 18 inches long had roots 7 feet long where it was washed out.

RYE STRIPS PREVENT WIND DAMAGE.

Several wind breaks, such as cane, brush, or eucalyptus hedges, are used by various people with more or less satisfaction; but the commonest and most effective seems to be to plant rye strips at regular intervals. Mr. Warner and his partner, G. F. Nelson, were warned when they took a certain 70-acre field for watermelons that they were the fifth victims on that place. But they made good two years in succession, having one year shipped 700 tons, sold locally 100 loads, and fattened 150 hogs from the 70 acres, of which about 20 acres produced practically nothing. They planted rye strips 100 feet apart. Mr. Warner now says such strips should be planted not over 40 feet apart, leaving room for four rows between. They grow taller and take less space if the strips are only two feet wide.

Watermelons are Shipped East from the Turlock-Livingston and Imperial Districts by the Carload from July to September. The Crop this Season in the Former Section is by Far the Lightest in Recent Years.

Mr. Nelson notes that the rye protects the first two rows from cold winds, so that he has picked melons from them a week earlier than from the others. It was noticeable in several fields in early July, 1917, that vines in the first rows to the leeward of a rye strip were a better stand, much farther advanced, and the melons nearer maturity. The rye generally ripens in May before melon roots would get to the strip, and later they net the ground under the rye roots. Some people thresh the rye, others plow it under and let it volunteer each year. It makes good driveways to collect picked melons from, if made wide enough, but prevents cross-cultivation. John Sinclair points out that in light soil the strips should be wider and closer together than in heavy soil. Sow the seed early in the winter.

THIN TO ONE VINE PER HILL.

It takes nerve to cut out thrifty melon plants, but Mr. Nelson, who plants in hills eight feet apart, claims that if they are thinned to one per hill when vines begin to run they make greater tonnage of better sized melons, especially of the varieties that are naturally small.

RIPENING AND PICKING.

To tell a ripe watermelon is an art. Mr. Clifton says that by thumping a melon or looking at the curl anybody stands a good chance to pick it green, except after it is dead ripe, which is too late to ship it. But

(Continued on page 33.)

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EDITORIALS

SWIFT AND SLOW PATRIOTISM.

ONCE more we are forced to send a weekly issue of our journal to press without an outline of food-administration which is to prevail during the war. As we write on Tuesday, the United States Senate still holds the legislation in its grasp as though fully reconciled to its issuance but loth to part with it. In this respect the Senate is truly representative of us, as it should be: many of us doubtless feel that way in paying either a patriotic subscription or a grocery bill. It is a lofty soul which can shell out like a plant which shoots its seeds. We have that quality, fortunately, in a wide way, but it belongs to personal-service patriotism, not to economic patriotism. The former, which brings a gleam to the eye and a lump to the throat, is quickly kindled and burns hotly: the latter has to generate its heat in the depths of the pocket and is slow to move as the contents of a molasses jug in an Eastern winter. The former has already carried our fighting patriots close to the firing-line in France: the latter holds our declaration of patriotic duty still imprisoned in the phonograph of the United States Senate. But in that way our national behavior is only a multiple of our personal conducts. Most of us will risk our lives and ruin our clothes to rescue the property of our neighbor from his burning cabin, and most of us also would gaze pityingly at him cooking his beans for weeks on the top of an oil-can and not offer him the loan of a few dollars to buy a new cook-stove. We are quick to throw our lives to the gage of Mars and our dollars to Liberty Bonds and Red Cross and that shows that our hearts are in their proper places to be warmed by patriotic purpose. We are slow to insure our production and cleanse our trade, which can alone save our lives and dollars through the quick attainment of peace, because such things impinge upon business. Patriotic dying and giving are simple emotions and impulses: patriotic business is a high economic art.

NO FOOD FOR HARD LIQUOR.

BUT THOUGH the general operation of administering fair and honest food production and trade is still slowly revolving in the mills of the political gods, there is dust emerging which shows that the grinding will be fine and that some of our great vices will be no longer palpable. It seems perfectly assured, for instance, that the Ohio river boatman who is sent ashore at a Kentucky port to buy five dollars' worth of provisions and returns with four dollars' worth of whisky and one dollar's worth of bread will never again be cursed around the deck for wasting so much money on bread. For it seems clear enough that the autocracy of hard liquor is over in this country. It will never again fill our prisons, dictate our laws, ruin our manhood and womanhood and pervert our industrial life as it has in the past. The upper hand which the war will bring to morality and efficiency will never be lost in the peace which will follow. As we write on Tuesday, it seems clear that these things, which were agreed to by the Senate by a vote of 45 to 37 on July 7, will finally prevail, viz.:

The use of foodstuffs in the manufacture of whisky is prohibited.

No distilled liquors shall be imported into the country during the war.

The President is directed to take over for and on behalf of the Government of the United States all distilled liquors that are held in bond and pay the owners the actual cost plus a profit not exceeding 10 per cent.

No taxes shall be levied against the distilled spirits now in bond.

There was a sharp fight on some of the above provisions on the ground that it would wreck business houses and banks. The claim was made that "it will cost the Government $200,000,000 to buy this distilled liquor and we will lose $440,000,000 in taxes." And to this Senator Smoot of Utah replied: "It is a splendid investment even if it costs $500,000,000. It will save the nation $2,500,000,000 in annual bills for what causes nothing but ruin and destruction." And let it be noted that this death-knell of hard liquor resounded from the far West, which has so long had the credit for being "whisky-mad."

BARLEY, HOPS AND GRAPES.

WE ARE aware that our readers who believe in prohibition will not be satisfied with the closing of distilleries. We do not suggest that they ought to be satisfied nor do we indulge in nor invite discussion from their point of view. The stoppage of distillation is a war measure on the ground that it destroys food already harvested and it reduces working force to produce more food. That advantage we are clearly sure of. What may be done with milder intoxicants cannot be told until the food administration law passes—probably toward the end of this week. At this moment it seems likely that power to regulate or arrest them may lodge with the President. As a producing proposition, the materials which chiefly enter into their manufacture are either not so readily convertible or are inconvertible into staple foods, and therefore growers of these materials are entitled to different consideration—so long as their product is less clearly discernible as a war menace, as hard liquor is now conceded to be. Even if we believed in sweeping prohibition, which we do not, we are sure we would not favor peremptory destruction of value in brewing barley, hops and wine grapes,—unless as a clearly demonstrated war requirement, which would make such destruction a patriotic duty. We are gathering a very large barley crop. On July 9 it was announced from Washington that the prospect is for the third largest barley crop this country has ever produced and that it will exceed last year's production by 33,000,000 bushels, with an output of 214,000,000 bushels. This crop depends upon the brewers for value. The amount required for feed or capable of diversion into feed is limited in view of another fact, viz., that the corn crop of the country promises to be the largest in our history except one and may be equal to that—showing an increase of 541,000,000 bushels over last year, with a total of 3,124,000,000 bushels. If, then, barley should lose its distinctive industrial service, it would have to fight the great corn surplus in feeding stock at home and abroad and might inflict serious losses upon producers. Hops, too, would lose nearly all their prospective value, which is none too good, while wine grapes, in the face of our large fruit product for the year, must largely go for wine or to destruction. All these seem to us to threaten sacrifices which will serve no patriotic purposes, but rather the reverse. If such changes in production are ever to be called for, except to meet sharp emergency, they should give time enough for growers to adjust themselves to new conditions.

HINDSIGHT OF WHEAT.

IF ONE is denied foresight, surely hindsight is better than never seeing anything. Through it we are now receiving joy from the same persons who could only give us grief last February because the aspect of the winter wheat plant indicated to them that the crop of this year would be even worse than last, when it was shot all to pieces by about all the evils wheat is heir to. Of course, reasonable foresight would have suggested that crops do not go off largely two years running and that if it is off one year it is likely to be on the next—and that is now what the post-prophetic, hindsight authorities are now giving us. In the matter of wheat it is full of joy. The Washington Bureau of Crop Estimates says the winter and spring wheat crops will total 678,000,000 bushels, or 38,000,000 bushels more than 1916 yielded. But this does not mean that we have that much more wheat than a year ago, for then farmers were holding 74,731,000 bushels, while they had on July 1 this year 15,720,000 bushels. Therefore, wheat should be worth a good price for a year at least, with enough of it to relieve us from fear of a great deficiency, even if we do make our usually large export of wheat and flour. It looks as though there would be enough, considering the reduced per capita consumption which Mr. Hoover is trying to bring about, and the consumption and trade will go on comfortably to all, if the protection against gambling which the Senate should arrange for this week is realized. All these considerations seem to guarantee that wheat is the best crop to increase in this State, as we recently stated with some detail in these columns.

HINDSIGHT OF POTATOES AND ONIONS.

BUT THERE are cases in which hindsight is truer than foresight, and two such cases are potatoes and onions, as we remarked last week. Such hindsight has come to our State Council of Defense, for a Sacramento dispatch of July 7 says that the Council is making "an effort to save farmers who responded to the patriotic appeal for the production of more foodstuffs, from practically total loss on these two edibles." This statement is credited to the Council:

According to information coming to the State Council from many counties in California, big crops of potatoes are rotting on the ground because of the inability of the farmers to sell them at a price equal to the cost of production. The supply raised by farmers is heavily augmented by the crop raised in hundreds of towns of the State by home gardeners and by cultivation of vacant lots.

In Glenn, San Joaquin, Fresno, Sacramento and Yolo counties hundreds of sacks of onions are reported to be rotting in stacks because of the inability of growers to dispose of them except at a price which they say will be less than the cost of production.

This is the result of "speeding up the farmers" and getting generally daffy on food last winter. It started all potato and onion holders to gambling and all others to planting. And the crop of early stuff which is now in sight must be eaten up fast. If our exhorters will call in their placards urging people to "Plant Potatoes and Onions" and repost them "Eat Up Potatoes and Onions," they may really be doing some public service. For it is not the early stuff now spoiling which will go over for winter and next spring. That crop is still to come and there will be lots of it. It is reported from Washington that the outlook is for a record crop of white potatoes, with a production of 452,000,000 bushels. That would exceed the previous largest crop grown in 1912 by 32,000,000 bushels, and 167,000,000 bushels more than last year, not taking into account the home garden production, which this year is much larger than ever before. But of course the game with this late crop, capable of being held over, is not yet played out and it would be just as crazy to sacrifice it to speculators as it was to plow up good lawns to plant some of it. What we need is administration to ward off speculative greed and fix a fair price on which everyone can do business profitably and eat his tank full comfortably.

AND NOW THE EMBARGO.

AS WE go to press there are telegraphed from Washington the terms of the embargo against exports of specified articles which the President is authorized by law to lay upon shipments to foreign ports. The embargo has two specific purposes: to conserve materials for the home use of our own people: to prevent shipments to neutral nations which will enable them to transfer them, or their own supplies of similar kind, to the uses of the enemy. It is not strictly an embargo, but a "control by license," which will proceed by discrimination in favor of our own pro-

ducers and traders and against the enemy. The proclamation of it specifies the materials for which licenses must be obtained before shipment, and, in the agricultural connection, they are these: "Food grains, flour and meal therefrom, fodder and feeds, meats and fats." It is not to be anticipated that the restrictions imposed will have any undesirable effect upon the agriculture of the country because there is keen demand in all our allied countries for all the foods which we can spare and it is part of our duty in the war to supply our allies with our available surpluses. Besides, there will be the call of humanity to send what we can to neutral countries with proper safeguards that they do not enrich themselves and impoverish us by trading with the enemy and prolonging the war. So far as the reference to agricultural products in the initial proclamation goes, it does not include any surplus product of California except barley and possibly beans, because in all the other articles mentioned. we are buyers and not sellers. The effect of the embargo can be discerned when one remembers that near-by neutrals, Norway and Sweden, Denmark and Holland, have been doing a colossal war trade with Germany on the basis of materials received by sea from this country. It is now announced from Holland that the first effect will be to feed up Germany because Hollanders must kill animals for which they can no longer get feed—a killing of 25 per cent of the existing animal census being anticipated. The Hollandish Minister of Agriculture says:

This would necessarily mean the export of cattle and meat on an abnormally large scale, presumably mostly to the Central Powers, as they are large buyers of live cattle. More than 35,000 head of cattle were exported last year, principally to Germany, nearly all these being milch and breeding cattle. Swine are already declining fast owing to lack of feeding stuffs, while fowl are being slaughtered.

It is sad to think of the suffering which denial of our surplus food supplies must inflict upon people who, apart from greedy traders, really hate war as we do and probably are as keen in denouncing the outrage upon humanity which our enemy is endeavoring to perpetrate—but business is business and for the time being our business is war.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Land Settlement Plan Will Take Time.

To the Editor: Do you know if the State is going to buy the 10,000 acres of land to be subdivided into small farms this year, so crops may be planted this fall or spring?—J. G. B., San Francisco.

To the Editor: I noticed in your issue of June 9 that the Governor had just signed the land settlement act of the last Legislature. I would like an explanation of the terms you use, viz.: "Qualified or selected settlers." What is required of a person to be a "qualified settler"? It would hardly justify a person to wait to take advantage of that opportunity to get a home if he should be disqualified. Also, what is the amount of land that will be allotted to anyone? Is this prospective land to be irrigated? What are the improvements to be made on the land?—W. S. M., Escondido.

These questions are unanswerable at present. The law is to be administered by a board of five members to be appointed by the Governor, and such a board will not be selected until after August 1. When organized, the board will have what looks to us like at least a year's work in selection of land and fitting it for subdivision. The board has also to determine details of qualifications of settlers which the law states in general terms, and it must be largely conjectural to discuss them before the board announces its own requirements. The land will be subdivided into allotments of various sizes, according to adaptation for different kinds of farming, but none of them can have a value of more than $15,000 for the bare land. The land must be suitable for intensive culture and capable of irrigation. The improvements must fit the land for farm residence and production of whatever kind is designated for it. Of course, one must decide for himself whether he should wait for the detailed development of the plan.

Bean Plants Damping Off.

To the Editor: I am sending a bean plant, grown on irrigated upland ground, which is a sample of many that come up thrifty at first and then wither. Kindly advise me what is the trouble.—M. E. S., Elk Grove.

Your young beans are "damping off." The lower part of the little stem, from the ground upward for a couple of inches, loses color—becoming limp and pallid and the upper part wilting and dying afterwards. Vegetable, flower and tree seedlings are all apt to go that way when the soil surface is damp enough to foster the invasion of the fungus which destroys the tissue as it proceeds from the soil upwards. The trouble is sometimes prevented in the seed bed by the use of a mild fungicide sprayed upon the young plants and the soil surface, but in open field or garden the preventive is to allow the soil surface to become dry, which may be promoted by cultivation, as soon as the seedlings appear, or by sanding the surface around them. It is much less likely to occur when a good deep-soaking irrigation is given before the tillage for planting is done, thus securing the starting and early growth of the seedling without watering until the plant stems become firm enough to resist the fungus, and then irrigation can be undertaken as may be needed, without danger of "damping off."

Morning Glory in the Garden.

To the Editor: Is it possible to get morning glory out of the garden? I have been trying to dig the roots out of the ground, but after a little it makes its appearance again.—M. E. M., Birds Landing.

We doubt if it is possible to actually get it out or to permanently keep it out, for a garden is usually too much cluttered up to get a good sweep at the pest. A friend of ours, intending to build on a vacant lot and desiring to get rid of morning glory first, hired men to dig the whole lot a foot deep, putting all the soil through a gravel screen. It cost a lot of money and yielded several loads of roots, but the morning glory got back before the house was finished. Although this may always be true, you can keep down the morning glory so it will not bother the garden if you keep on pulling it out, hoeing it out and never allowing it to get much of a start of you. But you must keep on hoeing wherever you can get space for a hoe, whether you see any morning glory or not. This smothers out the plant, for it must die if it never gets to the light. Besides, hoeing is as good for the other plants as it is bad for morning glory.

Tomatoes Not Fruiting.

To the Editor: Why are my tomato blooms dropping off? They are of the Stone variety and were transplanted from the hot bed about April 30 in good subirrigated soil. The vines are very thrifty, being about three feet high and spreading out to about two or three feet in diameter. They have been blooming for the past month and a half, but as yet no tomatoes have set. The blooms come off about a quarter of an inch behind the bud at the joint.—Reader, Ripon.

The richness and moisture of your soil cause the tomato to make too luxuriant growth of vine and while that is going on the blossoms will drop just as you describe. To fruit well, a tomato must not make such top growth. This is prevented by planting later, when such land has lost its moisture excess by evaporation. You should have planted out about June 1. Your plants will probably set fruit later, when they slow down their riotous growth. The same thing happens when tomatoes on ordinary soil are irrigated and manured too much.

A Weary Almond.

To the Editor: What is the trouble with my Drake seedling, ten years old? It has grown on light, sandy soil without irrigation, is of medium size, and bore a good crop last year. I enclose sample twig.—J. N. O., Oakdale.

The twig shows about three inches of new growth, with leaves about half an inch in length. There is no sign of pest or disease on the specimen and, unless you can find that the roots have been gophered, or in some other way the tree has been invaded, the present condition is due to general debility, owing to lack of moisture and perhaps of plant food. Such deficiency has prevented the tree from recovering strength after last year's fruiting. We would expect such a tree to die before the end of the summer. A good irrigation may save its life. If that is accomplished, the tree should be pruned back next winter to encourage stronger wood growth next summer.

Black Aphis of Cherry.

To the Editor: I am sending a leaf from one of my cherry trees. Can you tell me what this pest is and what to do for it?—S. L. M., Morganhill.

This black plant-louse or aphis affects especially the new growth of young trees in nursery or new plantings, although also found on the new growth of old trees. It blasts the new leaves and sometimes seriously perverts growth. It should always be watched for in the early spring, as the leaves are starting, and soap or tobacco wash thoroughly applied as soon as a few specimens are seen and before their work curls the leaves. As the season advances the multiplication of the pest is usually checked by natural agencies. As with other aphides, the time to strike is at the first sight of them.

Red Spiders and Grasshoppers.

To the Editor: The red spiders are killing the beans, which are just now coming up. What can I do to get rid of them? The grasshoppers are also numerous this season and are eating the milo maize as it comes up.—D. W. H., Marysville.

You can check the red spider by sulphuring the beans just as you do grape vines for mildew. The sulphur which falls on the hot ground under and around the beans will add to the fumes which kill the insects. You can offer the hoppers a change of diet by putting out poisoned bait as described on page 646 of our issue of May 26, but we imagine it would cost more than the milo is worth and you might lose both the milo and the money.

Fractional Rights in a Tree Row.

To the Editor: A and B divide orchard. One row of trees stands within foot of line on B's side. What would be a fair division of fruit?—Subscriber, Oakdale.

A man owns whatever grows on his land or in the sky above it. According to Newton's laws, whatever is up must come straight down; therefore, whatever falls on a man's land is his, and each owner is entitled to pick up what lies on his premises. This would settle the issue as to almonds and prunes and other things harvested by gravity. In the case of fruits which have to be picked, the same principle applies: each is entitled to gather what grows above his land.

Corn Suckering Not Profitable.

To the Editor: Will it pay to sucker yellow dent corn planted four feet apart?—Subscriber, Ukiah.

Although there is something approaching a demonstration that the grower may either get more corn by suckering or that the corn he does get will be better developed by preventing diversion of sap from the main stalks, it is becoming more clear that enough is not gained in either way to pay the cost of suckering and very much less of it is now being done than some years ago. As labor is yearly becoming scarcer and higher priced, the likelihood is increasing that the operation does not pay its way.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., July 10, 1917:

Stations—	Rainfall Data. Past Week.	Seasonal To Date.	Normal To Date.	Temperature Data. Max'm.	Min'm.
Eureka	...	....	.06	60	50
Red Bluff	...	....	....	102	62
Sacramento	...	....	....	102	54
San Francisco	...	....	....	74	50
San Jose	...	....	....	92	50
Fresno	...	....	....	104	60
San Luis Obispo	...	....	.01	88	60
Los Angeles	...	....	....	88	60
San Diego	...	....	....	78	62

Earliest 8 to 1 Butte Citrus Orchards.

[Written for Pacific Rural Press.]

Butte county shipped the first carload of 8 to 1 Sunkist oranges from the State November 9, 1916. This car was from the orchard of J. A. Lawrence, who thus describes the way he cared for it: "I gave it poorer cultivation than ever before, but plenty of flood irrigation, and 10 pounds of a complete commercial fertilizer per tree, applied very early in spring after the plowing, and cultivated in well. This orchard is on a north slope. That the 8 to 1 test was carried out carefully is indicated by the fact that a sample was taken of an orange from each of 100 lug boxes picked at random from 100 trees. Part of these were tested at Thermalito under observation of a Government man before picking all of the carload, and the rest were shipped to the California Fruit Growers' Exchange, where they tested 8.6 to 1 on November 13.

Of the eight cars in the first pool of the Butte County Citrus Association (which shipped nothing but 8 to 1 oranges last year) all were picked on or before November 10.

That it is hard to correlate early sweetness with cultural methods seems shown by the following observations of the orchards from which the fruit came: Oscar Warner's being near the end of the pipe line never got thorough irrigation for three years and was not well fertilized, but was well cultivated for two years. It slopes slightly toward the west and the trees are sandwiched between olives and figs. Mr. Warner's orchard on the bluff overlooking Feather River was about the latest in the colony to get sweet. It was well cultivated, watered and fertilized and is on level ground. Earle Mills' orchard is on a north slope and is well cared for. He had fruit in the first pool. Another orchard in the first pool was well cultivated and had some slope to the south. Another early one on the level had very good cultivation, irrigation and general care. Another, across the road from Mr. Warner's, had very poor culture and no olive and fig protection, yet ripened at the same time. Another near by is on a slight southwest slope, had fair cultivation and plenty of water. A late orchard in the neighborhood received poor culture the past two years. It is on a northeast slope. Another orchard in the first pool is on the east slope. It had good cultivation and irrigation. Another late orchard is about level, is never plowed, grows abundant cover crops, and is rather lightly irrigated. A late orchard near by slopes both to southwest and northeast and is poorly cultivated, while one of the early orchards is across the road with the same kind of slopes and poor cultivation, but the oranges here are of poor quality. A late orchard sandwiched with olives lies on an eastern slope, while an early one near by has a southwestern slope. Another early one lies on a southwestern slope, has not much fertilization but good irrigation and cultivation. It will take more study to correlate culture and early sweetness here.

San Joaquin Raisin Prospects Fine.

[Written for Pacific Rural Press.]

The market for 1917 raisins is unusually good, according to President Wylie M. Giffen of the California Associated Raisin Co. Orders are coming freely, to be paid for at whatever opening prices the company may name. The crop will be fully equal to that of last year, which was the record for quantity. No serious pests or diseases are showing up yet, according to Fresno County Horticultural Commissioner F. P. Roullard. Grape hoppers and mildew have been notably scarce and little leaf is not showing up. Last fall's early rains put vines and buds in better condition than usual. Water has been unusually plentiful for irrigation into July, and more growers than ever have irrigated during the past six weeks. The recent hot weather has made splendid growth of vines, while the plentiful moisture has prevented sun burning. The county survey of labor requirements and supply shows that 6,000 extra laborers will be needed for field work in raisin drying. The Valley Fruit Growers' Association has adopted a scale of wages to be paid higher than last year.

Best Peaches 100 per cent Over Standard.

[Written for Pacific Rural Press.]

By just now inaugurating a new department to be styled "The Department of Inspection and Standardization," the California Peach Growers' Association hopes to cooperate with its members in making dried peaches more attractive to the consumer. The first meeting of the head of this department was held July 5 at Del Rey and the growers who were there enthusiastically agreed to adopt the suggestions made and to urge their neighbors to do the same. The most striking argument the department can use will be the final settlements for 1916 peaches, to be made this month. Extra fancy grades will have brought to the growers nearly 100 per cent more than standards. The better the peach the greater the difference in price. While it is too late to increase 1917 high grades by thinning the fruit, there is still time to pick it by hand as cannery peaches are picked, and with as great profit. Fine quality will be necessary in marketing the next crop, for Manager J. F. Niswander of the Association estimates this year's dried peach crop at 2,000 to 4,000 tons greater than last year's 30,000 tons.

One-third of the new growth of gooseberry bushes should be cut off each year.

Two or three year old wood produces the best currants. Older wood should be cut out.

LATE BERRY CULTIVATION.

[Written for Pacific Rural Press.]

Berry cultivation in the Sebastopol district of Sonoma county must reckon on a dry summer with no irrigation. Still it happens that sometimes, as last year, they do not save enough moisture, and the succeeding crop is short. They generally lay by their cultivators in June, because vines interfere and fruit must be picked. Most growers use a V-shaped spike harrow, adjustable to take a strip three to four feet wide, and loosening the soil three inches deep in three trips per six-foot center. This does not turn up moist earth. Taking the three-foot strip fines the clods and leaves a good mulch but forms no plow sole. Weed cutters are necessary in the blackberries to keep down root suckers.

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

SODA DIP FOR RAISIN GRAPES.

All of our raisins are dipped in caustic soda before drying, says J. T. Onstott of Sutter county, whose father put in what was the biggest Thompson vineyard in the State about twenty-two years ago, including 160 acres. Further plantings of other varieties have increased the vineyard since that. His children still run the ranch and have one of the biggest dry yards in the vicinity. The grapes are hauled from the vineyard and dipped in hot water containing as a starter 15 pounds caustic soda per 400 gallons of water. This is diluted, or more soda is added if it does not work right. Cold water will not check them, however much lye is added. The skins should be netted with very fine checks, but should not curl back at the checks or peel off. This trouble may come from leaving them in too long. Green grapes "cut" or check easier than ripe ones, so the amount of soda must be varied accordingly. If overchecked, the checks are wider, longer and get sticky on the trays. All one man does is to watch the grapes as they come from the dip. He picks out the greenest bunch of the lot and carries it into the sun, where he can see the checks when the grapes first dry. They are overchecked if you can see the checks two feet away.

DRIED PEACHES PEELED CHEAPLY.

It cost Henry Allison of Tehama county one cent per pound dried to have women peel some of his peaches three years ago. The system has been worked in various parts of the State, but is worth describing. About 1,000 pounds were thus peeled. When trays had been taken from the sulphur house, the eligible peaches were held right side up in one hand, while the fingers of the other hand slipped the skins off. Peaches too ripe would mush; those too green would not peel; but the ladies soon learned to distinguish these and let them alone. The peeled peaches were set back in place on the trays. There was no spillage and not enough sticking to worry about. They were separated by men when dumping the trays after the peaches were dry. The Growers' Association peels peaches by machinery after they are dried, making as good or better product.

ATOMIC SULPHUR FOR MILDEW.

There is a time of year when you can't get efficiency from dry sulphur for grape mildew in this district, says W. A. Morehead of San Joaquin county. It blows off easily and the temperature is too low to vaporize it.

In the spring of 1916 Mr. Morehead applied atomic sulphur spray on 16 acres of thrifty 14-year-old vines when the shoots were a foot long, in place of the first dry sulphuring. It could be smelled a month after application. The cost for material was figured about 75 cents per acre at a time when dry sulphur was figured at 70 cents per acre for both material and labor. "At that, the money was well spent for atomic spraying," says Mr. Morehead. The reason for not using it the rest of the season is that dry sulphur is cheaper and more easily applied when vines prevent a horse-drawn tank from running through the vineyard.

SULPHUR HOUSES DOUBLE DEPTH.

Occasionally we see a sulphur house in which two carloads of trays can be set at once, one behind the other. One on the F. W. Wilson ranch in Yolo county has three compartments, each about 6 feet 4 inches high, 40 inches wide and 15 feet deep. This arrangement cuts in half the number of doors to provide and handle, the number of sulphur fires to light and clean up, and takes very little more sulphur than if big enough for only one stack, according to ranch foreman B. F. Chadwick. Sulphur fumes do not bother in taking the second car out when the door has stood open a short time, after removal of the first car. But if it did, a pole with a hook on it could be used if necessary, leaving a car in during the sulphuring.

JUNE DROP OF PRUNES.

The June drop of prunes is generally from the tops of trees and during or after a very hot spell, according to W. M. Scott of Santa Clara county. The fruit which ought to stick can be told late in May, and the June drop is from this fruit. It seems like the dropped fruit is sunburned. It might be inferred that the prunes in tops of trees sunburn and drop because of excessive evaporation, which is not compensated by sufficient sap flow to those prunes most exposed and farthest from the roots. The moral would be to keep them growing through the season and irrigate in June, saving moisture all the time by fine cultivation or mulch.

SOME INTERCROPPING!

Three years ago last winter E. H. Ericksen of Imperial county broke up about six acres of alfalfa in which he had planted apricot trees. He grew "an immense crop" of cantaloupes among them that season. The trees made good growth, so next spring potatoes were planted. These yielded 100 sacks per acre actually sold to San Francisco. After digging them, Mr. Ericksen irrigated and planted Mexican June corn July 1. This yielded 65 bushels shelled per acre. Potatoes were planted last spring, but did not yield well. They were, however, followed by feterita, planted in July, which yielded a big crop.

PINCHES GRAPE-VINE TIPS.

Pinching tips from grape canes in summer when just ready to turn downward makes them hold up longer and protect the fruit from sunburn, according to San Joaquin County Horticultural Commissioner H. H. Ladd. But indiscriminate slashing with a big knife is likely to do more damage than good.

If there is some doubt as to the necessity for liming for alfalfa the most practical and satisfactory way to determine this point is to sow a small field to alfalfa, liberally liming a part of it, and leaving a part unlimed. The growth of alfalfa in the two parts will be a good test of the need for lime.

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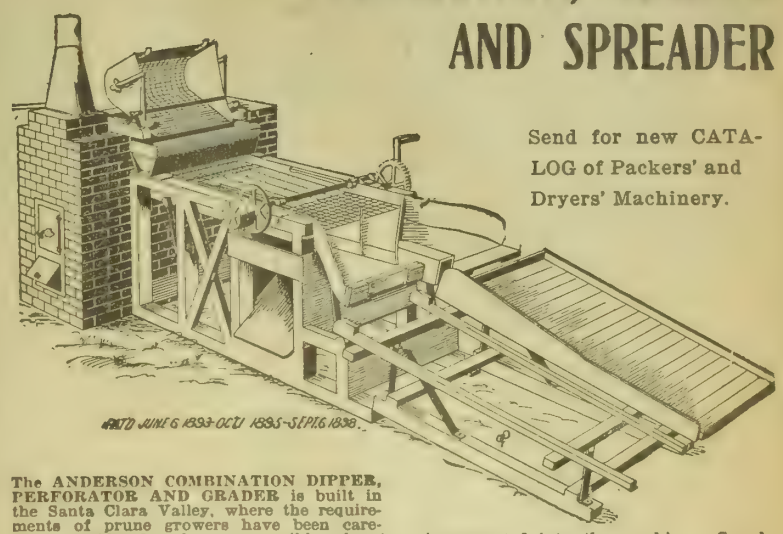

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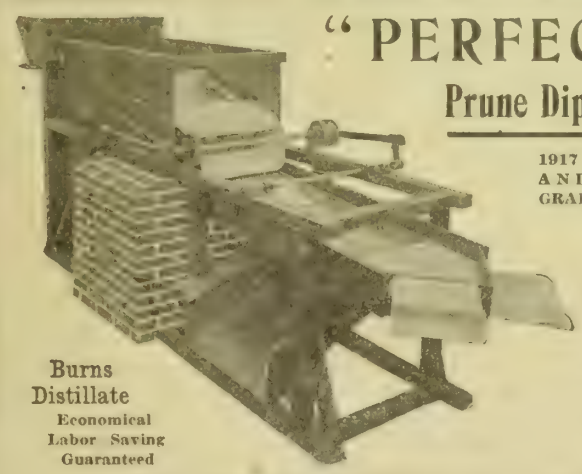

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Two Years' Changes in the Rice Industry.

[Written for Pacific Rural Press.]

Two years ago, the California rice acreage had increased phenomenally to about 32,000 acres, practically all of Wateribune. Last year 65,000 acres were planted, and this year the estimates run from 85,000 to 100,000 with most of the increase in Glenn, Colusa, and Yolo counties.

A very considerable acreage planted two years ago has been abandoned because of watergrass or lack of drainage or both. Several schemes have been tried to eradicate watergrass, but most have failed, because if need arises, the plant will seed at the ground, so close that even sheep do not prevent it. The watergrass makes good pasture, however. The only effective remedy we have found is to plant pure seed and pull out the watergrass in rice fields at the right time by hand. Some people have put in pumping plants to avoid introduction of watergrass in irrigation water. Some are fallowing the land or have it in clean cultivated crops.

Pure seed has been grown under county horticultural inspection in only one county so far as we learn. Yolo County Horticultural Commissioner Wm. Gould assumed the inspection responsibility last year.

Combined harvesters have been tried on a large scale in several districts. They have not proved successful with Wateribune, due to its late maturing which often makes ground too wet and grain too green for combined harvesters.

A new variety, called No. 1564 has been put out by the U. S. Rice Experiment Station at Biggs, which matures two weeks earlier than Wateribune and has proved better adapted to combined harvesting. There are about 8,000 acres of this in 1917. The station is trying out over 500 other strains and varieties in plots and rows.

Concerning the growers' organization, its President, J. H. Stephens of Sacramento, writes us as follows:

In 1916, we re-organized the Pacific Rice Growers' Association and started to get not less than 75 per cent of the growers to sign up; this we were unable to do because it was impossible to get the Orientals. We kept our association intact, although we did not handle the crop for 1916. The price of rice was below normal and through the advice of our Board of Directors, I personally went through the Southern States last January and induced some of the large millers of the South to come to this country and relieve what seemed to be at that time, the congested condition in the rice industry. We shipped out on consignment to the Southern millers in the neighborhood of 50,000 bags; and the returns that have come in have netted as high as $3.36 a hundred.

We are signing up for the present year practically the same contract as is used successfully by the Southern Rice Growers' Association for several years. All the growers seem united this year on the plan, and the outlook is very encouraging. There will be in the neighborhood of 110,000 acres in the Sacramento Valley this year which will be an increase of 40,000 to 45,000 acres. Conditions never looked better; and with a favorable fall, we should receive the largest revenue that has ever come from this industry in this part of the State.

We have had some controversy with the San Francisco Rice Millers' Association. Our association proposes to take this stand: We have no controversy whatever against the millers and brokers of this State forming their own organization; but we do object to the millers trying to hoodwink the growers into joining their association. We feel that the millers need us and we need them; but the associations must be entirely separate, the same as they are conducted in the South.

Rapid Returns from Imperial Farmstead.

[Written for Pacific Rural Press.]

For constant use of the land to get all there is in it, E. B. Quick and his son-in-law, E. T. McDonald, have done as well as anyone we know. They, together, have 160 acres in Imperial county. It was covered with brush when they came in September, 1915. They cleared and leveled it, sowing barley on each piece as soon as it was ready. On 80 acres barley alone was sowed at the rate of 60 pounds per acre. On the other eighty they put barley, 25 pounds, mixed with alfalfa, 10 pounds, per acre.

This was finished about November 10. They threshed the barley the next May, 1,200 sacks. Of this, 1,000 sacks were sold at $1.05 when threshed, to provide working capital, etc. About 200 sacks were reserved until October, when all they could spare of it was sold on the place at $2.25 for seed, for all of it was bright and plump. That was before barley prices rose.

On 80 acres they had alfalfa left. Part of this was pastured, part cut for hay, and 40 acres disked lightly after irrigating. This was planted to milo along with the other 80 acres, which had been irrigated and disked, so the seed was all in early in July. The 40 acres of disked alfalfa went to seed while the corn was growing; for a thicker stand was desired and thus obtained. The other 40 reseeded itself later. Moisture from the stubble irrigation was held enough by the disking to bring the corn up nicely. It was irrigated when an inch high without injury, and several times thereafter whenever they could get water. It was not cultivated, according to Mr. McDonald.

The corn was threshed rather damp and it yielded only 60 tons, of which 35 tons were sold for $1,400, some more working capital. Part of it was held for feed. Forty acres were sowed to barley in October, with 60 pounds per acre, which gave a good stand.

The rest of the corn stubble was irrigated just before Thanksgiving, and was ready to pasture the first of December, but rain made the land too soft. It was sold, however, at $2.50 per head of stock cattle per month, figuring on 15 days' feed for 500 cattle.

The 40 acres of barley was headed this spring and the corn allowed to volunteer. It is about ready to cut at this writing.

Part of the alfalfa was Peruvian, a splendid stand with a growth nearly knee-high already late in January, showing its winter growth in spite of having been frosted considerably in the exceptionally cold winter of 1916-17. It was ten inches taller than some common alfalfa plants amongst it.

In addition to the main crops, garden stuff, melons, sweet potatoes, etc., supplied the family, much was given away and more sold. A few hogs were raised for their own use, 22 turkeys were sold for $77, eggs and chickens helped the income.

To Keep Birds from Eating You Up.

To the Editor: I should like to ask your opinion of the law protecting quail, for I have been wondering if some movement could not be started to change it. We have a canyon ranch and lose a good deal each year from rabbits, squirrels and quail, but we poison and shoot the rabbits and squirrels and so keep them down. The quail, however, go scot free, except for a little shooting during the season. Last year on one small field, surrounded on three sides by pasture, we had 140 sacks of beans, after fully one-third was eaten almost entirely by quail. It seems to me that it would take a good many quail to equal the food value of seventy sacks of beans. We could not estimate the amount eaten by quail on the rest of the farm, but I do know that they have eaten about a quarter of my late garden.—Mrs. F. M., Lompoc.

[Answer by H. C. Bryant, Economic Entomologist.]

Although a provision in the game laws provides that non-game birds found destroying crops may be killed, there is no such provision regarding game birds. As a result, a serious problem arises. Vermont has met the problem by remunerating owners of crops damaged by deer and other game. A similar law in California would eliminate the difficulty. Your correspondent can obtain relief from the Fish and Game Commission. Under similar circumstances it has been their custom to issue a permit to trap the birds. The trapped birds are then liberated in some other locality, where quail have become scarce. In some instances an offer of a sufficient sum per dozen is made to make the trapping worth while.

Berkeley, July 7.

CATTLE INSPECTION NOW REQUIRED.

Governor Stephens has signed the act known as the hide and brand bill, which creates a cattle protective board; provides for the protection of cattle and hides from theft; requires the registration of all brands and marks; requires the slaughterers of cattle to pay a license of $25 per year; provides that hides must be kept at least fifteen days after animal is killed, or until hides are inspected.

Under the new law all cattle must be inspected with regard to brands and marks before being shipped or slaughtered. The owner defrays the expense of inspection by paying five cents per head. Slaughtering companies are required to report each month to the protective board the number and sex of all cattle slaughtered, from whom obtained, the brands and marks, and the dates when the cattle were bought.

CHANGE IN JERSEY REGISTRATION FEES.

A change in Jersey registration fees was submitted last May to the members of the American Jersey Cattle Club for a vote, resulting in the adoption of a new schedule of fees. The new fees go into effect September 17, 1917, and are as follows: Females one year old or under, to members $1.00 each, to non-members $2.00 each; females over one year old and not more than two, to members $2.00 each, to non-members $3.00 each; females over two years old, to members or non-members, $10.00 each; males one year old or under, to members $2.00 each, to non-members $3.00 each; males over one year old and not more than two, to members $3.00 each, to non-members $5.00 each; males over two years old, to members or non-members, $10.00 each.

STATE FAIR PREMIUM LIST OUT.

Secretary Paine is sending out the premium list for the sixty-third annual State Fair, to be held at Sacramento, September 8-15. Already the officers are anticipating the greatest showing in livestock ever made—beef, dairy, swine and sheep—each division will have very large entries. Poultry will also have larger exhibits than last year. Domestic science will have a prominent space, as will horticulture and agriculture. Machinery, manufactures, automobiles, trucks and tractors, all are asking for increased space to exhibit.

CONSERVATION OF BARNYARD MANURE.

More than $1,000,000,000 worth of barnyard refuse is wasted in the United States annually, which, at this time, is a national tragedy, according to Carl Vrooman, Assistant Secretary of Agriculture, who, in a statement issued June 28, urges its conservation as a war measure by American farmers.

"This is the prize waste of the champion wastrels of the world, the world's greatest single preventable economic leak," said Vrooman.

This is a suggestive challenge to the orchardist as well as the general farmer.

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IN CALIFORNIA AGRICULTURE

Field and Garden Suggestions

[Written for Pacific Rural Press.]

WINTERING AND MULTIPLYING LADYBIRDS.

To the Editor: Please publish how to keep over the winter ladybugs sent from the State Insectary for the aphis; also how to make them multiply.—S. B., Redlands.

[Answer by H. S. Smith, Superintendent State Insectary.]

It would be a practical impossibility to keep over winter the ladybirds sent out in the spring by the State Insectary. These insects have already lived through one winter and die of old age after laying their eggs in the spring. It might be possible to keep over winter ladybirds collected in the late fall, by placing them in cold storage or perhaps in any cool, protected place, but it would be very difficult to do this on a scale large enough to make it of practical value. The ladybirds may be found in almost any of the higher mountain canyons along the streams in early spring, and it is much more satisfactory to collect them in such places than to try to carry them over winter. There is no practical way of making these ladybirds multiply more rapidly in confinement than they do of their own accord in the open. The best thing to do is to collect them in large quantities in their hibernating grounds, place them where the aphis is abundant, and then forget about them.

SMOTHERING BERMUDA GRASS.

Killing Bermuda grass in subirrigated alfalfa land by suffocation has been the practice of J. W. Scott of Stanislaus county on his ranch near Keyes for a number of years, with the result that he now has his ranch entirely rid of the pest. Mr. Scott first experimented by scraping dirt over the Bermuda spots to a depth of a foot or more, keeping out both light and air and thus smothering it out, and while this was effective it required considerable work. As an improvement over this method he marks out the Bermuda infested patch very carefully with a shovel, then digging a deep trench around the entire patch. After the trench is completed he buries the top of the infested patch in the trench to a depth of 18 inches, using the surplus earth from the trench to replace the soil taken off from the top. While the latter method may also seem to be a lot of work, Mr. Scott believes that it is the only satisfactory way of controlling both the growth and spread of Bermuda on naturally moist land, as plowing or cultivation only spreads the plant over the entire field. He considers it much cheaper than allowing the Bermuda to take an entire field, as it will do unless curbed.

THREE CROPS IN ONE SEASON.

A novel stunt it was when a man on a small place within the Pomona city limits got two crops of potatoes and one of sweet corn in one season. He ran a furrow every 40 inches, then put in manure, throwing dirt on from each side, then opening the furrow again with a 6-inch lister, planting potatoes every 10 inches and covering them 5 inches deep. The time of planting was according to the weather—last year in February, this year in March. About the time the potatoes matured, sweet corn was planted between the rows of potatoes in the same way.

When the corn was 6 inches high the potatoes were harvested. Just before time to harvest the corn, the second crop of potatoes was planted in the same furrow and as before. These came off in December.

BETTER WAY TO SMOOTH DIRT.

As a smoother for fields in fine tilth, just before planting irrigated crops, one of the smoothest and simplest instruments is a "V" made of two planks on edge and braced firmly together. Hitch the team to draw its open end forward. This gathers high points and carries them to low places. If pulled point foremost, it would simply shove dirt aside and not carry it well to low places. This practice has proved very satisfactory on the Valley Farms Ranch in Yuba county.

CANTALOUPE SLICK SPOTS.

Cantaloupes with slick spots where they have laid on wet ground will have to be thrown out by the sorters, according to instructions of R. Malan of the California Vegetable Union in Imperial county. Such spots would be rotten upon arrival in New York. Lack of full netting indicates lack of sugar due to faulty culture and irrigation, according to Mr. Malan, and such melons won't carry in good shape.

HAY SLATS SAVE EYES.

Hay feed racks generally slope in front, so the horse or cow must look upward when pulling hay out from over their heads. This is a great source of eye trouble, especially if the hay contains needlegrass and foxtail. J. W. Coppini of Humboldt county avoids this by having the front slats vertical and the back slats slope.

OVERPASTURED GOOD LAND.

A clover-rye grass pasture on good land, operated by Frame Bros. in Humboldt county, was badly run down at the end of three or four years because one fall it had been pastured almost bare so that even the clover crowns were eaten off. This necessitated reseeding.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

WATER FOR ALFALFA ON ADOBE.

To the Editor: I have ten acres of flat adobe with water table seven feet down that I would like to sow to alfalfa. Will a two-inch pump irrigate it? How can I level and check the land?—E. F. L., Concord.

In a year or two the alfalfa will reach water and a little irrigation will be enough. A two-inch centrifugal pump will give enough water to cover your ten acres three inches deep in about 5¾ days of 24 hours each. Three acre-inches per acre per month ought to keep your alfalfa doing well. During the first year perhaps two inches twice per month would better prevent excessive cracking, which would tear the roots. Alfalfa does poorly if the land is sour or if water stands on it for days at a time in winter. It scalds if water stands on it for hours at a time in summer. To level the land, plow it, and with a Fresno scraper transfer dirt from high points to low. Make borders for irrigation with two planks edgewise angling toward each other, with the near ends 18 inches apart. Drag this with its wide ends foremost along the line of proposed borders. Flood each check and the water will show where to knock down some more high places. Let it settle all fall and winter and be sure it is as level as you can possibly make it before sowing your alfalfa very early in the spring.

TRACTORS CROSSING RIDGES.

[Written for Pacific Rural Press.]

In old models of one make of a track-type tractor the idler wheel runs on an axle fixed to the tractor frame. When the idler runs over an irrigation border or other ridge, it lifts the front end of the tractor (if pulling a load), and when past the balancing point the front end drops down with a jar that annoys the operator and strains the machinery. This is partially overcome in the newer models by hinging the idler to the main axle in the center of the track. When the idler rises over a ridge it simply bends the hinge without materially affecting the tractor. But of course when the center of the track passes the ridge there is more or less of a bump, since that is about where the tractor would balance anyway.

Another tractor goes still farther by making the axle of the drive wheel the axis of the track, so the front wheel of the tractor may stay on the ground, even though the whole track be inclined upward. On the other hand, it is said that this tractor when pulling hard presses the ground very lightly with the forepart of its track, making it practically a round wheeled tractor.

WASH DAY NO LONGER DREADED.

[Written for Pacific Rural Press.]

Perhaps washing for a farm family of six is not strictly a pleasure for Mrs. J. T. Onstott of Sutter county, considering the lunches and preparations for four school children, dishes, meals, sweeping, beds, and other housework, but it is so much easier than it might be that Mrs. Onstott feels pleasant when thinking about it. Fires are started about 7 a. m. to heat the water in the laundry room, the machine is filled with clothes and started. Then Mrs. Onstott puts up lunches, etc., while electricity does the work. The 1-10 horsepower motor has been used about a year with great satisfaction. A flexible wire connects it into an overhead 110-volt electric light socket, so the machine may be moved about at will while running. The electric bill has not been noticeably larger, never over $2.10 per month, though the house and laundry room are lighted, and ironing is also done by electricity. The motor runs a belt to a big wheel on the machine, which is geared to

BELT WORK
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BALL TREAD TRACTORS

Use your tractor for many things besides plowing and field cultivation. Belt work does not wear and depreciate the machine half as much as drawbar work.

Use your tractor for silo-filling feed cutting pumping—mill work and threshing.

Use your tractor as many hours in the year as you have work for it to do, and it will be earning for you all the time.

The Yuba Ball Tread Tractor is an engine for power for the business farmer who knows how to make use of it.

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an eccentric which raises and lowers with a twist an inverted bowl inside the machine, fixed to stir and work the clothes.

SIZE OF PUMP FOR ONE-ACRE PLACE.

To the Editor: Will you kindly advise through your paper the proper size centrifugal pump to install on a one-acre place to be intensively farmed to furnish plenty of water for irrigation and household use? About one-quarter will be in alfalfa, one-quarter in vegetables, one-quarter in small fruits, and one-quarter in orchard fruits, intercropped while young. Lift is ten feet; tank to be high enough for fire protection. Soil is level, sedimentary loam, on the line of San Mateo and Santa Clara counties. Kindly mention a bulletin that gives information regarding centrifugal pumps and their installation.—A. W. C., Fresno.

[Answered by Prof. J. B. Davidson, Professor of Agricultural Engineering, Univ. Farm, Davis.]

A No. 1 centrifugal pump, furnishing 30 gallons per minute, will pump enough water to cover the one acre referred to above with six inches of water in four days. As this is the smallest size of pump, we would suggest that it is the one to use, and by operating more days in the month an adequate supply of water will be provided. It is to be pointed out that the pumping of this water into a tank sufficiently high to give a pressure for fire protection would mean an unnecessary expense. We would suggest that only sufficient water be pumped into the tank to furnish the fire protection. Circular 117 of the California Experiment Station, "Selection and Cost of a Small Pumping Plant," will be of service in this connection.

GREASE CUPS ON CORN PLANTER.

Machinery is too high priced to abuse. F. R. Irwin of Butte county keeps his corn planter axles from wearing out by putting a grease cup on each. The tube from the grease cup through the wheel should be at least two inches long to allow the grease cup to be screwed down without working it into the mud on the hub. A cap is needed on the axle to keep dirt out.

TRACTOR-DRAWN RIDGER.

[Written for Pacific Rural Press.]

Several Santa Clara orchardists made metal irrigation ridgers in 1917, getting heavy steel plates at the junk yards for about 6 cents per pound. G. T. Nielsen made one at a cost of about $15 from two plates about 3-16 inch thick, 16 inches wide and 6½ feet long. They were held 19 inches apart in the rear by an inverted U-iron. This should be heavier than Mr. Nielsen's because there is very heavy strain on it. The front ends are held about 5½ feet apart. It is pulled by a tractor with 8 horsepower on the drawbar. It does not require over 5 horsepower,

Sliding shoes or wheels on the front could prevent this, but the ridger is too big and heavy anyway, thinks Mr. Nielsen. He used to have an iron-shod 2x12 plank ridger pulled by three horses that worked as well as this iron one.

The wooden one had sides only 4½ feet long and 4½ feet across the front. Mr. Nielsen notes that the shorter the sides the fewer lumps they ride on, and the better they cut, doing equal work with less weight to haul. So the iron ridger is to be cut shorter and its front ends drawn closer together.

WATERMELON REQUIREMENTS AND YIELD.

(Continued from first page.)

when you slap a ripe melon with the open hand, or catch it as it is tossed from man to man by car loaders, if it springs under the hand it is ripe. If it is hard and does not give, it is green. If it gives out a dead, hollow sound, it is dead ripe. Most of the varieties turn a lighter color when ripe and develop irregular, slight creasing of the rind.

The first carload was shipped from Turlock district last year July 14, and they were going ten cars per day after July 25. This season is at least two weeks late. Prices along in September get unprofitable, then the melons make good stock feed if not allowed to sour in the pens.

SOILS AND YIELD.

A deep sandy loam is best. Experiments on heavier ground produced poor quality and not much of it. The subsoil must be penetrable and moist. Many spots in the Turlock district are underlaid at a foot or two by clay, hardpan, plowpan, etc., which prevent capillary rise of water from the water table, which is not many feet below the surface in many places here. Where the hard layer has been penetrated under the melon hills, vines do well. Otherwise they dry out early. The yield is ordinarily 10 to 25 tons per acre. Sizes most demanded are 15 to 20 pounds each, though one 87-pound melon was shipped last year.

VARIETIES AND SEED.

Kleckley Sweet and Excell melons are planted for early good prices, according to Mr. Clifton; late Angeleno and Tom Watson melons are planted for their better shipping quality. Florida Favorites are intermediate in shipping season and shipping quality. They are sometimes called Rattlesnakes on account of their dark and light green stripes. The two early varieties have the finest flesh. Angelenos are round and solid, dark green, and are the most prolific and persistent producers, continuing to bear until frost. Tom Watsons are the largest growers, but large melons do not sell so readily. They are long and grayish-green. Kleckley Sweets are long and dark green. A new melon, bred in Colorado and tried in the Turlock district last year, is the Honeydew, a cross between cantaloupe and casaba. It retains the flavor of the former and the shipping quality of the latter, and seems to be taking the place of casabas quite generally in this section. Honeydew ripens after cantaloupes are off, in August and September.

Seed is furnished by the T. M. & G. at 40 to 75 cents per pound, except Excells, which cost 90 cents this year. A pound per acre permits row planting, as many do with sled or sweet potato planters. Less is used when put in hills 6x8 or 8x10 feet apart with hand corn planters. Each variety should be in a block by itself for convenience in picking. Cross pollenization does not make any difference in the flesh the first year, according to Messrs. Clifton and Eddy. Planting continues from March to June.

A Special Plow for California Orchards

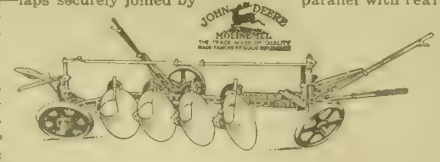
Plowing conditions in California orchards demand special plow construction. A serviceable plow must stand the severe strains occasioned by the soil conditions and operate close to the orchard trees.

John Deere California Orchard Tractor Disc Plow

meets these conditions admirably. Heavy lap-beam frame—laps securely joined by heavy bolts — *no sagging — discs always in alignment.*

Discs best quality steel — *disc bearings oil-tight and dust-proof — scrapers made to stand severest strain.*

Double setting of discs permits use in very hard, dry ground as well as in loose, trashy soil.



Special "Z" land axle brings land wheel parallel with rear disc beam, permitting plowing close to trees.

Special adjustment on front furrow wheel, causing it to set inside line of front disc so that *plow will work close to trees* when soil is being thrown to them. Beam has special shape to permit working close to trees.

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Manure well shredded and spread evenly gets the best results. It goes farther. Plant roots get all of its plant food.

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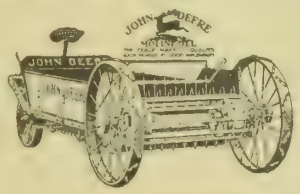

Revolving Rake which feeds manure to beater evenly, and Ball Bearing Apron Drive, securing frictionless apron travel with no racing, are other exclusive features.

Spreader only hip-high—easy to load. Big drive wheels—light draft. Easy to operate—only two levers—a boy can run it.

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After the grain has been cut from your fields and before the hot August and September sun has cracked the ground, allowing the subsoil moisture to escape, use the

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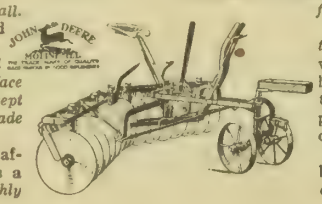
Noted for Thorough Disking

It produces a fine dirt surface mulch that *stops evaporation* of moisture and *catches and holds rainfall.* Mixes stubble, trash and weeds thoroughly into the soil. *Checks weed growth. Pulverizes surface thoroughly—ground is kept mellow—plowing is made easier.*

Using the Model B after plowing completes a seed bed that is *thoroughly pulverized through* and *through*—no trash bunches—no clods—no air spaces—*seed bed fits the subsoil perfectly.*



The Model B is *exceptionally flexible*—that is why it disks so thoroughly. The spring pressure third lever assures uniform penetration regardless of dead furrows or ridges.

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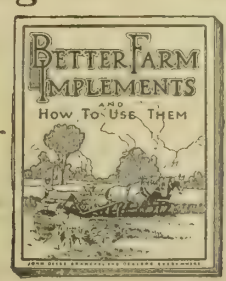


Better Farm Implements and How to Use Them

America must produce more food. Labor-saving implements will play an important part in increased crop production.

This book tells all about a full line of labor-saving farming implements. Tells how to adjust and operate many of them. A practical farm implement encyclopedia. Worth dollars. Illustrates and describes the following machines: Walking and Riding Plows, Tractor Plows, Disc Plows, Disc Harrows, Spring Tooth and Spike Tooth Harrows, Corn and Cotton Planters and Drills, Listers, Alfalfa and Beet Tools, Grain Drills and Seeders, Riding and Walking Cultivators, Lister Cultivators, Mowers, Side Rakes, Loaders, Sweep Rakes and Stackers, Hay Presses, Grain and Corn Binders, Corn Cutters, Stalk Cutters, Kaffir Headers, Manure Spreaders, Portable and Inside Cup Elevators, Corn Shellers, Wagons, Farm Trucks and Buggies. This big book will be sent *FREE* if you state the implements in which you are interested and ask for Package X-1520

John Deere Said

in reviewing his career, that he felt most pride in the consciousness that he never produced an implement of poor quality.

The same pride that John Deere felt is the pride of the makers of John Deere implements today. It is a powerful incentive to the maintenance of the high standard to which John Deere tools have been kept for eighty years.

JOHN DEERE
MOLINE, ILL.
THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS

John Deere Implements are sold by John Deere dealers everywhere

JOHN DEERE, MOLINE, ILLINOIS

General Agricultural Review

Field Crops.

It is estimated that there are 25,000 acres of alfalfa in San Joaquin county this year.

Sugar beets are being grown with success on the Timkin ranch in the Imperial Valley this year.

Sonoma county reports the finest hay and grain crop ever produced, both in quality and quantity.

The Standard Canning Company of San Diego is offering to buy cull tomatoes at $9.50 per ton at the cannery.

The Hindu rice men in Glenn county say there is a shortage of water and that the rice land is suffering.

Aphis has been discovered in the 320-acre cantaloupe patch near Brawley, according to Horticultural Commissioner Waite.

Farmers on Union Island are losing their bean and corn crops, which are eaten by rabbits as soon as the growths appear, according to reports given the Tracy Press.

Prof. C. E. Reische of Meridian has harvested a barley crop which was planted in between forty-five acres of walnut trees and the yield amounted to 35 sacks to the acre.

Directors of the Chicago Board of Trade, July 5, ordered stopped all further trading in July corn for delivery by grade alone. A settling price of $1.65 was fixed by a committee.

It is said that 121,000 acres of milo maize is now growing in the Imperial Valley, and the crop promises to be a good one. At present prices its money value is put at $8,500,000.

The shortage of cars and the standardization of the fruit is cutting down the shipments of cantaloupes out of the Imperial Valley and they will not be as heavy as expected. Up to July 1, 2,000 cars had been marketed.

The highest price ever brought by Imperial Valley cotton was that received for 65 bales of Durango long staple, sold in New Orleans last week for 34½c per pound. Short staple has been selling in the Valley at 24½c per pound.

With alfalfa selling at $19.50 per ton for 100-ton lots or more, and at $20 by the single carload, members of the Alfalfa Growers' Association met recently at Riverside to discuss plans for further unification of the industry for co-operative marketing.

The Indian Government has issued a special wheat forecast based on reports received from local authorities, and refers to 98.5 per cent of the total reported wheat acreage in India. The total yield is estimated at 9,929,000 tons, as against 8,501,000 tons (revised figure), or an increase of 17 per cent.

The Crop Reporting Board of the Bureau of Crop Estimates of the U. S. Dept. of Agriculture estimates that the area of cotton in cultivation this year in the United States is about 34,600,000 acres, as compared with 36,052,000 acres, the revised estimate of acreage in cultivation a year ago. The condition of the growing crop on June 25 was 70.3 per cent of normal condition. California has 66,000 acres under cultivation. Its condition was 93 per cent of normal.

The July report of the Dept. of Agriculture shows that this year's production of the principal food crops, including cereals, potatoes, etc., exceeds that of last year by about one billion bushels, a total of 6,093,000,000 being disclosed. The corn crop alone shows an increase of 541,000,000 bushels. The combined winter and spring wheat crop will total 678,000,000 bushels, 14 per cent over last year. Barley, oats, rye and rice all show record or nearly record crops.

Deciduous Fruits and Nuts.

Several parties are selling blackberries at Covina for $2.25 to $3 a case.

Walnuts are 65 per cent of a crop in the Puente district.

A bumper crop of walnuts is promised in the Whittier district.

Fruit growers in the Capay Valley near Winters are optimistic as to their fruit output.

The California Peach Growers, Inc., have received orders for several tons at opening prices.

The Sebastopol Apple Growers' packing house has opened and will operate on both apples and berries.

The outlook for apples in the Pajaro Valley is good and the dryers contemplate handling a large quantity of fruit.

The Green Valley Cannery at Graton, Sonoma county, is busy endeavoring to turn out fifteen carloads of berries by July 15.

The cherry crop from the Yucaipa Valley has proven to be very fine this season. The Royal Anne variety is now at its best and the quality is good.

Beaumont reports a big increase in its cherry crop. It is said the Beaumont packing houses will handle 300 per cent more cherries this year than last.

Through the efforts of the Farm Adviser of Placer county, it has been determined that grass and grain thrips have been the cause of scarred peaches.

The Goleta Walnut Association, made up of Goleta and Carpinteria growers, expect to handle 1,200 tons of walnuts this year. Last year they handled 743 tons.

Mr. Markarian, who owns the largest fig orchard in the world, and who is said to be a leading authority on fig culture, has acquired 80 acres of the Bullard tract in the Fresno section.

The new apple standardization law, which becomes operative July 27, 1917, makes it compulsory to mark the grade, net weight or number of apples in the package, name of packer and address.

Griffin & Gray of western Yolo county have ordered 14,000 French prune trees for delivery next spring. They will be set out in the Esparto and Winters districts, occupying in all 300 acres.

Coast peaches coming in from the river sections are uniformly small and of indifferent quality this season thus far. Cold weather held them back, while hot weather forced ripening prematurely.

A committee of pear growers were in the city last week, looking up the costs for the erection of a cannery to handle pears and vegetable products, the cannery to be ready for operations next season.

It is estimated that approximately 2,200 tons of peaches are to be canned by the California Peach Growers' Association at its Hanford plant. Muscat grapes will be canned in large quantities when the season is on.

A co-operative association has been formed by fifty deciduous fruit growers around Pomona for the purpose of conducting a drying yard at Pomona to save from 400 to 500 tons of apricots that are too small to meet the requirements of canners.

A. G. Robinson of the California Associated Raisin Company, in Kings county, has received notice that dried apricots of the Prune and Apricot Growers' Association will be received at the plants of the Associated Raisin Company at Dinuba, Parlier, Hanford and Armona.

Regarding walnut damage by the recent hot spell, an investigation shows the following estimate of damage: Santa Barbara county, 5 per cent; Ventura county, 20 per cent; Los Angeles county, 25 per cent; Orange county, 35 per cent. The average damage for the entire crop is close to 25 per cent.

Walnut trees are now growing on the 500-acre tract near Linden, recently purchased by Anderson & Barngrover of San Jose. Three trees were planted in each hole for the purpose of insuring against loss of time and growth. The trees will be thinned out, leaving one in each hole, when it is certain that all will live.

On July 10 the directors of the Prune and Apricot Growers' Association met in San Jose and fixed the following opening prices for apricots: Standard, Royal or Blenheim, 13¾c; choice, Royal or Blenheim, 14½c; extra choice, Royal or Blenheim, 16c; fancy, Royal or Blenheim, 16c; extra fancy, Royal or Blenheim, 17c; fancy Moorparks, 17c; extra fancy Moorparks, 18c. All these prices are on bulk basis. Prices are guaranteed until November 1, 1917. The association will book no further orders at this price.

Citrus and Semi-Tropical.

Oranges in the Puente section this year are good.

Figures from data obtained in reports to the office of the county horticultural commissioner, C. F. Collins, give a total acreage of citrus fruits of all varieties in Tulare county of 38,260.

The season's crop of oranges in Orange county was not injured, but the crop for next year is damaged about 30 per cent. Lemons suffered about 35 per cent from the recent torrid wave.

Damage to the citrus fruit crop in the southern part of the State, as a result of the long-continued hot spell, was estimated by the State Commissioner of Horticulture Hecke as amounting to several hundred thousand dollars.

Fullerton is to have a new fruit exchange consisting of five associations. The Placenta Orange Growers' Association, Yerba Linda Association, Placenta Mutual Association, La Harbra Association, and the Anaheim Association each withdrawing from the Semi-Tropic Fruit Exchange, with headquarters in Los Angeles, and forming what will be known as the Northern Orange County Citrus Exchange, with headquarters at Fullerton.

Riverside county estimates the damage to its navel crop at 90 per cent Valencias and sweets show much less damage, and the county's crop of the combined varieties of oranges is estimated at 20 per cent of the normal harvest, as a result of the late heated spell.

N. O. Mellott of Fairview, Orange county, has designed a box made of panels that he uses instead of tents, long used by citrus men of this State for fumigating citrus trees. Each panel fits together in a manner that prevents leakage and the influx of light.

Walnut and citrus growers around Whittier are insisting that the work of the Whittier Pathological Laboratory shall not be dropped at Whittier. It has been generally known that for two years it was the plan of the State University authorities to concentrate all experiment work at the new Riverside school. Whittier growers feel strongly that certain phases of the work can be best done there, especially the investigation pertaining to the walnut industry.

Grapes.

The St. Helena vintage festival will be held on Friday, Aug. 31st; Saturday, Sept. 1st; Sunday, Sept. 2nd; Monday (Labor Day), Sept. 3rd.

Fred K. Howard, horticultural commissioner of Kings county, says the crop outlook is still excellent in his district in all fruits, particularly so in grapes.

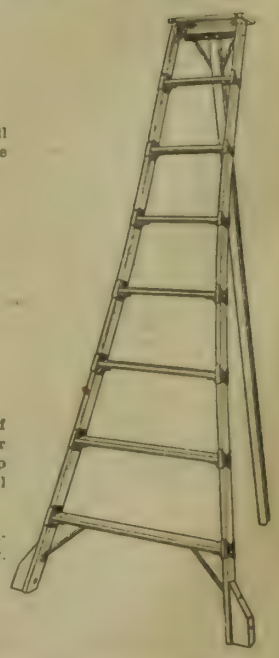
Lodi has been selected by President Frank T. Swett as the meeting place for the grape growers and wine makers of the State on Saturday afternoon, July 21st.

For the first five months of 1917 the shipments of raisins from this State made by the California Associated Raisin Company were 45 per cent greater than for the same period in 1916.

This 8-ft. Tripod

Security Ladder

$4.20 (Freight Prepaid)



N. B.—This special offer withdrawn on July 25th. All orders postmarked up to midnight of that date will be filled and shipped.

Security Ladders are the only ladders with the exclusive, patented steel-wrapped step joints.

Security Ladders are actually giving better service to more Pacific Coast fruit growers than any orchard ladder made.

Galvanized steel is up 50 per cent in price since April 1st. Our prices will have to go up as well as a result.

Send your check, money-order or draft and shipment of your ladder will be made at once. Examine the ladder carefully. Make a day's orchard test of it. You'll keep it. But if not satisfactory, return at my expense and I'll refund your money.

Clip this coupon or write your name and address on another sheet—pin your remittance to it and mail today.

6-ft. ladder $3.30
10-ft. ladder $5.00
Longer lengths ..... 50c ft.

J. B. PATTERSON, Manufacturer
82 Franklin Street, Oakland, Cal.

Enclosed please find $.....for.....Security Ladder..... Ship freight prepaid. If I don't find it satisfactory after a day's orchard test, I shall return it to Oakland at your expense.

Name .....

Address .....

P. R. P. 7/17

At a meeting, growers, packers and shippers held in Fresno, the wage problem was discussed. The consensus of opinion was that the best results are to be obtained by the operation of the per diem plan, with the added incentive of a bonus for good work.

Miscellaneous.

The State fair of 1917 will open its gates September 8 to 15, inclusive.

Farmers of Yolo county are cooperating in the matter of averting and controlling fires.

Humboldt county farmers do not want to lose the services of the farm adviser, A. H. Christiansen.

There is a movement on foot by the Riverside County Farm Bureau to organize a mutual marketing association.

"Cow Testing" and "Summer Crops" are to be the topics of addresses by Farm Adviser J. F. Grass, Jr., of Merced, at the July series of Farm Center meetings.

Discussion of the Iron Canyon project is the principal business of the July meeting of the Sacramento Valley Development Association, in session at Red Bluff today (July 14).

Honey production of Tulare county is becoming an important industry. There is much orange blossom honey produced there. Extracted honey is bringing 12½ cents per pound in five-gallon tins.

The Stanislaus County Farmers' Union has bought three warehouses and will conduct a buying and selling business, handling grain, fruit and feed. The union is a co-operative body in the interest of the farmer.

AMERICAN BEAUTY DUST SPRAYERS

PROTECT

Bean Growers

One man, with an American Beauty, will treat 20 to 30 acres of beans per day, and destroy mildew, rust, red spider, and other insect pests and diseases.

It will save you dollars in time, material, and crops.

"A puff in time saves the vine."

Best for peas, beets, corn, cotton, melons, squash, etc. Invaluable for oranges, almonds, peaches, prunes, and other fruits.

GOPHERS and SQUIRRELS

The American Beauty will rid your ranch of squirrels and gophers without injury to your crops. Let us tell you about it.

Try our standard size machine, $16.00 direct to you—all charges paid. Ask your dealer, or order from factory. Trial offer—refund if not satisfactory. Send for our circular today.

WE GUARANTEE EVERY MACHINE

The California Sprayer Co.

6029 PASADENA AVE., LOS ANGELES, CAL.

SEND FOR PRICE LIST — CLAY PRODUCTS

GLADDING, McBEAN & Co.

PERMANENT PIPE FOR IRRIGATION DRAINAGE CULVERTS SEWERAGE

CROCKER BLDG. SAN FRANCISCO

WORKS—LINCOLN, CAL.

A total of $11,661,905 in first mortgage bonds to farmers at 5 per cent interest has been asked by the various farm loan associations chartered by the Federal Farm Loan Board up to July 1.

The College of Agriculture, University of California, is conducting correspondence courses in agriculture. There is no fee. A circular describing the 36 courses and an enrollment card will be sent upon request.

As soon as the State Water Commission authorizes the improvement, a syndicate of San Dimas men will begin work on a $2,000,000 irrigation project which will irrigate 8,000 to 10,000 acres of level land lying in a triangle formed by Pomona, San Dimas and Walnut.

Representatives of six million American farmers met at St. Paul recently to complete organization of the American Federation of Organized Producers and Consumers, which will lead the farmers in an organized fight to prevent war speculation and to insure reasonable prices.

A total of $11,661,905 in first mortgage loans to farmers at 5 per cent interest has been asked by the 230 farm loan associations chartered by the Federal Farm Loan Board up to July 1. Texas leads in the amount of loans, having more than $1,240,000; Oklahoma is next with $1,140,000; and California third, with $956,000.

In a report by County Horticultural Commissioner R. K. Bishop of Orange county to the State Horticultural Commissioner, he says that the heat wave the middle of June did much damage to fruit in his county. Lima beans and blackeye peas on the dry lands were hurt 15 per cent, but on the low, moist lands the crop was benefited, and the improvement, it is thought, will make up the loss elsewhere. Walnuts were damaged 40 per cent; sugar beets were unhurt; berries suffered 50 per cent loss; peaches and apricots were hurt but little.

Legal Tolerance on Hay at Time of Storage.

Chas. G. Johnson, State Superintendent of Weights and Measures, under legal authority, has fixed and established 2,000 lbs. as the legal standard weight of one ton of hay, and prescribes for such legal weight a commercial tolerance not to exceed 45 lbs. per ton, and on individual bales of an approximate weight of 225 lbs. a tolerance not to exceed 5 pounds per bale. The tolerance as so fixed applies to hay when weighed in for storage, in public warehouses, and deduction of such tolerance must be clearly noted in all Public Weighmaster Weight Certificates issued, which record of weight shall be accepted as the true weight, forming the basis for settlement. Sellers of hay, having allowed the legal tolerance, shall be exempt from further responsibility of variance upon a reweigh, providing such variance is caused by conditions over which he, acting in good faith, had no control.

Labor Schedule for the Harvesting of Fruits.

The San Joaquin Valley Fruit Growers' Association will make contracts for the picking, curing and boxing of grapes and raisins, and the employment of men for general farm labor, according to the following schedule: For raisin grapes:

Muscats, 3c per tray of 22 lbs. of grapes; Thompsons, 2½c per tray of 22 lbs. of grapes; Sultanas, 2½c per tray of 22 lbs. of grapes.

Contracts for picking, curing and boxing: Muscats, $17.50 per ton of raisins; Thompsons, $14.00 per ton of raisins; Sultanas, $14.00 per ton of raisins.

Wine grapes: Picking in boxes, $2.00 per ton.

Peaches: Cutting, 6c per box.

Day work during harvesting period: Month of August, 27½c per hour; month of September, 30c per hour.

It is claimed these prices represent an increase of 20 to 25 per cent over prices and wages paid last year.

DEATH OF DR. LOUGHRIDGE.

Dr. R. H. Loughridge, retired university professor, whom many of our readers knew for his published work on California soils and for his excellent speaking at California farmers' institutes, died in Waco, Texas, on July 1. He had been living in Berkeley almost continuously since his retirement in 1909, until stricken with illness in May last. Partially recovering, he went to the home of his relatives, where his malady assumed a fatal phase.

Dr. Loughridge was born in Indian Territory, October 9, 1843. He served in the Confederate army and after the war attended the University of Mississippi, becoming a pupil of the late Dr. E. W. Hilgard and subsequently his close friend in teaching and research in soil chemistry. Dr. Loughridge first came to California in 1879 to assist Dr. Hilgard in the preparation of his notable report on cotton growing in the United States—returning to the South in 1882. Until 1885 he was Assistant State Geologist of Kentucky and for the next five years Professor of Agricultural Chemistry in the University of South Carolina. In 1890-91 he was Assistant State Geologist of Kentucky and in 1891 he returned to California, and until 1909 he taught agricultural chemistry at Berkeley and participated with Professor Hilgard in his important researches on the chemistry, physics and geology of the soils of California; methods for the reclamation of alkali lands; the scientific problems of the relation of irrigation and drainage to the qualities of California soils, and the problem of maintaining and increasing nitrogen in the soils. His work has been of much scientific and practical value.

Following the institution of proceedings against the Pacific Coast Canning Company of Stockton by the State Department of Weights and Measures, on account of frauds growing out of the "lug box" evil, the company has confessed its liability and has offered to make restitution to growers and shippers.

FREE USE OF 500 ACRES

Near San Francisco

Finish reclaiming at a cost of $3,000 and have free use for a term of years—with option to purchase.

BOX 680. - - - - - - PACIFIC RURAL PRESS

Use REMCO Irrigation

PIPE

and get the GREATEST POSSIBLE SERVICE for the LEAST MONEY.

100% EFFICIENCY

at 50 per cent of the cost of other pipe. MADE IN ALL SIZES FROM TWO INCHES TO TWELVE FEET IN DIAMETER.

Remco Irrigation Pipe is the standard for many of the largest irrigation projects in California.

It has been used for 28 years in all parts of the coast and is STILL GIVING PERFECT SATISFACTION.

Remco Tanks

are built for service in all sizes from 500 gallons to 500,000 gallons.

Write us for suggestions and prices.

Redwood Manufacturers Company

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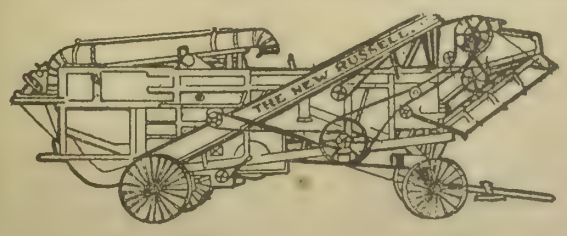


RUSSELL 2-cylinder THRESHER

Guaranteed to thresh both Beans and Grain

Built specially for California work

A. H. Averill Machinery Co., San Jose

A Del Norte Milkmaid.

The dairymen of Del Norte county, California, are solving the high price of labor in a very practical way. During the last twelve months over fifty milking machines have been installed in this county. With these machines it is possible for one person to milk a herd of cows as rapidly as three ordinary good hand milkers would do the work in the old-fashioned way. The young lady shown in the picture is Miss Evelina Paini of Requa, Cal. Miss Paini is 18 years old and weighs 90 pounds. For over one year she has been milking 55 cows morning and evening, operating four of these machines at one time. The barn over which she has charge is a model of neatness and cleanliness. Every part of the machine is looked after by the young lady and is kept in a perfectly sanitary condition. No wonder her father is proud of her, and says that he will bet money she will beat any man in the county handling a milking machine.

While Miss Paini is taking care of the cows her father is working in the fields, doing his best to increase the production of foodstuffs on their farm. Without a doubt Miss Paini is doing as much to help win the world war as the soldier who fights in the trenches.—J. F. K.

The up-to-date milkmaid, Miss Evelina Paini, of Requa, Calif., who milks 55 cows morning and evening with the aid of modern milking machines.

The Best Commercial Butter in America.

[Written for Pacific Rural Press.]

Uncle Sam is furnishing better butter to his navy boys than you and I eat, and at least a very large part of it is made in Humboldt county, Cal. It must not contain over 13½ per cent moisture for that packed in tins and 14 per cent for the cubes, according to W. D. Pine, Government inspector at the Valley Flower Creamery, which has a contract for 220,000 pounds. The salt may range from 2½ to 3¼ per cent, and at least two-thirds must score 95, with the other third not less than 94, according to Field Manager M. H. Nielson of the California Central Creameries, whose contract with the Government calls for 1,130,000 pounds. All of this from both creameries will be delivered by August 1.

Every churning is inspected, and every vatful of cream is tested for acidity and odor shortly after separating at the creamery and again several hours after pasteurization. If the acidity is over 9 per cent on the last test, the cream is considered doubtful. At the Valley Flower it is generally 6 to 7 per cent. To taste sour it would have to be about 15 per cent.

The cream is churned sweet at low temperatures, for a long time; the butter is drained about three times on the shelves of the churn for three or four minutes each, between workings and before salting. This is to get rid of moisture, which injures keeping quality. Commercially butter may contain 16 per cent moisture.

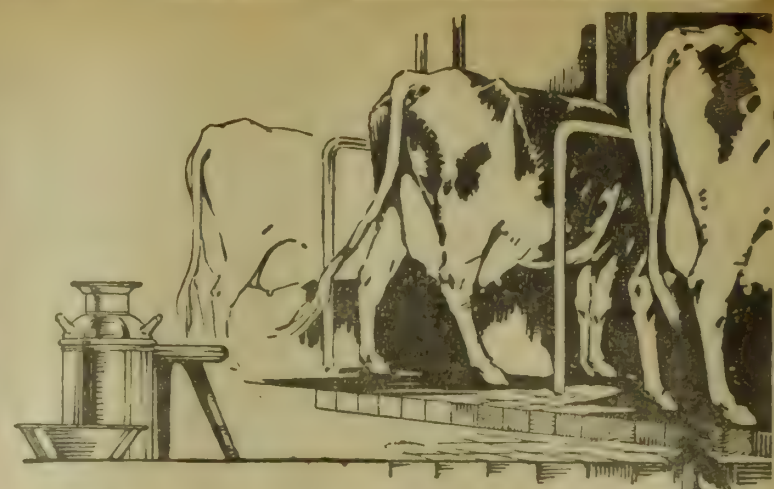
CLEAN, QUICK MILK HANDLING.

To get such butter requires cleanest and quickest handling of the milk. Practically all of it is hauled as whole milk to the creameries or skimming stations, and only the sweet pasteurized buttermilk is returned to dairymen. This makes fine calf or hog feed, but a lower grade of casein than skim milk.

The co-operative Valley Flower Creamery pays 35 cents a hundred for the skim milk, delivered twice a day as whole milk, and 32 cents for it if delivered once a day. This is to encourage frequent delivery to get high scoring butter. They make casein from the skim milk.

The California Central Creameries pay 35 cents for skim milk delivered twice a day at their combined creamery and milk-drying plant in Ferndale. They put up about 700,000 pounds for the Government last year, after supplying smaller amounts for the past nine or ten years. As an illustration of the keeping quality of butter from milk thus handled, several carloads have been kept over two years in their cold storage plant at Eureka, and the middies found it good.

(Continued on next page.)



U.C. Farm Expert says-

"Wood blocks make a very desirable floor"

Professor J. B. Davidson of the University of California, College of Agriculture, says:

"Wood blocks make a very desirable floor when well laid, either of durable wood or a treated wood, especially for that part of the floor upon which the animal is required to stand. The use of wood blocks obviates to a certain extent the use of a liberal amount of bedding where the animal must lie on the floor. . . . "

California Redwood

Resists rot and fire

Redwood block paving is *especially* desirable—contains a *natural* preservative. No creosote or *artificial* preservative is necessary to increase Redwood's durability. Redwood block paving resists wet and dry rot, is permanent in shape and will last a life-time.

Redwood block paving is *not expensive.*

Write for free booklets, "Redwood Block Paving" and "California Redwood on the Farm."

CALIFORNIA REDWOOD ASSOCIATION
772 Call Building, San Francisco

Ask for the Child's Story of the "big trees" of California—there's a copy for every child in the nation

Do You Want Long Distance Backing?

We have a son of the California State Champion three-year-old for sale. Born October, 1915; Sired by PRINCE ALCARTRA KORNDYKE, whose dam is TILLY ALCARTRA.

The Dam of this young bull is not a fifty-pound cow, but she has to her credit 21,208 pounds milk and 860 pounds butter in one year, which is the largest record ever made in California by a Junior three-year-old.

If you are in the market for a bull, it will pay you to visit our ranch and see what we have to offer—at prices that will surprise you.

J. S. GIBSON CO., Box 97, Williams, Cal.

"THE NAME GIBSON INSURES QUALITY."

WHY NOT

Buy a bull from one of our tested cows to head your herd?

Do a little figuring, and see just what you are losing by using a bull at the head of your herd that should have been sold for veal in the first place?

Stop the loss now, by buying a good bull?

Get into the profit producing class?

Write now for descriptive booklet of a remarkable offering of males and females.

GOTSHALL & MAGRUDER

THE HOME OF THE STATE CHAMPION TWO YEAR OLD

RIPON, CALIFORNIA

NO TURNIPS.

For many years, since it was found that turnips taint the butter even if fed right after milking, it has been necessary to fight hard to prevent dairymen using them. Some still insist on sacrificing the market for their butter by feeding these heavy yielding roots, but none of their milk goes into Government butter. The patrons and members of the Valley Flower Creamery at their annual meeting in January were consulted on the subject, and they all signed an agreement not to feed turnips.

Builds Resaw Silos Without Scaffold.

[Written for Pacific Rural Press.]

The chief virtue of resaw silos is their low first cost. They can scarcely be recommended for permanence or for effectiveness in preventing spoilage. Yet many people must have resaw or none this season. Building resaw silos without scaffolding saves time, as shown by J. T. Raitt's twenty odd years' experience in Orange county. Putting up the frame is an easy half day's work for two men, and they will be ready to begin filling by 3 p. m. of the day they start work, if a solid foundation floor is already laid. Putting on the resaw proceeds as the silo is filled enough to stand on while working.

LAYING OUT THE BASE.

Bore a hole near the end of a 10-foot 1x3 large enough to fit closely over a pin or spike in the center of the floor. Drive a spike through the 1x3 exactly 7 feet 11½ inches from the center of the hole. When the 1x3 is swung around the center pin your spike will scratch a circle exactly 50 feet in circumference. Test your circle and mark the location of fifty 2x3 uprights with a stiff wire exactly 2 feet long, bent to the curve of the circle. Lay this wire on the circle and make a mark inward from its ends and center, so the mark may remain visible after the uprights are set. Measure with the wire from the center mark just made and mark at its end. You will come out even if your circle is 50 feet around. Resaw can be bought in three or four pieces to fit exactly around the 50 feet without waste.

Lay the 2x3's like spokes of a wheel around the circle. These may be as long as the silo is to be high, or half as long, in which case the upper half is built after the lower half is filled.

A 4x4 of equal length with the uprights is used for a center pole. Bore a ⅝-inch hole into the top end of this, lengthwise of the pole. It has cleats nailed on for a ladder and is held erect by four guy ropes. Having raised this, make your ladder by nailing cleats across two of the 2x3's and raise it with two guys to hold it steady. It can then be fastened to the center pole by 1x3's nailed successively five or six feet higher than the one below. A 1x8 or 2x6 scaffold board is held from the top of the center pole to the top of the ladder by a bolt near one end and blocks to fit over the top step at the ladder end.

Mr. Raitt makes two-foot 2x4 segments with just the angle at their ends to fit closely together when used as a plate around the top of the circle of uprights. The angle and length of these can be determined accurately by testing a few of them on the circle marked on the floor. One of these is nailed with its center on one leg of the ladder and its end reaching the center of the other leg. In place of these could be used a short piece of 1x3 nailed securely to each upright as it is raised, so the scaffold board may be moved around to rest on it while the next upright is raised. The danger of having the uprights too long would be in their liability to knuckle and give way under weight of the top operator.

Segments are nailed with their centers on alternate 2x3's as they lie on the ground. The first upright will have no segment, being fastened to the overreaching end of the segment on the ladder. When seven or eight uprights have been raised, the last will be braced to the center pole to hold it in the circle when the scaffold board is moved on around.

Before starting to nail the resaw, a ¼x2-inch strip is tacked around the base on the outside, being sure that all uprights are on their marks. The strip is marked on both sides of each upright and then moved up as high as a man can reach, nailing it to each upright to hold all of them at the right distance apart, and to prevent them from bulging so the resaw would not reach around the circle.

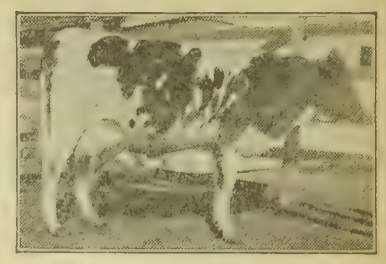
Resaw is then put on as high as the width of building paper with which it is to be sandwiched. A man unrolls the paper and the other tacks lath to the uprights so they project over the paper's edge without tearing or piercing it. The lowest round of resaw of the inside course is only four inches wide, while the rest is eight inches. This covers every crack in the outer course.

Saving Made Through Milk Test.

B. Kaehler of Glenn county writes that the members of the testing department of the Farm Bureau should make more use of the fact that the tester carries a skim milk bottle with him, and that he has it in his contract to test skim milk, if so desired, since a good many times the shortage in the cream check can be traced back to the separator. It even would be advisable to test the separated milk as regularly as the cows. He says: I am in the position to give some startling figures. In one instance, on a place with 7 cows, I found a daily loss of 50 cents worth of butterfat, or $15 worth in one month. The owner tested 5 cows at an expense of $6.25 a year. His loss in butterfat in one month would pay for two years' testing and then some. In another case the loss of butterfat in skim milk amounted to 83 cents a day, or $24 in a month. The yearly expense for testing the herd on this ranch is $56.25. By buying a new separator the savings of two months almost covered the yearly expense of testing the herd. On a third place the monthly saving of $18.21, after testing the separator, would have met the expense of testing the herd in three months.

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
GEO. P. ROBINSON CO.
426 J Street,
Travelers Hotel Building, Sacramento.
LIVESTOCK BROKERS

Dutchland Sir Pietertje Creamelle's
Ten First Daughters in Milk have average records of 20 Pounds as two-year olds or younger.
Two of These are California Champion Two-Year Olds

MARIE CLOTHILDE PONTIAC CREAMELLE
Junior 2-year-old record: Milk 391, Butter 22.52, Test 4.6 per cent.

PAULINE INKA DE KOL CREAMELLE
Senior yearling record: Milk 423.4, Butter 24.43 lbs., Test 4.62 per cent.
This wonderful record is convincing proof that this young herd sire transmits his big production and high test breeding.
You Need Some of His Blood in Your Herd
To bring up your butter fat production and increase your profits.
I am offering a few young bulls sired by him, out of big producing dams, and just ready for service, at reasonable prices.
WRITE OR CALL AND SEE THEM.
F. STENZEL, San Lorenzo, Cal.
BREEDER OF HIGH TEST HOLSTEINS.

DAIRY HERD FOR SALE
Over 100 head of choice Holstein and Guernsey Grades. For full particulars address
BOX 650, PACIFIC RURAL PRESS, SAN FRANCISCO

SHORTHORNS
Herd headed by Count Glory (426982), Grand Champion California State Fair, 1916. Our herd comprises more Scotch females than any herd on the Coast.
BERKSHIRES
This herd won the premier exhibitors' banner at the Panama-Pacific Exposition. This herd contains one of the greatest collections of brood sows in the world. Strong in the blood of Rival's Champions Best.
STOCK FOR SALE AT ALL TIMES.
CARRUTHERS FARMS, MAYFIELD, CAL.
City address, Hearst Building, San Francisco, Cal. Telephone Sutter 1311

BULLS = Shorthorns = HEIFERS
REGISTERED AND TUBERCULIN TESTED.
Animals of either sex ready to deliver in car lots or singly.
H. L. & E. H. MURPHY, Perkins, Cal

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED.
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
Hauser Packing Co. Los Angeles

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Milkers are in great demand in Imperial Valley, according to reports received at the office of the County Farm Bureau.

Farm Adviser Amundsen, of Placer county, has left for Last Chance, near Auburn, to investigate the cause of so many cows going blind.

W. D. Timm, manager of the San Ramon Dairy, has completed an experiment of tules as a feed for stock, particularly milch cows, and says it has been found successful.

A letter from C. L. Hughes states that the California Sales and Pedigree Company will hold the third Sacramento consignment sale of registered Holsteins at the State Fair grounds October 25-26.

An increase of 25 per cent in the pay of dairy and ranch hands has been introduced in Stanislaus county, according to a statement of the secretary of the Stanislaus County Board of Trade.

A new department in the plant of the Modesto Creamery, planned by Manager Lowell Gum, will be manufacturing "cultured milk," which, it is claimed, is an excellent remedy for dyspeptics and debilitated systems.

Plans are being made for a meeting of the breeders of Jersey cattle, to be held at the California State Fair this fall, in consequence of a conference of the California Jersey Breeders' Association recently held at the University of California Farm at Davis.

The Holstein-Friesian heifer, Von Heim Winnifred Colantha 329334, owned by J. von Herberg of Kent, has broken the record for fat production in the junior two-year class of the thirty-day division, by producing in thirty consecutive days 1925.3 pounds milk, containing 94.245 pounds fat.

In the third scoring of the 1917 Educational Butter and Cheese Scoring Contest held at Modesto June 29, Hans Beck of the Danish Creamery, Fresno, received the highest score on butter with 94½. The next scoring will be held in connection with the State Fair at Sacramento, September 8 to 15.

Owensmouth is to have the largest and finest herd of registered Guernsey cattle in the State. News has been received that D. O. Brandt of the Elliott-Brandt Rancho of Owensmouth shipped from Boston last week seventy-five registered Guernsey cattle for his California ranch. The shipment is valued at $50,000. Some of the cows are said to have cost $1,000.

The Buena Alta herd, formerly of Modesto, now of Emeryville, recently received fourteen head of registered Holsteins, which F. A. Heroux purchased at the Stevens Bros. and the National Breeders Worcester sales, June 7 and 8. In the lot are the following A. R. O. cows: Bonanza Pontiac Korndyke, a 29-lb. cow; Lady Ivaloy, a 26-lb. cow; Terracelawn Bests De Kol Pauline, with a record of 22 lbs. in 7 days at 26 months. The other females are young things and will be shown at the fairs. Mr. Heroux also brought some young bulls. One is a son of King of the Pontiacs, another a grandson of King Segis, a third is the grandson of Colantha Johanna Lad.

Swine and Swinemen.

Herrold Gist of Holberk Stock Farm, Tulare, has just sold seven weanling Berkshire sows.

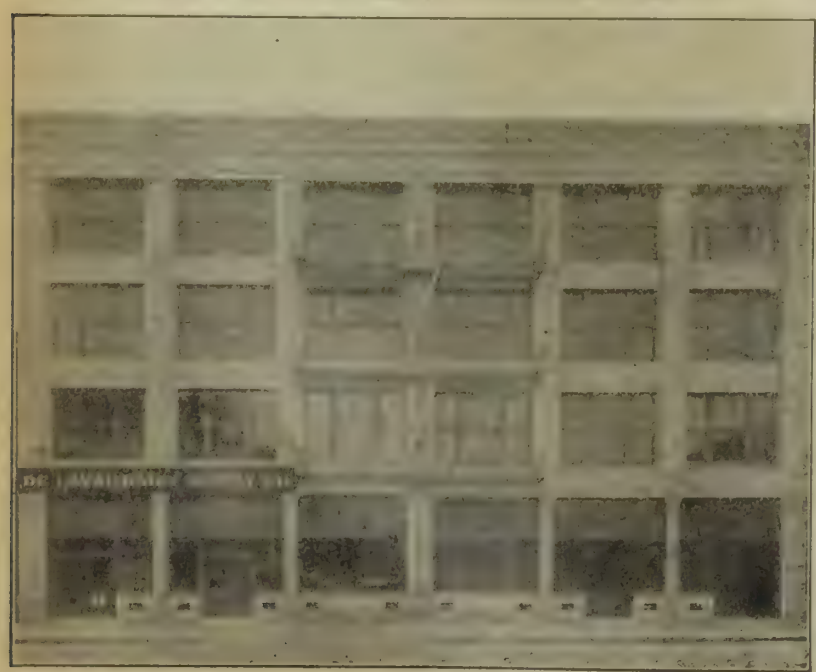
The United States Department of Agriculture is laying stress on the fact that the hog is the most important animal to raise for meat and money.

Joseph D. Biddle, a stock raiser at Hanford, who is conducting a Statewide propaganda among livestock raisers for the conservation of the hog-raising industry in California, says there is thus far this year a 40 per cent depreciation in the hog stock of California, due to the raisers selling brood sows and young stock to Eastern buyers and packing houses. The East is short on hogs, and are

A RAPIDLY EXPANDING ENTERPRISE.

The rapid growth and development of the dairy business on the Pacific Coast is brought to public attention in many and unexpected ways. Among the first buildings put up in San Francisco after the great disaster of 1906 was one erected for the De Laval Dairy Supply Co. on Drumm street. At the time of its erection it was expected to be adequate to the requirements of this company's business at the time and for many years to come. But the projectors of the enterprise evidently missed their guess. Already they have found the providing of new and larger quarters forced upon them. At Beale street, near Market, an up-to-date building of four stories and basement has been constructed for the company's accommodation, an illustration of which is shown herewith.

The sales and display rooms occupy most of the first floor, business offices and engineering department the second floor, the manufacturing and repair department the top floor, while the third floor and basement hold the large stock of machinery, supplies and repair parts kept in stock for the convenience of De Laval customers, a host of whom are numbered among the subscribers of the Rural Press.



—give the California pig a chance

California produces more food than any other State—and more good food, too.

Now comes the MAYROSE HAMS and BACON, the top notch quality.

Your dealer will tell you he is so satisfied with the quality that he will, if promptly notified, take back any MAYROSE meats not up to your best expectations—that's the kind of guarantee that stands behind quality goods.

Mayrose Brand SMOKED MEATS
Western Meat Co. San Francisco, U.S.A.

WESTERN MEAT COMPANY
SAN FRANCISCO

FOR YOUR HERD SIRES
Buy Sons of Tried Sires out of A. R. O. Dams

KING PAUL PONTIAC NETHERLAND (not many sons of King of the Pontiacs in California).
Sire: King of the Pontiacs—208 A. R. O. daughters.
Dam: Pauline Lord Netherland, D. K. 155568.

H. ARTIS TWISK NETHERLAND (better than a 30-lb. bull).
Sire: Netherland Artis Pontiac Winana, out of Stalia De Kol 92902—31-32 lbs. 7 days.
Dam: Maud Netherland T. Cornucopia 95735—30-27 lbs. butter in 7 days.

KING SEGIS BEETS STANTON.
Sire: King Segis Beets 48702—43 A. R. O. daughters, four over 30 lbs. 7 days.
Dam: Dutch Corner Dot 220188—27-43 lbs. butter in 7 days as 4 yrs. Jr.

SAVE 50 PER CENT ON YOUR NEXT HERD BULL BY BUYING HIM YOUNG. FEMALES FOR SALE ALSO.

BUENA ALTA HERD
F. A. HEROUX, Owner, 629 Fifty-sixth Street, OAKLAND, CAL.

The World's Grand Champion Hampshires

Pure-Bred Hogs give more weight for less money in the shortest time.

Sows, Boars, Gilts, bred and open, from the World's Champion Hampshire Stock. All ages for sale.

Write to
F. V. Gordon, or F. A. Langdon Llano Vista Ranch Perris, Riverside Co., Cal.

replenishing their market at our expense.

The Janss Investment Company has recently brought out from the Central West 31 purebred registered Duroc-Jersey sows under one year; 16 yearling and aged Duroc-Jersey sows, and two Duroc-Jersey yearling boars and also one purebred Hampshire boar and two sows—52 head in all. These hogs have been put on their Canepo ranch in Ventura county. The Hampshire hogs have been brought out to add new blood to the 1500 Hampshire hogs already on the ranch.

Beef Cattle.

The State Council of Defense says that at present a maximum number of sheep and cattle are on the range lands of California.

Thomas C. Clapper, a rancher, living west of Modesto, was sentenced to nine years in San Quentin by Judge L. W. Fulkerth on conviction of cattle stealing.

It is reported that a large number of cattle are dying on the ranges of Arizona from lack of feed. Many of the stockmen of the Southwest are anxious to sell off their cattle on account of the shortage of feed.

At the Harris & Sons Hereford sale, held at Harris, Mo., June 26 and 27, a total of 260 head sold for $396,375. Repeater sold to W. A. Pickering of Kansas City for $27,500, and Gay Lad 16th sold to Geo. G. Moore of New York for $20,000. Repeater's Model was bought by M. M. Marshall of Los Angeles for $13,000. The bulls averaged $3,198 and females $1,220. This sale brought better prices than ever known in Hereford history.

Sheep and Goats.

The University of California urges raising of goats to increase the food supply.

It is reported that where wool went begging three years ago at 18 cents, it is today being anxiously sought after at 67½ cents.

Herbert Rahn and Willard Paulson of St. Helena have taken charge of a large sheep ranch in Mendocino county. The ranch contains 3,300 acres and is stocked with 1,500 sheep.

Livestock Miscellaneous.

The rapid and mysterious spread of anthrax throughout the islands of the Hawaiian group is causing apprehension.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

SWINE.

Poland-Chinas.

DISPERSION SALE OF ALL OUR POLAND-CHINAS—Having rented our ranch, I will sell all of our high-class and prize-winning P.-C., including I. B. A. Wonder, Reserve Champion of the P.-P. I. E., and without doubt the best large type boar this side of the Rocky Mountains; three years old, will weigh easily 1,000 pounds, in show shape and a sure and good breeder and kind to handle. Also four good brood sows, two with litters and two bred for early fall litters. Also two 1st of Sept. last gilts from the Isaac Overton herd of Knoxville, Iowa, sired by the famous Big Knox and out of his prize-winning sow, Miss Model 2nd. These gilts are the best I ever saw; will weigh now about 400 pounds, and as fine as they make them; they will surely win the blue this fall for someone, as they are very fine animals indeed. Then we have about 20 head of pigs from three weeks to four months old; some of these have been entered in the Futurity and are large and fine pigs. Have a share of the American Record Co., with Six Vol. for sale, also a good breeding crate. Here is a chance to get into the P. C. game in great shape for a reasonable price; this stock is all in good shape to fit for the show this fall. Someone ought to buy the boar and the four or six sows, and I will bespeak a good word for them, as the stock is as good as anyone has. Get busy, as they must sell. This ad. will not appear again. W. A. Young, Lodi, Cal.

SPECIAL SALE of weaned boar pigs of the famous Whitten Ranch Poland-Chinas. Get one and grow him out. He will put money-making qualities into your herd. Prices very low; satisfaction guaranteed. Send for free booklet, "Hogs for Profit." Packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, 610A Security building, Los Angeles.

POLAND CHINAS—One of the best young boars in the State. Age, 22 months. Sired by Fesenmeyer's A Wonder. Dam, Ellen 2nd. Am closing out. Will sacrifice for $50, crated, f. o. b. cars. Also young proven sow bred to this boar. Price, $40. Address, George M. Pardee, 900 Auditorium Bldg., Los Angeles.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

POLAND-CHINA HOGS—Large type. 200 lbs. in 6 months. I guarantee to please you. O. L. Linn, Linview, Modesto, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REGISTERED POLAND-CHINAS and Duroc-Jerseys. Cholera immune for life. T. H. Beckman, Lodi, Cal.

POLAND-CHINAS—Three extra fine boars, one large and two medium type. W. Bernstein, Hanford, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS—A few gilts left at $15 each. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of Champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

REGISTERED BERKSHIRES — Progeny of Improver B. Young stock now ready for sale. Start your herd with breed and strain of established reputation for California conditions. Geo. G. Meckfessel, Berlin, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

BERKSHIRES—Young stock from prolific stock now ready. Can furnish trios or more if desired. Write for prices. W. G. Thompson, Napa, Cal.

IMMUNIZED NORMANDY BERKSHIRES—Good type. Breeding stock, any age, for sale at all times. Cast iron guarantee. Arlington Smith, Visalia, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Second annual sale August 1st, 1917. Mayfield, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

REGISTERED BERKSHIRES—Geo. M. York, Modesto, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 Third. Prices $20 and up. Haden Smith, Woodland.

RANCHO RUBIO DUROCS—Only a few September gilts left. One corking good fall boar by Orion Model, son of the last International Grand Champion. Place your orders now for weaned boar pigs. Best I ever raised. Elmer Lamb, Ceres, Cal.

REGISTERED DUROC-JERSEYS — Service boars from prize-winning stock are money-makers. They grow faster. New England California Corporation, Ripon, Cal.

DUROC-JERSEYS — Herd boars. E. N.'s Colonel and Tulare Boy. Sweepstakes winner at Fresno, 1915. Choice breeding stock. J. P. Walker, Visalia.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROCS — Crimson Wonder stock. Young stock, both sexes. L. D. Collins, Denair, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 631-637 Brannan street, San Francisco.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

HOLSTEIN HERD FOR SALE—Herd consists of seven females and five bulls; including a splendid cow, her four daughters and a granddaughter; all registered stock of good breeding, priced for quick sale. P. A. Hogaboom, Route A, Fair Oaks, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

SPECIAL SALE DURING JULY — Registered Holstein bulls, three weeks to thirty months of age. Sunnybrook Ranch, Willits, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

PACKWOOD FARM HOLSTEINS — Fine young bulls of serviceable age out of tested A. R. O. cows. W. F. Mitchell, Visalia.

TWO SERVICEABLE SONS of Colantha Sir Pontiac Aaggie for sale. Moorland Farm, K. W. Abbott, Milpitas, Cal.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN-FRIESIAN CATTLE—J. M. Campbell, Escalon, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

A. R. O. HERD OF HOLSTEINS—Alex. Whaley, Tulare, Calif.

Jerseys.

N. H. LOCKE CO., LOCKEFORD, CAL.—Jerseys. Bull No. 432, born Dec. 2, 1915; sire, King's Valet; dam, Derrien's Lassis of L. She produced 604.6 lbs. fat in 351 days at 4 years. Price, $200. Bull No. 491, Oct. 20, 1916. King's Valet-Sunshine of L. 56.9 lbs. fat third month. Price, $100. Records made under dairy conditions at a profit. Service bulls and bull calves with profitable production backing. Prices, $50 and up. Poland-China boar Big Wonder, over 400 lbs., a good breeder, $50. Chester White Swine—boars and gilts.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

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SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of Hampshire Ram Lambs, sired by Walnut Hall and Butterfield; rams purchased at Salt Lake, August, 1916; lambs ready for delivery after July 15, 1917. Inspection and correspondence invited.

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Grow Some Pigs for Uncle Sam.

[By D. O. Lively of San Francisco.]

At the convention of farmers in this city to consider war needs and opportunities (outlined on page 655 of our issue of May 26), D. O. Lively, chairman of the convention, made an opening address emphasizing the importance of farmers looking after their own business as patriotic producers of what the country depends upon for victory in the present war. He also gave a few hints of what can be undertaken at once in the line of food production, as follows:

If results are to be attained this year, no time can be lost. Except on irrigated ground, there is no chance for additional crops. On irrigated ground there is opportunity for some of the grain sorghums, particularly Milo maize and Sudan grass.

If I were made the executor of the $15,000 advanced by the grocers, I would try within the next twenty days to get in touch with the irrigation districts of the State where there is open ground, where grain hay has been cut, and would urge the speedy preparation of the ground in order that one of the quick-maturing kinds of sorghum might be planted. I would ask the press of California to announce that to every farmer who was willing to plant feed and grow it for them there would be sold without profit as many bred sows as he could accommodate on his farm.

According to what I have read, Germany saved herself from an exhaustion of her meat supply by concentrating on the production of swine. Meat and fats were as important as gasoline and powder, and within two years' time the supply of hogs in that country was sufficient to take care of the nation's needs in two leading necessities.

No product of agriculture will turn feed into money so rapidly or so profitably as the growing of swine. This is not a new suggestion or a new practice. A company with which I was connected in Oregon put a plan like this into effect with remarkable success. Carloads of bred sows were brought into the Northwest and distributed to the farmers through the medium of the bankers, who took the farmer's note and charged him 10 per cent. Inasmuch as the least money the farmer made was 40 per cent, the rate of interest was not out of reason. In some instances the returns showed about 300 per cent, and not only did this fill an immediate need but the result has been a fixed part of the agricultural progress of that section.

California agriculture is woefully deficient in animal husbandry. In the last few years a greater part of all the live hogs killed in California came from the Pacific Northwest. It would not take a great amount of the fund to put out these bred sows. The banks can be induced to pay for them when they are delivered and take the farmer's note. With the money received for the first carload another carload can be purchased and the fund originally invested could be made a revolving one until the annual deficit of from twenty-five to thirty millions of dollars which California now sustains in swine production could be effectually wiped out.

Along with the campaign for the growing of grain feeds for livestock and swine on every possible farm in California, there could be carried a propaganda for saving the heifer calves, for the use of purebred sires in beef and dairy cattle, and for a better conservation of the pastures of the State.

Feeds for Pork Production.

[Written for Pacific Rural Press.]

Feeding pigs for pork production is different from feeding them for breeding, according to John F. Myers, formerly field man for the American Berkshire Association. Self-feeders are distinctly economical of labor, and a pig for pork will balance his own feed if allowed free access to each kind separately. Pigs on self-feeders from before weaning will at eight months be eating 90 per cent barley or corn and will be too fat for breeding. Green feed, alfalfa, or grass pasture are eminently desirable and cannot be replaced. But alfalfa hay does as a poor substitute. While the skim milk is 90 per cent water, the 10 per cent of solids are in the most digestible form.

PORK PRODUCTION RATIONS.

In the following table the pigs are supposed to have been weaned when eight weeks old. Where the pigs are on "good" pasture the daily ration may be reduced one-third:

RATION I.

Month Feeding Period	Monthly Mixture Feeds in Pounds			Ration Daily per 100 Pounds Live Weight, Feeds in Pounds	
	Corn	Wheat Middlings	Tankage	Mixture	Water
3rd ...	56	35	9	4.4	12
4th ...	64	26	10	4.5	11
5th ...	70	19	11	4.7	10
6th ...	76	14	10	4.9	9
7th ...	78	14	8	4.7	8
8th ...	Feed full feed of corn as a finish for market.				

RATION II.

Month Feeding Period	Monthly Mixture Feeds in Pounds			Ration Daily per 100 Pounds Live Weight, Feeds in Pounds	
	Corn	Wheat Middlings	Tankage	Mixture	Skim Milk
3rd ...	70	30		3.0	12
4th ...	76	20	4	3.2	12
5th ...	87	8.5	4.5	3.4	11
6th ...	95		5.0	3.7	10
7th ...	100			3.5	10
8th ...	Full feed of corn as finish for market, with 8 to 9 pounds of skim milk daily per 100 pounds of pigs.				

With the above rations, as with all rations, the feeding capacity of the pigs must be taken in consideration and the amount fed daily per pounds live weight must be regulated according to the appetite of the pigs.

Bells Save Sheep from Coyotes.

[Written for Pacific Rural Press.]

A Mendocino sheep rancher who often loses 10 per cent of his flocks by coyotes and dogs tied a cheap bell on each of a lot of sheep last spring, and not one of those with bells on was killed. Another expedient is to tie a red ribbon around their necks. Only one of those so decorated was killed. The coyote seems to chase sheep for fun, biting them in the neck but not eating the carcass. The bells and ribbon seem to have puzzled the animals.

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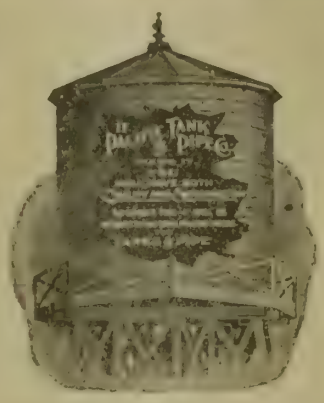

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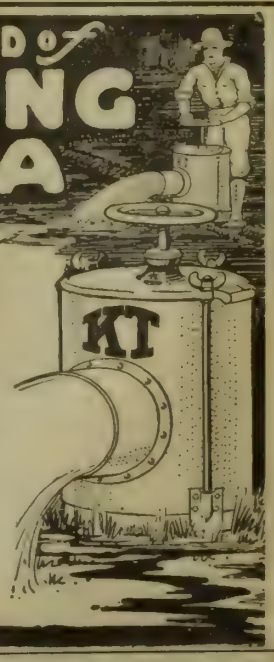

The indications are that all prices will continue to advance, and it will be cheaper to install your irrigation system now than it will be later on. Do not wait until next year to figure out what you would have made if you had acted now.

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VETERINARY QUERIES

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

[Subscribers wishing an immediate reply should send money order for $1.00. No charge for questions answered through this department. Name and address of subscriber must accompany each query.]

Pigs Have Worms.

To the Editor: Last year I tried to hand-raise a litter of eight pigs. One day I noticed that one held its head sideways, another had no control over its gait; some would circle around; a cough was prominent; some would vomit. I only raised three of them. Last week I brought up twelve pigs out of alfalfa pasture. I now notice that they have a similar disease to the one mentioned above. I also notice that a couple of these will stretch out, quiver and paw as if in a fit. This lasts for a minute or two, then they get up again and walk away.—E. B., Hova.

The pigs are infested with worms. Give each a teaspoonful of turpentine diluted in milk once a day for three days.

Mare Aborts.

To the Editor: I have an eight-year-old brood mare that lost her colt at about the eighth month. Think she got kicked. She seems in fine health, but occasionally passes a few spoonfuls of blood, although it is nearly three months since losing her colt. Have heard that they are liable to same trouble in succeeding year at about same stage. Would it be best to skip a year?—P. A., Lodi.

Douche this mare with a one per cent Lugol's solution once a day until discharge ceases, then breed her.

Cow Looks Strange and Grows Thin.

To the Editor: Will you kindly tell me what ails my cow? She does not chew her cud, will not eat hay, but will eat green stuff or a mash. She looks strange out of her eyes. She is growing thin. She was a big milker, but only gives two gallons now.—J. C. L., San Jose.

Give two pounds Epsom Salts dissolved in one gallon warm water.

HOW WILLOUGHBY & SONS HANDLE DUROCS AT CALEXICO.

Hog-raising seems easy on the 200-acre Willoughby ranch at Calexico, where several successful years have been spent raising purebred Durocs. "We do not vaccinate and hope we won't have to," said Mr. Willoughby. "We make every effort to maintain cleanliness on our ranch. The whole ranch is well and neatly and systematically fenced into pastures of about ten acres each. Several sets of farrowing pens or houses are to be seen, also eleven water holes are used on the ranch. The water holes are all boarded up so as to keep the hogs out of the mud and thus keep them and the water clean. Each hole has an inlet and an outlet to the same irrigation ditch for the purpose of filling them with fresh water. About thirty minutes at each irrigation the water is allowed to run through a hole. This avoids silting them up so much as if allowed to run during a whole irrigation.

Through a system of double change portable gates, like fences, several pastures can use the same water hole, also continually be connected to the same set of farrowing pens or creeps. A hog can be let in one pasture and be changed right through to every section of the ranch or any section desired.

A thorough system of rotation of pasture is used. Corn is planted one time, then barley, and perhaps next alfalfa, and so on. The hogs do all the harvesting on this ranch by pasturing. A herd of 100 sheep is used to keep the irrigation ditches clean. These are also fenced.

SILAGE FOR OLD EWES.

Ewes suckling lambs on one of the Timken ranches in Imperial county were fed two or three pounds of Indian corn silage per day per ewe in the cotton fields last winter. They cleaned up only about half of it, but kept in good shape, with lots of milk, and the lambs did well.

On another of their ranches in the Valley, foreman D. D. Elmore figured the old cull ewes had added a pound per day for three weeks, feeding alfalfa hay and milo silage in the proportion of 1 to 3 parts by weight. They tried various proportions. When fed straight silage two died of bloat, possibly due to too much corn.

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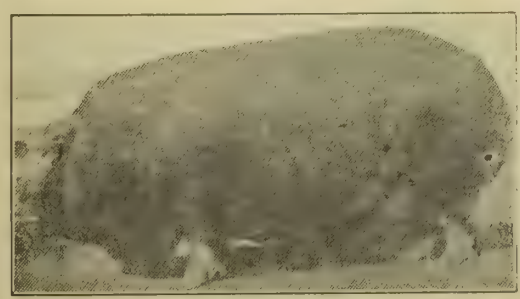
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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

THE MOLTING PERIOD.

There is likely to be a very early molt this year, due to the hot weather. Quite a few are reporting the yards already covered with feathers, and this is a month or more ahead of the regular time for the molt in California. When the molt begins, to any appreciable degree, it is the time to cull the poor layers and feed them for market. While it may be doubtful whether it pays to feed in all cases, there is never any doubt about it if a man has the right kind of feed without putting out much cash. By the right kind of feed I mean, if a cow or two is kept and there is either sour or buttermilk available, and any kind of mill feed, or even grain that can be well soaked in the milk, then the hens will, with low cost feed, put on some high-priced flesh and that will certainly pay. Of course, if the hens have been trap-nested, or Hoganized previously, the owner knows whether or not he wants to sell any of his flock. To sell off a flock of good laying hens just because they commence to molt is not wise, neither is it wise to starve them. The better way is to keep right on feeding as usual, increasing rather than decreasing the animal and mineral feeds. It takes lots of mineral and meat to make new feathers, and the hens will keep on laying until the new feathers are getting quite well advanced, provided the hen is fed sufficient mineral and animal food.

A yearling hen, if fed right, will get through the molt and be back to full laying in about 85 days, and there won't be more than 30 days out of the 85 when she will stop laying entirely. This seems to be a period of rest and recuperation, and is necessary if the hen is to resume the work right after the molt, as we expect her to do.

Now, a two-year-old hen is naturally slower, because she has not got quite the recuperative powers of the younger hen, and sometimes she will be 100 days over the molt, but as in the first case, if she is of a laying type, she will continue to lay, though not so regularly as before the molt, because it is taking some of her food to sustain her through this process of shedding old and growing new feathers. The older the hen the longer time she will require; also the heavier feathered the fowl or breed the longer it takes for the completion of the molt. In all cases I have ever seen there is a complete rest just before the hens resume laying, so that I take it nature knows just what she is doing, and the wise poultryman keeps on feeding his hens just the same as if they were producing. It is the only right way to get hens in good condition for the winter's strain.

BLACKHEAD IN YOUNG TURKEYS.

Blackhead in young turkeys is getting more prevalent, but many young turkeys suffering from indigestion are thought to be afflicted with blackhead. In real blackhead the turk's head assumes a really black color. It usually comes about the time the young turks begin to "shoot the red." All authorities claim there is no recognized cure, but the following mixture has been found helpful: Sulphur, 10 grains; sulphate of iron, 1 grain; sulphate of quinine, 1 grain. This is the dose for one turk weighing from six pounds up, and is made into a pill and given at one dose. It can be repeated several days if necessary but usually improvement or death does its work before many doses are needed.

WHEAT SMUT POISONOUS.

To the Editor: Would like to ask you what is the matter with a flock of White Leghorns that have been laying well all the time until I began feeding my new wheat crop? There is some smut in it. Will the smut do any damage? They have stopped laying, their combs turn black, and one of them died.—O. H., Martinez.

Smut is poison to fowls and will kill more than one unless you can treat the wheat with something. To those that are sick give tannin, 30 grains to 1 fluid ounce of water, or make a tea of white oak bark and put it in their drinking water. I have heard of people soaking smutty wheat in blue vitriol water, but if the wheat is left in the water too long the hens get too much bluestone. Just soak the wheat a short time to kill the smut, then dry it again and feed wheat dry to the hens. I think that will solve your problem.

COPPERAS A TONIC.

To the Editor: Of what value is copperas to laying hens and growing chicks? Is it advisable to put it in the drinking water?—N. W. H., Penn Grove.

Copperas is a tonic. It should only be given when there is a real need for something. Young stock do not need copperas at all, but when hens are laying heavy, or are not doing well, a little—very little—either in water or in mash is useful.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

FEEDS AND FEEDING.

(Continued.)

Continuing our notes last week on the physiological treatment of food, it should be added that from the stomach the food passes to the gizzard, where it comes into contact with a grinding surface—grit. The sharper the grit, the more cutting surface, the better the food is ground and the longer the grit will last. Soft grit is useless.

INTESTINAL DIGESTION.

The small intestine then takes up the food, and, being properly treated, it passes through the tissue to supply the needs of the body. Excretions pass into the large intestine. Some of the necessary food is passed along also, and is absorbed into the body at this point. Passing along the intestines, which in total are five feet long, the material enters into the cæca, two cul-de-sacs extending along the lower end of the large intestine and having but one opening at the lower end; finally it is passed along into the rectum and cloaca.

HARM IN FEEDING EXCESS COMPONENTS.

Proteid.—The carbohydrates enter into the formation of the yolk. This must first be formed and pass along before the rest of the egg may be elaborated. Excess protein awaits the passing of the yolk, but is finally absorbed by the body if the yolks are not formed fast enough to incorporate them into the eggs. Moreover, proteins are rather hard on the digestive system if fed in excess. Where carbohydrates are lacking, the system permits the hen to change protein into carbohydrates, this placing an enormous burden on the digestive and reproductive organs of the fowl. Feeding protein heavily may increase the egg yield temporarily, but the hen will eventually break down. Forced feeding for eggs, by excessive use of proteins, does not pay.

Carbohydrates. — Excess carbohydrates would probably result in the formation of a large number of yolks, which would be passed along, and, there being no material (proteid) at hand to continue the process of egg formation, the yolks so formed would be absorbed in the body.

Chemical analysis of foods shows various percentages of proteids, carbohydrates, fats, fibrous matter, water, etc. The matter of importance in feeding is the amount of these materials which are digestible and available to the animal, of which chemical analysis takes no note, there being no way of telling by chemical analysis how much of any material is digestible. In most feed tables, the total content alone is shown, which is known among feeders as crude matter. For instance, take the protein content of meat scrap, which may be 63 per cent, and only 45 to 50 per cent cent digestible. In working out a ration, always compute from the percentage of digestibility, not chemical analysis.

By feeding pre-determined elements in feed and ascertaining from the passings the various elements present, the percentages of the different proteids, carbohydrates and fats, which are digestible, is computed.

(To be continued.)

UP A STUMP?

Most people in the poultry game are wondering what to feed and how many hens to keep over the coming winter. The cull hens are practically all disposed of, and the hens remaining on the farms are still laying and more than paying for their feed. This means that there will not be an oversupply of old hens the coming fall to be marketed. There is a lot of broilers in storage, but not enough to glut the market. Beef, hogs and sheep products are higher in price this year than ever before; this means the consuming public will buy poultry, thereby using up all the surplus stock.

In regard to feed, the prices are on the downward trend. The coming month will see many changes in the feed market. But in regard to prices we will not venture to quote any for awhile.

Poultry Breeders' Directory

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DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

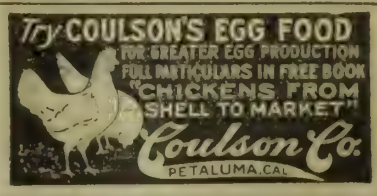
INCUBATORS—For Essex Model Incubators at factory prices, write Geo. H. Croley Co., Inc., Poultry Supplies, 631-637 Brannan st., San Francisco.

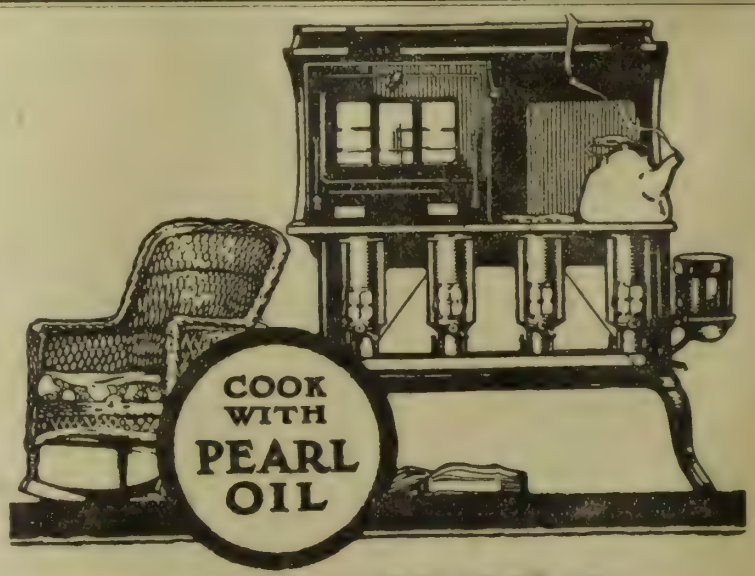
CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks. Fairmead Poultry Farm, Fairmead, Cal.

BRONZE TURKEYS — Albert M. Hart, Clements, Cal.





LESS WORK

No coal, wood or ashes to lug. No waiting for the fire to burn up.
Meals in a jiffy and a cool kitchen all the time.
Bakes, broils, roasts, toasts. Better cooking because of the steady, evenly-distributed heat.
More convenient than a wood or coal stove for all the year 'round cooking, and more economical.
The long blue chimneys prevent all smoke and smell.

In 1, 2, 3 and 4 burner sizes, with or without ovens. Also cabinet models. Ask your dealer today.

NEW PERFECTION OIL COOK-STOVE

STANDARD OIL COMPANY
(California)

THAT GREEN FEED PROBLEM.

Green feed, the succulent kind, is relished by fowls and without it the maximum results are not obtained. Some poultrymen make green feed fully one-third of their ration. It is obvious that if a lot of greens are fed the hens may not eat less grain, but more eggs are gathered and the general health of the flock better. We have never had better results than when a lot of kale, mangels and tender sprouted grain were fed. The method of sprouting grain outlined by Mrs. Swaysgood a few weeks ago is a most excellent one. If you have not tried it do so.

KEEP YOUR GOOD HENS.

The Sperry Flour Co., of Stockton, is sending out a well-written circular, advising poultrymen to keep their good hens. The company claims that it is good patriotism to produce eggs and good business also, as the profit will be greater in the business this year than last. Send for a copy of the circular.

Daylight Route—

Lake Tahoe

Leave San Francisco (Key Route Ferry Depot) in the morning at 7:20—arrive at the Lake in the evening at 6:00—a most delightful and scenic ride direct to Lake Resorts.

O. A. & E. Ry. electric trains to Sacramento and Pierce-Arrow Auto Stage to Lake.

DESCRIPTIVE FOLDER FURNISHED ON REQUEST.

Oakland, Antioch & Eastern Railway

L. H. Rodebaugh, Traffic Manager, Oakland, Cal.

CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

Saving Stuff and Wasting Time.

To the Editor: I particularly like the advice given in the Press because it always takes into consideration the amount of work involved. Along with the rest of the housewives of the country, I have been trying especially hard to avoid waste in these days and have been reading a great deal upon the subject, but I have yet to read anything where the amount of labor involved is taken into consideration, and we housekeepers and mothers have to think of our labor. We would gladly utilize every ounce of left-overs if time and strength were without limit.—Mrs. F. M. F., Lompoc.

Our Best Fool-Article So Far!

To the Editor: I have read many foolish articles in farm papers, but the "Boost for the Coyote" takes the cake. Presumably it must express your sentiments or you wouldn't print it without comment.

The fruit producers seem determined to lay all the taxes on the stockman and give him nothing in return. The stockman's money, collected from large acreage, builds fine roads for the fruit from a small acreage to be hauled over. Fruit lands can be fenced against rabbits without raising the percentage of value per acre very much, but the thousands of acres of rough, cheap lands used for sheep and goats cannot be fenced against coyotes, except at prohibitive cost. I could name a dozen people in this district who have been driven out of the goat business by coyotes, and while mutton soars in price thousands of acres lay idle for that reason. My small band of 300 goats costs me from $200 to $300 yearly from coyote losses and expenses, and I would keep 1,000 head instead of 300 if it were not for the coyote. Incidentally, rabbits and squirrels swarm here, with coyotes on all sides. If the stockman is to be encouraged, it is up to papers like the Rural Press to urge the fight against such vermin, instead of printing such balderdash.—Moulton Warner, Cool.

Wants a New Deal for Farmers.

To the Editor: The farmer is blamed for paying low wages and furnishing poor accommodations for his help. The most of the small farmers do the best they can in remunerating their help and housing them. The fact is they are so unmercifully robbed and exploited on all they sell and all they buy that even the low wages of the farm laborer is more than they have left at the end of the year's work.

The economic conditions under which we live and the social system that governs us are so out of harmony with science, common sense and justice and are so wasteful of human energy and the resources of nature that it is no wonder that it is resulting in want and confusion. Our system of distribution must be radically changed. When the farmer only gets 40 per cent of the retail cost of potatoes, as was shown in San Francisco last winter, there surely is something radically wrong. When you consider that the farmer stands for all the cost of production, does all the hard labor and takes all the chances of the weather and seasons, and then gets less than half what the consumer pays for his product, are we not justified in demanding a greater measure of justice? We all follow the same law, the law of least resistance. Why rail at speculators when you make conditions that enable some to make wealth easier by speculation than by honest production? This great war, if it does no other good, will teach us that it is not such a hard matter to so change our laws and customs so that no one can get something for nothing. This, then, is the heart of the matter. The province of good government is to make it easy to do right and hard to do wrong, so I would say: Stop all land speculation; give all a chance to get back to the land who wish; cut out all unnecessary expense in distribution and give the producer as near as possible the full product of his labor. When you do this you will not have to bother about minimum or maximum prices or how to get the people back to the land. This also would force a great variety of parasites out of our cities, where they would learn what it is to make an honest living. The Commission on Colonization tells us that in some cases the land was bought for $18 per acre and sold to the farmers for an average of $150 per acre. The result is that very many have lost their hard earnings and have no hope of ever being able to pay out on their poor homes. It is impossible for them to respond to their Government's call for greater production, for they are handicapped in every way. They are handicapped by over-valuation of land; by interest payments; by lack of stock and lack of the proper tools and implements for land cultivation. This system of exploitation is impoverishing the masses. It answers the question, Why have have we so many idle men and idle acres?—R. Gilhousen, Chowchilla.

FIRE DAMAGE AND ITS PREVENTION

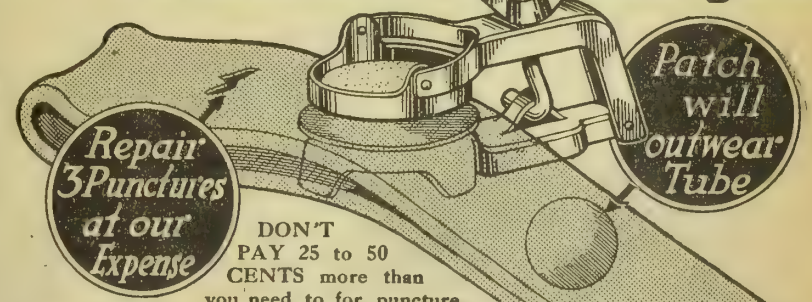
Numerous disastrous fires have broken out in various parts of rural California since the dry season set in; and while it has been intimated that some are of incendiary origin, others are doubtless the result of carelessness and accident. The following precautions are urged upon farmers that such fire losses may be prevented or lessened:

"Farmers are advised that all equipment useful for fire fighting, such as plows, tractors, water wagons, etc., should at all times be ready for instant use. A fully equipped water wagon following a harvester, especially where tractors are used, is recommended. Old sacks should be saved, as wet sacks are very useful in putting out grain fires.

Cutting a strip of grain of from 35 to 40 feet in width for hay and then plowing the strip is very effective both in safeguarding against as well as preventing the spread of fire. Large areas of grain should be similarly safeguarded so that at least every 200 acres will have this protection.

Those living or traveling in brush regions are cautioned never to leave their camp fires even for a time without extinguishing them. Other precautions against fire in the woods are the stamping out of glowing matches or burning tobacco and the refraining from building camp fires against logs or trees, in needles or leaves, or the building of large fires in windy weather."

Save 90¢ of every $1.00 Punctures cost you



DON'T PAY 25 to 50 CENTS more than you need to for puncture repairs. Don't put up with make-shift repairs that cost you twice as much in the long run. Punctures are sure to come. Get ready *now* to fix that next one right—to put on a patch the *quickest, surest, cheapest way* you can ever find—with

MARVEL JR. VULCANIZER OUTFIT COMPLETE $1

MORE THAN 500,000 NOW IN USE

REPAIR THREE PUNCTURES AT OUR EXPENSE

Buy *Marvel Jr.* today. *Use it for three repairs.* If it isn't absolutely satisfactory—If you aren't fully convinced it is worth ten times more than your money—send it back. We'll return your $1.00 gladly—no argument—no delay.

Remember—material for six complete puncture repairs comes with the *Marvel Jr.* Everything furnished ready to use. Enough material furnished *free* to *more than pay for the entire outfit!* And our money-back guarantee on every bit of it.

Don't wait longer—don't spend a single cent more of money *Marvel Jr.* will save you on repairs. Buy from your dealer or pin a dollar bill to the coupon and send it in *now.*

Double Your Tire Mileage with Marvel Sr. Vulcanizer

Save $1.00 to $2.00 on every casing repair. Fix tread cuts, sand blisters etc., without taking tire off wheel. Repair tube blow outs better than new. Material furnished *free* for *large number* of repairs. Outfit complete only $2.00.

THE MARVEL ACCESSORIES MFG. CO.
7281 St. Clair Avenue, Cleveland, O.

MAIL THIS COUPON NOW!!

THE MARVEL ACCESSORIES MFG. CO.
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According to your money back guarantee send me one Marvel Jr. Vulcanizer outfit all charges prepaid. I enclose $1.00 herewith. ($2.00 for Marvel Sr. Vulcanizer outfit.

Name_____

Address_____

State_____

Dealer's Name_____

Mrs. Best's Letter.

FURS AND FASHIONS.

My Dear Friends: If any of you own furs that you do not feel competent to protect against moths, you will be interested to know that a number of fur houses in the city make a regular business of storing furs in dry cold storage vaults. In these vaults the temperature is kept below freezing, which is an absolute safeguard against the ravages of the moth. The charge for this storage is based on the value of the article, and that includes a thorough cleaning as well. The charges range from 75 cents up—75 cents being the minimum charge on articles not exceeding $25 in value. As the articles increase in value, the charge is proportionately more, for you are fully insured against theft, fire and damage. All of these houses do remodeling and relining of furs and at this time of year they make "summer prices" that are much less than the regular charges.

The coats for fall are being shown in some of the shops and so far they seem quite similar in style to the preceding season. The materials are Bolivia cloth and duvetyn and soft broadcloth. Some of them have the large square collar of fur, while others depend upon the beauty of the material for their attractiveness. The colors are plum, green, brown and blue, with an occasional one of rose or bright yellow. All of them have pretty linings, many of them flowered.

The newest coat for auto use is made of suede in tones of gray and brown, one very luxurious one having a broad band of fur around the bottom, as well as on the cuffs and collar. These garments are very advanced styles for fall, for most of us are still absorbed in summer clothes, for the vacation season is right with us.

I saw some very pretty crepe dresses in one shop in soft shades of blue and pink, as well as white. The skirts would be good looking separate skirts and the waists were middy blouses with collar and cuffs of contrasting materials. They were belted, with fancy pockets, and were very attractive looking and the price was less than $4. They would be ideal for vacation wear and would make good looking house dresses, too. Nearly all the stores are having sweater sales—the fibre silk sweater in all the popular shades, with sash and pockets, being offered at one good store for $5.35. These garments have been double in price. One of the newest models in sweaters is the sleeveless type. These are made of soft Shetland wool and slip on over the head with a V neck. The neck and sleeves are finished with a more closely knitted band. These sweaters have sashes that are wound around the waist twice with the ends hanging and come in rose, green, yellow, blue and all the soft shades.

The military note is shown in some of the new helmet style sport hats. These are of beaver, very tailored and would be very trying to most faces.

The high necked waists seem to be gaining in popularity, especially for street wear, although you see many, many open necked ones, too. The high necked collars should be boned unless you have a wonderfully slim, round neck, for their beauty is in their staying well up around the throat. ROSABELLA BEST.

THE HOME CIRCLE

PRESERVATION OF VEGETABLES.

Vegetables can be preserved more cheaply than in cans or jars and more simply, for household use, than by drying, by the use of salt and lactic acid. To preserve in brine, wash and slice the vegetables and place in either wooden vessels or crocks. Metal vessels must not be used. The brine is made by mixing 3½ to 4 pounds of salt to each gallon of water. The water will not dissolve all of this salt, but the juices of the vegetables will dissolve the excess. The vegetables must be kept well covered with the liquid, using some cover that will not be affected by the brine. To preserve in salt, prepare and weigh the vegetables and to each 2 pounds of vegetables use 1 pound of salt. Place in crock or barrel alternate layers of salt and vegetables, finishing with a good layer of salt. Cover with a weighted cover and in a few days the shrinkage will permit of the addition of more vegetables. These methods are suitable for most root vegetables, string beans, cabbage and cucumbers. These vegetables must be well soaked to free them from salt before preparing for the table.

To preserve by fermentation, prepare the vegetables as above and mix with salt at the rate of ¼ to ½ pound of salt to 10 pounds of vegetables. Pack solidly in deep crock or barrel and weight down the cover. If kept in a warm room, a gaseous fermentation takes place and continues for several weeks. This fermentation produces lactic acid, which preserves the vegetables. When the fermentation is over, drain off the liquid and replace with a brine containing ¼ pound of salt to 1 gallon of water. In this they will keep in good condition if well protected from the air.

JELLY MAKING.

There need be no uncertainty about making jelly of good quality if a few points are observed and some simple tests made. After the fruit has been boiled and the texture broken down, it should be poured into a jelly bag and permitted to drain for a considerable time. Forcing the juice from the pulp will cause cloudy jelly. When the juice has been collected, place two teaspoons of the unboiled, unsweetened juice in two teaspoonfuls of grain alcohol and stir until well mixed. Allow to settle for half an hour, preferably in a glass. If a jelly like substance collects in the bottom of the mixture, it is evidence that pectin is present and the juice suitable for jelly making. When the test shows absence of pectin, the white portion of orange peel, apples or green citron melon may be added to the juice to supply the necessary pectin. Twelve ounces of sugar added to a pint of juice will make a jelly of the proper firmness and texture. Jelly is ready to be poured into the glasses when two rows of drops form on the end of the paddle or on the edge of a spoon held sidewise.

CORNMEAL AS A FOOD.

As a substitute for wheat breakfast foods, try white or yellow cornmeal or hominy grits served either with cream and sugar or with stewed or fresh fruit. As a substitute for toast or biscuits, try hoe cake, spoon corn bread, hominy bread or Boston brown bread. Wheat cakes may be supplanted by fried cornmeal mush, fried hominy or cornmeal pancakes. Cornmeal codfish cakes, cornmeal scrapple or croquettes or cornmeal cooked with meat, fish, cheese or eggs supply nourishing dishes. For dessert, Indian pudding, cornmeal and fig or apple pudding contribute variety as well as nourishment.

YOUR Opportunity!

The Greatest and Most Wonderful Home Furnishing Opportunity You Have Ever Had Presented to You Is Now Here In

Barker Bros.' Great Annual Sale of Furniture and Home Furnishings!

More than $1,250,000.00 worth of Dependable Home-Furnishing Merchandise, Embracing Almost Every Department and Nearly Every Line in Our Immense and Complete Stock.

—Your Chance to Get Up to Half as Much Again—and in Many Cases Even More—for Every Dollar You Invest.

Out-of-town home-furnishers may take advantage of this sale through our MAIL ORDER DEPARTMENT, who will pick for you the very best values and make your buying as satisfactory as if you visited our store in person.

—Remember, We Pay the Freight 250 Miles on Any Shipment and Make Liberal Allowance for Greater Distances.

—IMPORTANT—Send for our 48 page Book of Draperies, Floor Coverings, etc. Also our New Mid-Summer "Keep Cool" Issue of Good Furniture News, just out. A Post Card Request Will Bring These to you Promptly Without Cost.

Complete Home Furnishers

Barker Bros. ESTABLISHED-1880

Home Beautifiers

724-738 South Broadway, Los Angeles

Good Health.

[By H. E. Pastor, M. D.]

Thwarting the Malaria-Bearing Mosquito.

Mosquitoes are a terrific pest and the principal source of malarial disease along the river and creek bottom lands and in the marshy districts of California. True, they are found elsewhere, but they are especially troublesome along the river courses and on low, marshy lands. That they are active agents in the causation of malarial illness is too well established to call for discussion. The real question, then, is how to prevent malaria by suppressing the mosquito, or, as an alternative to the suppression of the pest, protecting one's self from his malaria-breeding bite. Only concerted and persistent action, intelligently directed, can suppress the mosquito in any neighborhood, and this only by wiping out the mosquito's breeding places, as was done, for instance, on the Canal Zone, under direction of Colonel Goethals. In most cases this happy result seems impracticable of attainment at least, it is not generally done.

The next best thing, then, is for each fellow to protect himself and his dependents by keeping the mosquito at a respectable distance, which may be done by using suitable screening. The malaria-bearing mosquito (the female always, we are told, which is after blood which stimulates ovulation) will get access to the house through any aperture, though the three principal openings are, of course, the doors, windows and the veranda. These should be all well screened in any infested district. The best form of screen is wire netting. No. 16 mesh seems to about fill the bill, this having 16 meshes to the linear inch, and is thought to be the largest mesh compatible with the exclusion of the mosquito. Other openings of the house should be closed as ingenuity suggests. When mosquitoes cannot be entirely excluded, beds may be protected by mosquito bars made of moderately fine bobinet. These should not go outside the bedstead and should be tucked under the mattress.

Although screening as suggested here may cost the mosquito-besieged victim some money, it is far cheaper than doctor bills and loss of time resulting from illness, to say nothing of the comfort experienced in relief from the merciless attacks of this insect fiend.

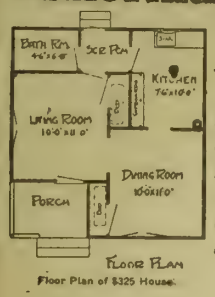
The Value of Fruit Acids in Summer.

Fruits, both of the acid and subacid variety, should enter freely into our dietary at this season of the year. It is a common belief that the principal value of fruit acids is to render aseptic the stomach and the alimentary tract and to stimulate the activity of the liver. It has been claimed lately that research work shows that fruit acids have a nutritive value also equal to about 50 per cent of starch. Besides acting as disinfectants, fruit acids promote bowel movement and thus tend to relieve intestinal torpor. They are cooling to the blood, and, while originally acids, become alkalis as a result of oxidation and new chemical combinations formed in the system, and therefore do not acidify the blood current as do mineral acids. They ameliorate the symptoms of gout

All the Lumber, Roofing, Millwork, Hardware and paint for constructing

Ready-Cut Materials of the best grade obtainable are delivered CUT-TO-FIT, all waste eliminated.

this California House for $325



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ROOM 4
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The STEPHENSON Patent Cooler

No Ice Required

Perfect Ventilation
Absolutely Sanitary

Awarded first prize wherever exhibited. If not for sale at your dealer's, write for particulars and prices.

L. Anderson Co., Mfrs.
MARTINEZ, CAL.

PREPARE For the ANNUAL INVASION

KELLOGG'S ANT PASTE
MAKES ANTS DISAPPEAR
25¢ AT ALL DRUGGISTS

and rheumatism, if they do not cure them. Eat more fruits and vegetables and less meats, fats and eggs during the summer season.

A Few Facts About Fats.

There is much curiosity manifest among the studious laity as to the value of the various table fats in regard to their digestibility and nutritive worth. Fats which are the most digestible are not always the most palatable, though, generally speaking, palatability and digestibility go hand in hand. Of the vegetable fats olive oil and cottonseed oil are perhaps the most common. As between the two there is little difference in the amount of nourishment furnished. While there exists a prejudice against cottonseed oil, it is based mainly on the fact that its flavor is much inferior to that of olive oil. Olive oil should be used more generally than it is among our non-Italian populations, for, besides its delicious flavor, it serves the purpose of lessening the amount of acid elaborated in the stomach, and gastric hyperacidity is something to be avoided. Undoubtedly the most desirable of the fats, as regards its appetizing qualities and digestibility combined, is cream and its ultimate product, butter. As between cream and butter, cream is both more appetizing and more digestible. The reason we do not use the fat of cow's milk in the form of cream instead of in the form of butter is that it is less wieldy in its semi-fluid and unconcentrated form and more liable to putrefaction. Who, for example, would be satisfied to substitute butter for cream in his coffee, or on his strawberries, or on his dish of cereal mush. The fat of milk is the fat nature prepared primarily for nourishment of the human animal, and nature makes few mistakes.

DRIED VEGETABLES.

Many vegetables can be dried successfully, thus making them available for winter use. The following method is good for turnips, carrots, beets, potatoes and other similar root vegetables. Peel or scrape the roots and cut into slices ¼ to ⅜ of an inch thick and spread on wooden trays. Expose the sliced vegetables on the trays to the fumes of burning sulphur. An ordinary sulphur box used in drying fruits can be used. These vegetables can be dried without sulphuring, but the color, flavor and keeping qualities are not so good. Two or three days in the sun in warm weather is sufficient to dry them. After thoroughly dry, they should be stored in stone jars or heavy sacks, to protect them from insects. If they become infested, the insects may be killed by heating the dry vegetables in an oven for five minutes.

One quart cooked hominy; put in baking dish alternate layers of hominy and bread crumbs, a little onion to flavor, butter and salt, having a layer of crumbs on top. Pour over it rich milk to almost cover and bake for half an hour. This makes a good meat substitute.

Modernize your home by having the Infallible Closet installed.

The **Infallible** is a sturdy, well constructed closet that will give years of service without the annoyance of constant repairs.

While it possesses all the good mechanical features that a closet should have, large factory production makes it possible to sell the **Infallible** at a very moderate price.

Like all the "Pacific" line it is guaranteed forever against any defects in workmanship or materials.

Write for folder, No. 2, which contains complete information about the Infallible Closet.

"Pacific"

PLUMBING FIXTURES

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Main Office
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this can CUTS table COSTS

in more than a million homes in the West. Yours should be among them.

You'll find a "rounded" spoon of Ghirardelli's Ground Chocolate is equal in chocolate strength to the "heaping" spoon of others.

A cup of Ghirardelli's for breakfast will do more than please the taste—it **nourishes**—enables you to do away with more expensive foods.

Tomorrow try a sensible breakfast—a cup of

Ghirardelli's Ground Chocolate

Since 1852 D. GHIRARDELLI CO. San Francisco

DEATH AWAITS ALL: FEW MAY MAKE IT A PUBLIC SERVICE.

"To the peace advocates the soldier is always a man going to slaughter his neighbors; to his countrymen he is a man going to lose his life for their sake—that is, to perform the loftiest act of devotion of which a human being is capable. The prospect of death awaits every man, but only a few are fortunate enough to make it significant, as a means of service and of moral regeneration."

Specialists in Specimen Stock for Landscape Work.

Hardy Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.

WRITE FOR PRICES

COTTAGE GARDENS NURSERIES, INC.
EUREKA, CALIFORNIA

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, July 11, 1917.

WHEAT.

Some samples of new crop wheat have been shown on change, and holders are asking for offers. For a sample of Sonora $3.80 was offered, subject to immediate acceptance, evidence that market is weak here in spite of Chicago's advances. There seems to be no ground for the quotations appearing in the daily press of $3.60@3.75 for Sonora. In the absence of transactions of any magnitude, last week's quotations will stand.

Sonora wheat	None offered
Northern Club	None offered
California Club, per ctl.	None offered
Northern Bluestem	$4.75@4.80
Northern Red	4.55@4.60
Russian Red	Nominal

BARLEY.

Very little barley coming in and Tuesday's and Wednesday's call board was bare of trading. Feed barley is unaffected by action of Congress regarding the prohibition of the use of grain for alcoholic beverages, but prices are weak at market quotations. Interest in this grain will be stimulated by heavier receipts.

Shipping, per ctl.	Nominal
Brewing	Nominal
Choice Feed, per ctl.	$2.05@2.20

OATS.

Some lots of red feed have been offered, but of inferior quality, being light weight. Holders are asking $2.15@2.25, with several minor sales made at those figures. The season's crop is turning out in fairly good volume, but quality has not been ascertained. White seed is weaker and shows a decline.

White Feed, per ctl.	$2.40@2.50
Red Feed, per ctl.	2.15@2.25

BEANS.

Buying is extremely light and buyers throughout the country are merely purchasing for immediate needs. While stocks are light, there seems to be sufficient for immediate requirements. Market is declining, especially on bayos, large whites, pinks and limas. Crop prospects generally are good and acreage very large. As usual at this time of year, there are reports from many districts that growing crops are not looking as well as they should.

Bayos, per ctl.	$ 9.75@10.25
Blackeyes	8.75@ 9.25
Cranberry beans	11.50@12.00
Horse beans	4.00@ 4.50
Small whites (south)	14.50@15.00
Large whites	14.00@15.00
Pinks	10.00@10.25
Limas (south, recleaned)	11.75@12.00
Red kidney	13.50@14.50
Mexican reds	10.00@10.50
Tepary beans	None offered
Garbanzos	$6.25@6.50

CORN.

No Eastern corn offered here, Eastern stocks being held in anticipation of advances. California stocks are pretty well cleaned up, and what is offering in the market is of inferior grade. Hardly any trading on which to base values.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, per ctl., bulk	$3.30@3.40
California, sacked	3.30@3.35
Milo Maize	None offered
Egyptian	$3.40@3.50

HAY.

Receipts of hay for the week were 1520 tons, a decline of nearly 500 tons from the previous week. The falling off has been principally due to the extreme heat throughout the interior, labor conditions being such that it is difficult to get men to handle crops during abnormally hot weather. In addition to this, the car situation has not been satisfactory. Buying throughout the country has only been done in a small way, and it is claimed that some farmers are lowering their prices to a certain extent. This should have its effect and buying of hay should soon become more pronounced. Consumers here seem to be holding off for lower prices. Demand from the country is also slack, many districts that bought hay last year now having a surplus to ship. Practically no hay moving for export; and, were it not for a few Government contracts placed earlier, there would be very little doing here. Fancy wheat hay in light bales is scarce, and the few arrivals have been sold at top quotations; but it is difficult to realize top figures for any other grade and market is easy with lower range of prices.

Wheat, No. 1	19.00@19.50
No. 2	17.50@18.00
Tame oats	19.00
Wild oats	14.00@16.00
Barley	15.00@16.50
Alfalfa, new, first cut	14.00@15.50
Stock hay, new	10.50@12.00
Straw, per bale	1.00@ 1.10

FEEDSTUFFS.

There is more inquiry for alfalfa meal than for any other line. Egg producers are feeding alfalfa meal, together with other foods cheaper than grain. Oilcake and coconut cake and meal have more inquiry than most other lines.

(Per ton, San Francisco.)

Beet Pulp, per ton	$38.00@40.00
Alfalfa meal, per ton	30.00@32.00
Bran, per ton	36.00@38.00
Oilcake	50.00@55.00
Coconut cake or meal	38.00@39.00
Cracked corn	72.00@73.00
Middlings	49.00@50.00
Rolled barley	45.00@46.00
Tankage	None offered
Rolled oats	$53.00@54.00
Rice middlings	None offered
Rice bran	$30.00@33.00
Shorts	43.00@45.00

POTATOES, ONIONS, ETC.

Sacramento, river tomatoes occupy more attention than other lines and command higher figures this week. This will continue until the Alameda county crop arrives. Lettuce can hardly be quoted, as Italian gardens in this vicinity are now supplying the market. Potatoes have weakened in the face of liberal supplies and very little shipping. Some late arrivals are not of first grade quality and are small. Onions extremely weak, with no avenue open for the disposal of surplus stocks arriving. Quotations on onions are unreliable and are liable to change from day to day.

Asparagus, per box	$1.50@2.00
Peas, per lb.	2@3c
String beans, per lb.	2@4c
Wax beans, per lb.	2@5c
Hubbard squash, per lb.	None
Summer squash, per box	$1.25@1.50
Cucumbers, per box	65c@$1.00
Celery, per crate	$1.00@1.50
Tomatoes, per crate	50c@$1.00
Sacramento river	$2.00
Potatoes, Salinas	Cleaned up
Oregon	None
New, per ctl.	$2.00@2.50
Sweets, per lb.	None offered
Onions, yellow, per sack	50@90c
Garlic, per lb.	2½@3½c

POULTRY.

There was increased activity in the poultry market Wednesday, and local sales were numerous. Receipts of domestic stock have been large during the week, with no Eastern stocks arriving. Quotations on some lines were too high, and the changes this week do not indicate any weakness in the market. As a rule, values are well maintained by an active demand, except in the case of ducks, which have declined rather sharply.

Turkeys, live, lb.	Nominal
do, dressed, large, lb.	Nominal
Broilers, 1½ to 2 lbs.	25@26c
do, under 1 lb.	23@24c
do, 1¼ lbs.	23@24c
Fryers	27@28c
Hens, extra, per lb., colored	21@25c
Small leghorn	17@18c
Smooth young roosters, per lb. (3 lbs. and over)	30c
Old roosters, per lb.	12@14c
Geese, per lb.	19@20c
Squabs, per doz.	$2.50@3.00
Ducks	15@18c
Old	12½c
Belgian Hares (live)	14@15c

BUTTER.

The market advanced one-half a cent on prime firsts Wednesday, remaining firm at the previous days quotation on extras. Plenty of stock is arriving and local trading is rather slow. Yet, incoming stocks are being absorbed all the time with no one, apparently, doing any shipping. This points to considerable storing on the part of receivers; and as the surplus is kept off the market, prices are firm, with no indication of a tendency either up or down.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	36	36	36	36½	37	37
Prime firsts	35½	35½	35½	36	36	36½

EGGS.

Eggs have advanced all along the line, the upward trend having been maintained all the week. Receipts ahe considerably heavier than they were at this time last year. Speculators are putting stocks in storage, taking advantage of the thirty-day limit to bring them out as fresh and dispose of them on a rising market, although some dealers are cautious about extending operations.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	33	33	33	33½	34	34½
Extra firsts	32½	32	32½	32	33	34
Extra pullets	30½	30½	30½	31	32	32
Ex. firsts pul.	28	29	29½	29½	30	31

CHEESE.

The action of the British Government a week ago in establishing prices of Canadian cheese on a lower basis has been reflected in this market, which is somewhat depressed. Young Americas have dropped 2 cents and California flats are weak at quoted values. Jacks are completely demoralized, and prices range from 8 cents to 18 for full cream, with slack demand.

Y. A.'s	22c
Fancy Calif. Flats, per lb.	19½c
Monterey cheese	8@18c

DECIDUOUS FRUITS.

Sugar and Bartlett pears arrive sparsely as yet, selling as high as $2. Apples, being more plentiful, have declined 50 cents. Currants no longer reach the $5.50 mark. Brawley cantaloupes are coming in. Nine cars are expected tomorrow, which may have a downward effect on this market. Figs are plentiful; but, owing to the demand for the dried article, are not likely to arrive in sufficient quantities to depress values.

Apples, per box	75c@$1.50
Pears, per box	75c@$2.00
Cantaloupes, per crate	$1.25@1.75
Currants, per chest	3.50@4.50
Cherries, bulk, per lb.	4@7c
Royal Anne, per lb.	6@7c
Apricots, per crate	50c@$1.00
Peaches, per crate	50@75c
Figs, per box	50c@$1.00
Plums, crates	50c@$1.00
Watermelons, per lb.	2¼@2½c

CITRUS FRUITS.

Navels are off the market now; and Valencias, owing to the great demand from interior points, have advanced, and choice are now selling as high as fancy did a week ago. Lemons seem to have reached the peak, but with no evidences of decline, as the demand for all kinds of citrus fruits is lively, and increasing.

Oranges:	
Valencias, fancy	$3.50@3.75
Valencias, choice	3.25
Lemons:	
Fancy, per box	$6.00@6.50
Choice	5.25@5.75
Standard	3.75@4.00
Lemonettes	3.25@3.50
Grapefruit, fancy	3.00@3.25

DRIED FRUITS.

So little trading is being done in dried fruits that there is little comment to make. All prices have been held firmly in the small transactions occurring. Some buyers bought prunes at 7½ cents before the Association established the base price of 6 cents. It was a speculation the issue of which cannot as yet be foreseen. Dried figs are expected to be more popular this year than before. The California Prune and Apricot Association met Tuesday and fixed its apricot prices for November 1st delivery on a bulk basis as follows: Standard, 13¾ cents; choice, 14 cents; extra choice, 15 cents; fancy, 16 cents; extra fancy, 17 cents; fancy Moorpark, 17 cents, and extra fancy Moorpark, 18 cents.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop	9@9¾c
Apricots, per lb.	16¼@16⅝c
Figs, black, 1916	8c
do, 1917	5¾@ 6¼c
do, white, 1917	6 @ 6½c
Calimyrna, 1917	9 @10 c
Prunes, 4-size basis, 1917	6¾@ 7¼c
Prunes, 1916	8¼@ 9 c
Pears	8 @10 c
Peaches, 1917	8½@ 9½c

BERRIES.

Berries have revived a little in quality, and straws hold their own well. Blackberries are now sold by the chest and fetch $5 to $6. Raspberries are cheaper, but Logans have an upward tendency, with an advance Tuesday of $1 a chest.

Strawberries, per chest	$8.00@9.00
Longworths	7.00@9.00
Blackberries, per chest	5.00@6.00
Raspberries, per chest	8.00@9.00
Loganberries, per chest	5.00@6.00
Gooseberries, per lb.	6@7c

LOS ANGELES.

Los Angeles, July 10, 1917.

BUTTER.

Receipts of week ending July 10....343,390
Receipts of same week last year....290,770

A steady and rather firm market was had the past week. The demand, however, was not urgent, 51,424 pounds being received into cold storage for the week ending July 5 as against 18,161 pounds the same week last year. Still the holdings in cold storage are 41,410 pounds lighter than this time last year. The improvement in outside markets enabled holders to maintain a steady and firm market here in the face of good receipts and fair demand. Some butter is still being taken by outside trade, though shipping demand was not heavy. Tuesday with San Francisco higher and Chicago and New York up, caused buyers on call to bid extra up 1c, and even at this advance there were no sellers.

We quote:

California extra creamery	38c
Prime first	37c
First	36c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	37	37	37	37	37	38
1916—						
Extra	26	26	26	26	26	26

EGGS.

Receipts (railroads) for week ending July 10, 1917, 2,397 cases.

Receipts (railroads) for week ending July 10, 1916, 2,331 cases.

There was a decidedly stronger tone to this market the past week. A very good demand was had from the street trade and there was a noticeably dropping off in the receipts. This encouraged buying and a fair number of eggs were put into cold storage, the feeling being that with the molting season at hand and the stocks of eggs in cold storage throughout the country lighter than this time last year and the number of hens having been reduced materially, promising a lighter production. An advance of 2c all around was made up to Monday. There was taken into cold storage, for the week ending July 5, 3,419 cases against 1,738 cases the same time last year. Quite a number of cases of extras were sold at 37c and pullets brought 33½c.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	35	35	36	36	37	37
Case count	34	34	35	35	36	36
Pullets	31	31	32½	32½	33½	33½
1916—						
Case count	24	24	25	26	26	26

POULTRY.

There was a stronger market and better demand the past week for most offerings. A dropping off in the receipts and picking up in the demand caused an advance both in broilers and light hens. Fryers and heavy hens steady and firm, both selling well. Ducks meeting with fair demand; turkeys dull as usual this time of year.

We quote from growers:

Broilers, 1¼ to 2 lbs.	21@22c
Fryers, 2½ to 3 lbs.	22c
Hens over 4 lbs.	20c
Hens under 4 lbs.	13@14c
Ducks	16c
Geese	15c
Roosters, 3 lbs. up (soft bones)	25c
Turkeys, heavy, 12 lbs. and up	29@30c
Turkeys, light	24@25c
Squabs, live, per doz.	$1.50@3.00
Dressed	3.75@4.85

HAY.

There is nothing new to note in this market from a week ago. Receipts were better and buyers, under the influence of increased supply, held back and bought sparingly, taking only lots for immediate use. Prices, while weak, however, were not quotably lower. Receipts 164 cars.

We quote f. o. b. Los Angeles:

Barley hay, ton	$19.00@21.00
Oat hay, ton	20.00@22.00
Alfalfa, northern, per ton	16.00@17.00
Alfalfa, local, ton	18.00@19.00
Straw, ton	9.00@10.00

VEGETABLES.

A fair demand was had for all good

Special Citrus Market Report

Los Angeles, July 10, 1917.

Shipments of citrus fruits from Southern California from November 1 to July 8: Oranges 32,708 cars, lemons 6227 cars. Same time last year: Oranges 25,597 cars, lemons 5009 cars.

A fairly active and rather firm market was had at the East for all good oranges the past week. Valencias now control the market and showed most strength. What navels now going forward being the tail end of the crop. Locally the situation remains much the same as a week ago. Too much deciduous fruit now on the market for the good of the orange trade. Nice, highly colored, large size oranges met with a fair demand, but all others dull. Prices unchanged. Packers still paying 1½@2c per pound for Valencias in the grove picked. Grapefruit very quiet but unchanged. Lemons dull, even the best of them selling slow. The Eastern markets were quiet and lower, the weather there being too cold for a free movement in them. The market here showed more or less sympathy with the Eastern situation. Buyers taking hold less freely than a week ago. Prices, however, were unchanged. Packers paying 1½@3c per pound in the grove picked for the best.

AUCTION SALES.

New York, July 9.—Forty-seven cars of oranges and three cars of lemons sold. Market is strong on Valencias, steady on lemons. California navels averaged $2.50@5.05. Valencias averaged $2.45@4.85. Lemons averaged $2.60@5.90.

Boston, July 9.—Market doing better on oranges, unchanged on lemons. Twenty-two cars sold. California navels averaged $1.40@2.90. Valencias averaged $1.90@4.70. Lemons $2.35@5.55.

Philadelphia, July 9.—Sixteen cars sold. Market higher on Valencias. Good demand at prevailing prices. Lemons generally lower. California navels averaged $1.55@3.20. Valencias averaged $2.10@4.65.

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., July 10, 1917.

Nearly all markets slumped considerably on peaches during the past week, due principally to the fact that the quality was below standard and the sizes very small. Furthermore, Georgia has been shipping heavily for the past ten days and the inferior quality of the fruit has had a demoralizing effect. Competition from Georgia will not be serious from now on as shipments will be lighter, due to the fact that the fruit is not fit for shipment, being irregular in size, green and wasty.

Plum shipments are very heavy, but all markets seem to stand up under the pressure. Returns have been very satisfactory and the quality of the plums as fine as we have ever shipped.

The Bartlett pear crop has started and the quality is excellent. The shipments will probably be heavier this season than for several years past as the crop is unusually large, but with careful distribution the prices should be fairly well sustained throughout. Movement will be heavy beginning next week.

Thompson Seedless from the Imperial Valley have begun to move, the first car having brought $2.87 a crate. Thompsons and Malagas are now being shipped from Coachella and though the crop has been cut down on account of the recent extreme heat, the quality has not been impaired.

About the last of the apricots have been shipped and the cherry season has closed, having been the best year in the history of the industry.

The following prices have ruled for the week:

New York.—Royal apricots averaged $1.42, Climax plums $1.88, Tragedy $2.65, Burbank $1.67, Clyman $1.35, Formosa $2.43, Triumph peaches 90c, Alexander $1.00, H. B. Wilder pears $2.15, Lawson $1.75, Royal Anne cherries $1.35, Republican $1.40, Bing $2.05, Tartarian $1.10.

Boston.—Royal Anne cherries $1.50, Bing $2.20, Republican $1.35, Tartarian $1.05, Climax plums $1.90, Burbank $1.95, Formosa $2.00, Red June $1.45, Tragedy $3.15, Clyman $1.60, Santa Rosa $2.05, Abundance $1.35, Royal Apricots $1.10, Alexander paches 75c, Triumph 90c, H. B. Wilder pears $2.25.

Chicago.—Royal apricots $1.65, Tragedy plums $2.55, Climax $1.65, Burbank $1.95, Clyman $1.15, Abundance $1.50, Formosa $2.05, Royal Anne cherries $1.40, Republican $1.75, Bing $2.20, Triumph peaches 85c, Alexander 80c, Lawson H. B. $1.53.

Total shipments to date, 1849; total shipments same date, 1916, 2969.

Government Crop Report.

The Bureau of Crop estimates at Washington has just issued a July 1st crop report covering California and the United States. The following figures embrace California only:

	July 1, 1917	December, 1916, Estimate
Corn	2,580,000 bushels	2,048,000 bushels
Wheat	6,100,000 "	5,600,000 "
Oats	6,860,000 "	6,500,000 "
Barley	38,000,000 "	33,320,000 "
Rice	5,180,000 "	3,263,000 "
Potatoes	13,900,000 "	10,575,000 "
Sweet potatoes	979,000 "	960,000 "
All hay	4,680,000 tons	4,615,000 tons
Apples	1,880,000 barrels	1,918,000 barrels
Peaches	10,080,000 bushels	8,808,000 bushels
Cotton	58,000 bales	43,620 bales
Sugar beets	Condition 90	Ten-year average 92
Prunes	" 90	Six " " 74
Almonds	" 62	Six " " 72
Walnuts	" 75	Six " " 85
Hops	" 95	Ten " " 90

Prices.—The first price given below is the average on July 1 this year, and the second the average on July 1 last year: Wheat, 204 and 97 cents per bushel; corn, 184 and 88; oats, 82 and 47; potatoes, 180 and 109; hay, $15.20 and $11.40 per ton; eggs, 32 and 25 cents per dozen.

fresh stuff the past week, but with increased offerings lower prices were reported. Tomatoes made a sharp decline. Cucumbers were a drug on the market and sold much lower. Summer squash, too, was dull. Onions steady but sales slow. Peas scarce and higher. String beans advanced and the best in fair demand. Corn dull and sharply lower. Lima beans scarce and higher. Cabbage dull but steady. Potatoes in fair demand at old prices.

We quote from growers:

New potatoes, per cwt.....$1.25@1.50
Peas, per lb. .....5½@7½c
New onions, crystal wax and Bermuda, per crate.....$1.00
Onions, Northern, cwt..... 1.35
String beans, wax, per lb.....6@6½c
do, Kentucky Wonders, per lb...6½@7c
Imperial tomatoes, 4-bskt crate.....40@50c
Tomatoes, local, 4-bskt crate.....70@75c
do, do, lug .....90c@$1.00
Summer squash, lug.....15@20c
Cucumbers, per box of 2½ to 3 dozen .....10@15c
Green corn, lug .....30@50c
Cabbage, per 100 lbs.....50@60c
Lima beans, per lb.....7@9c
Okra, per lb.....6@8c

FRUITS.

But few changes in this market the past week and they unimportant. Some fancy apricots and a better quality of peaches were on sale and they brought a little more money, though the general receipts sold no higher than a week ago. Cherries steady and continue in fair demand. Figs were scarce and higher. Grapes coming in more freely and slow sale. Apples slow sale and market weak. Plums arriving more freely and market hardly so firm. Grapes dull and lower.

Apples, White Astrachan, per box....$1.50
do, Red Astrachan, per lug ....$1.10@1.20
Avocados, per doz..... 4.00@5.00
Cherries, black Tartarians, per lb...10@12c
Royal Anne .....11@12c
Bings .....10@11c
Gooseberries, per lb.....6@7c
Apricots, per lug .....50@75c
Peaches, local, per lug.....50c@$1.00
do, Northern, per lb.....2½@3c
Figs—Black, 2 layer.....$1.40@1.50
do, 1 layer .....75c@$1.00
Grapes—Malaga, lb. .....7@7½c
Plums, per lug.....$1.00@1.25
" Burbank and Santa Clara, per lb..3@4c

BERRIES.

Offerings were not heavy the past week and values ruled fairly steady. The demand, however, was light. Too much stone fruit on the market and only light arrivals prevented lower prices.

We quote from growers:

Strawberries—
Fancy, per 30-basket crate....$1.10@1.20
Poor to choice, per 30-basket crate ..... .90@1.00
Blackberries, per 30-basket crate. 1.25@1.35
Raspberries, per 30-basket crate. 1.35@1.50
Loganberries, per 30-basket crate 1.20@1.30

MELONS.

A steady market and fair demand. Not so many coming in and the trade taking cantaloupes at last week's prices. More watermelons in and market lower.

Cantaloupes—
Imperial, standard crates .....$1.25@1.50
do, pony crates..... 1.00@1.10
Imperial Valley Honeydew melons, per crate of nine and ten.. 1.40@1.50
Watermelons, per cwt..... 1.50@1.75

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	26.65	34.91	28.16	36.90
" 16	27.83	35.83	28.10	37.00
" 23	28.85	36.91	28.50	35.00
" 30	36.33	38.48	36.66	38.87
Feb. 6	30.25	40.00	32.33	41.19
" 13	31.40	39.70	33.25	39.00
" 20	32.00	36.00	32.00	37.00
" 27	30.90	37.00	35.25	36.00
March 6	24.08	35.50	24.16	34.50
" 13	29.91	33.50	28.83	33.00
" 20	28.33	33.25	27.16	33.00
" 27	28.50	36.00	28.08	33.00
April 3	28.50	37.91	28.83	36.33
" 10	29.31	39.33	28.00	37.00
" 17	27.33	39.58	27.50	38.00
" 24	25.25	35.66	25.00	36.50
May 1	24.33	33.08	25.33	33.00
" 8	24.10	34.05	25.00	33.20
" 15	24.58	35.50	25.66	34.16
" 22	25.00	36.30	25.00	35.16
" 29	26.50	36.60	26.50	37.33
June 5	25.50	36.30	27.00	37.66
" 12	25.83	36.50	27.00	38.00
" 19	24.50	36.00	25.91	36.33
" 26	24.50	36.16	25.91	37.50
July 3	24.60	35.06	26.00	37.00
" 10	26.40	36.41	26.60	37.16

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	31.41	37.91	32.00	38.16
" 16	30.33	41.83	30.75	40.83
" 23	34.83	32.50	34.33	33.12
" 30	36.33	32.08	36.66	33.01
Feb. 6	35.66	34.99	35.50	34.70
" 13	28.90	33.30	28.00	31.66
" 20	23.66	33.01	20.33	30.75
" 27	20.30	29.00	18.50	27.66
March 6	18.33	24.75	18.00	24.91
" 13	19.50	25.96	18.91	26.08
" 20	20.00	25.66	19.08	25.91
" 27	21.41	27.16	20.83	28.00
April 3	21.75	28.58	21.00	29.25
" 10	22.00	29.66	21.00	30.41
" 17	21.16	32.33	20.91	32.08
" 24	21.83	32.91	22.58	32.83
May 1	21.00	32.00	22.58	31.83
" 8	21.20	32.75	21.41	32.00
" 15	24.58	34.20	20.83	32.50
" 22	25.46	33.40	22.50	34.00
" 29	25.00	33.80	22.50	33.50
June 5	25.00	33.20	24.51	34.66
" 12	25.00	31.16	24.16	33.00
" 19	24.83	31.41	23.75	33.10
" 26	24.66	30.16	24.58	32.16
July 3	24.60	31.90	24.00	34.25
" 10	26.10	33.50	24.00	36.00

Special Livestock Market Report

San Francisco, July 11, 1917.

CATTLE.—Arrivals of beef cattle in this market are slightly in excess of local requirements, though the supply is absorbed without materially affecting quotations. Quite a little inferior stuff is arriving, for which low offers are made. Arrivals of calves are also light.

Grass Steers—
No. 1 weighing 900@1200 lbs....8½@8¾c
No. 1 weighing 1200@1400 lbs...8½@8¾c
Second quality .....8 @8¼c
Thin undesirable .....6½@7½c
Grass Cows and Heifers—
No. 1 .....6¾@7 c
Second quality .....6¼@6½c
Common to thin .....4@5½c
Undesirable .....
Hay-fed Cattle ½@¾c higher.
Bulls and Stags—Good 5½c
Fair .....5@5¼c
Thin .....4@4½c
Calves—
Lightweight .....9@9¼c
Medium .....8@8¼c
Heavy .....7@7¼c

SHEEP AND LAMBS.—There continues the usual shortage in the supply of sheep and lambs, due partly to a shrinkage in the quantity of range stock, but temporarily at least to the phenomenal prices offered for wool, which prompts sheepmen to hold back their flocks, in spite of the high prices quoted for market mutton. Prices remain steady.

Lambs—
Yearling .....12@13c
Milk .....12@13c
Sheep—
Unshorn wethers .....10½@11c
Unshorn ewes .....9½@10c

HOGS.—The hog market is weak, with the prospect of a still further decline, hence prices have sagged a shade, in some grades half a cent. Good stuff, however, brings top prices.

Hard, grain-fed, 100 to 150.....13 c
Hard, grain-fed, 150 to 300.....14½c
Hard, grain-fed, 300 to 400.....14 c

DRESSED MEATS.

Steers, No. 1.....13c
Second quality .....12@12½c
Cows and heifers .....11@12c
Calves, as to size, etc.....12@15c
Lambs—Suckling 20c
Yearling 19c
Sheep—Wethers 18c
Ewes 17c
Hogs 21c

HORSES.

Heavy drafters, up to 1700 lbs and up .....$250@275
Light drafters, 1550 to 1650 lbs.... 150@185
Chunks, 1350 to 1500 lbs..... 150@175
Wagon horses, 1150 to 1350 lbs.... 110@130
Wagon horses, 1050 to 1350 lbs.... 100@125

Los Angeles, July 10, 1917.

CATTLE.—The market remains much the same as last week. Fair offerings of grass cattle of fair flesh have been had since our last review, but few really choice steers coming in. Killers made fair purchases for this time of year, both of cows and steers, though there was no snap to the market. California furnished most of the supply. Calves coming in less freely and the tone of the market firmer. Demand, however, only moderate.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs.....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers ..... 6.50@7.00
Calves, per cwt ..... 8.00@9.00

HOGS.—Receipts continue light and mainly made up of half grown and half fat hogs. Few really choice hogs are to be had, and what few are coming in are finding a ready demand at a good premium over quotations. What hogs in were mainly from California, and, as said before, showed that they were sent to market "before their time" and met with slow sale.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 250@300 lbs..$12.00@12.50
Mixed, 200@250 lbs..... 13.50@14.50
Light, 175@200 lbs..... 13.50@14.50
Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP.—Receipts the past week were light and mainly from California and Arizona. The market remains very firm and killers have to bid up full quotations both for sheep and lambs to get what they want. Demand only moderate, as the high prices cause mutton to rule so high as to affect consumption. It is this that keeps prices from ruling higher. The high price of wool is also keeping many sheep and lambs back.

Per cwt. f. o. b. Los Angeles:
Prime wethers .....$ 9.00@10.50
Prime ewes ..... 9.50@10.00
Yearlings ..... 10.50@11.00
Lambs ..... 13.00@14.00

North Portland, Ore., July 9, 1917.

CATTLE.—The cattle pens displayed a good average run of material, which might well be classed as high-grade commons. There was no really first-class beef stuff, which was quoted at a shade lower, perhaps 25 cents, but the best beef sold was about 50 cents lower than the same grade at last week's opening, going at $9.50@9.75. Cows were off about 75 cents, some good cows brought $6.50@7.50 and canners sold as high as $4.00. Bulls and feeders continue steady. One of the most interesting features of the cattle yards was a splendid display of choice feeders, which went at steady prices, bringing around $7.00.

HOGS.—The hog market continued strong and the bulge that was sprung in the closing of last week was continued today by the addition of another 15 to 25 cents. Some good hogs went early at last week's closing figure of $15.85, but as soon as buying was well under way the price went to $16.00, at which figure the bulk of the sales were made. One load of fancy hogs weighing 257 pounds brought $16.15. Pigs are getting $12.00@13.50.

SHEEP.—The receipts in the sheep yards were somewhat heavier than for some time, and the tendency was to discourage an already declining market price. The market is 25 cents lower than last week, but trade was sluggish, spring lambs $12.25@12.75, yearlings $9.00@9.50 and ewes $4.00@8.00.

Publisher's Department.

During the last two weeks we have added more than 650 new paid subscribers to our list. Last week we added 356 and this week 283 more. The field men are doing their work in great shape and we are now assured of fully 28,000 subscribers by September 1st.

We continue to receive orders for two books that are out of print. The book, "1000 Agricultural Questions Answered," was all sold out over a year ago and we cannot fill orders. The new edition of "California Vegetables" will be ready this coming fall. For the present we cannot fill orders, as we have copies of no previous edition on hand.

Readers will notice at the head of the editorial columns this week that we have added a new name to our staff. L. H. Storgaard, who for the last eight years has been farming near Kerman, has placed his ranches in other hands in order that he may give his entire time to the livestock department of the Rural Press. Mr. Storgaard is known as one of the greatest constructive livestock men of the country. Before coming to California he was livestock editor of the Dakota Farmer and was instrumental in largely changing that section from agriculture to purebred stock. It is the ambition of this journal to aid in the constructive work for more and better livestock in California and the West, and believe that Mr. Storgaard's experience will help to that end.

Classified Advertisements

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

MISCELLANEOUS.

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WANTED.

WANTED—Working foreman for alfalfa and grain ranch completely stocked with high-class dairy cattle and hogs. Want ambitious, energetic man of sterling character and brains, fully capable of taking entire charge. Prefer married man with Agricultural College training supplemented by thorough experience. Give age, qualifications and experience. Address, Box 670, Pacific Rural Press.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

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Vol. XCIV—No. 3

THE PACIFIC RURAL PRESS

Forty-seventh Year

SAN FRANCISCO JULY 21, 1917 LOS ANGELES

State Library

More and Better Feed for More and Better Hogs

[Written for Pacific Rural Press.]

TWO PHASES of California's public duty toward the pork product should now be urged upon the attention of all who have to do with hogs—both for their prospective profit in the production of them and for the discharge of their patriotic duty in the fullest contribution to national support. These duties may be succinctly stated in this way: to hold fast to the breeding animals we now have and to cover them with purebred sires for a higher type of product: to make every effort to feed better with strengthening foods the hogs we hold for breeding and to feed better with fattening foods the non-breeders which are to be sold this fall and winter to the packers. Thus we are brought up sharply against the old fundamental in pork production: better feeding and breeding. It does not matter what happens to the old dispute as to whether the breed or the feed is to be chiefly credited with product-improvement. We should seize this dilemma by both horns and hang on fast for a safe ride to a profitable market.

California should hold onto such hog-types as these and grow more of them. They are (from top downward) "prime heavy butchers' hogs," "prime light butchers'," "good heavy packing" and "good light packing"—as graded at Chicago markets. (Courtesy California Hog Book)

To Make Pork We Must Have Hogs!

There seems to be some apprehension of danger that, owing to high price of feed and to the general hysteria about grain and forage scarcity which has been engendered by mistaken zeal, our farmers may be selling themselves short of breeding hogs. If that is really the case, it is unfortunate, for it will make it impossible to reach the greater production which is needed and thus destroy the chance of the fair profits which promise to attend the effort to realize such needed production. Obviously, it would be as though an army, ordered to make a great offensive drive, should explode all its ammunition before leaping from its trenches. Evidently the California packers, whose business requires them to pierce the outlook with all kinds of commercial aircraft, are alarmed lest they cannot advance through the trade-opening which they see in pork products, for lack of hogs to drive into their killing-chutes, and therefore they have endorsed a public statement made last week by Joseph D. Biddle, speaking for the "hog raisers and breeders of the State," in these words:

"The California market is being depleted by the energies of representatives of out-of-the-State hog raisers, who are here to purchase all the stock they can get, and, taking into consideration the scarcity of hogs, it now behooves every farmer and livestock dealer to conserve all the brood sows and all the young stock hogs and feeders they can. There will be plenty of different kinds of feed to mature all the hogs we have in California and more, too. Small shoats and feeders will soon double and treble in value. No other commercial product will surpass or equal them."

Mr. Biddle may be right in picturing such an enormous and definite increase in value, but we are not at all so sure of that as he is. Nor is it desirable that such great increase should come, because it might mean that the Germans had us by the neck and war starvation was on. All that the grower needs to know is that the pork product will be liberally profitable and that, in our judgment, will be realized, and all who can make good pork should trim their courses accordingly. It is said that the packers have endorsed Mr. Biddle's statement, but we doubt if they are ready to contract at his price schedule. The assurance that we take from their endorsement is that they expect to need more hogs than they are likely to get and that they will pay what they have to to get them. Such an assurance is, of course, all that a grower can reasonably expect and that much looks pretty good to us.

Essential to Have Good Hogs.

It almost goes without saying that to get the best of any advance in hog values which does come one must have the best hogs—best in form, which comes from breeding: best in finish, which comes from breeding and feeding combined. Some progress is certainly being made in the true contention that buyers must abandon their old policy of "just going out to buy hawgs" and making a flat price for an average on which they can figure their profit. Something is being gained in the increased disposition to buy discriminatingly and with best money to the man who has the best hogs. Much more needs to be realized on this line and we believe it is coming. One way to assure its arrival is to produce more hogs that are worth top prices and to assure selling facilities and arrangements to insure them. There must be an amplitude of good material from which packers can put forth a selected product and profitably claim that it is Californian. In this line, too, some very creditable things are being done. The pursuit of such things depends upon holding onto local hog production and therefore we earnestly approve Mr. Biddle's protest against selling out of the State the tools and supplies without which such production will be lost to California. To check this tendency our hog-owners must convince themselves that they had better gather for themselves the profits from breeding and feeding, the anticipation of which is now inducing outsiders to get their hogs away from them if they can.

Essential to Have Good Feed.

Obviously the thing for hog growers to do right now is to look closely and think hard about their grain supply for next fall and winter if they intend to make a drive on top prices for their product. Last year too many were caught short of finishing feeds and lost good money by not having them. This year it should be very different. The corn and barley crops of the whole country are very large—close to the record crops—and it should be possible to buy reasonably here because these grains will have less call to move away from us. In view of the prices of hogs, they are relatively reasonable now, and those who have not grown their own grain should watch closely the time to invest and not lose the profit on their hogs which the final fitting will give. Besides, we have in California this year a great increase in the acreage of Kaffir, milo and other sorghum grains, which are just as good as maize and barley, and they open to the hog-feeder another chance to buy reasonably. There will be a disposition on the part of Kaffir and milo growers to hold good stands for grain and silo after grain gathering, as can be best done with these varieties. It is right, therefore, to anticipate a good supply of sorghum grain right close to the alfalfa fields, where most of our pigs are now getting the quickest and best growth there is to get. It really looks as though it would be a slow feeder who will allow himself to be caught this year without the grain he needs.

From all points of view which we can reach it seems to us that the growing of plenty of better hogs is now one of the most interesting and promising lines of California farming and we should rather be seen buying in than selling out of the game!

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EDITORIALS

FOR THE LAND'S SAKE: CHEER UP!

WE WOULD like to urge it on broader grounds. We would like to try to show that if "my own United States" does not get more pep into its populace—more courage, confidence, dash and daring into its popular thinking—we shall all be crawling around in the muddy bottom of a shell-crater while the boche booms along overhead in a flight of Zeppelins to his coveted place in the sun of world-dominion! And wherein lies the danger thereof? Surely not in our billions of bullion, millions of men, myriads of munitions, fulcrums of food—all of these hold out to the enemy not the remotest chance of victory, even without annexations and indemnities. Our danger lies in ourselves: it will be in ourselves, not in our stars, if we are underlings. For it is each day becoming more clear that this war may not be won by material conflict, but by psychology. And if anyone should think that psychology as we frequently invoke it is too new a science to be trusted with a world's achievement of peace and humanity, let him remember that psychology itself is not at all new: the only new thing about it is the recognition and emphasis which we give it and our fuller understanding of it. For it was the world's exemplar of wisdom, Solomon of old, who said of a man: "As he thinketh in his heart so is he." And this is our present danger. Unless our ears are cleared of public utterances of apprehension, and our minds of plans based on distrust of ourselves, our powers and our destiny, we shall be as such utterances and plans indicate and we shall assume our part in the greatest war of the world without enough force to strike and speed to move even to score a home-run in a baseball game! Our general newspapers are printing miles of matter and our orators are pouring forth tornadoes of words to make us weak and doubtful, not of our patriotic spirit but of the material forces through which it must win its victory—not of the glory of winning the final victory of humanity for the world but of our ability to compass the things with which to fight. If our ancestors of 1776 had taken such thought as is now forced upon us, German domination would have been gained over this continent by the Hanoverian Georges. Or if the founders of the nation had escaped that and Lincoln had been crushed by what he had to hear of it, this divided nation would have been the prey of Bismarck after he had subjugated the French in 1871. As all such dangers were bravely dispelled in the past by the uprising of the American spirit full of courage and of confidence in its victory for the rights of men, so all such dangers can be dispelled now if we invoke the same spirit to rise, bright, valiant and strong, out of the mist of economic hysteria with which current talking and thinking are enshrouding it. Otherwise we shall come to the starting-post stale in soul and not for us shall be the race!

WHY THE LAND NEEDS CHEER.

BUT IT IS for us to cry aloud only for the land which now needs cheer—not for the land in the sense of nation or country, but for the land in its agricultural sense. And for that disasters are ahead unless mistaken exhorters can be brought to see the light and cease driving clouds across our essential industries. While the national authorities at Washington are striving to enact regulations serving policies of safely increasing production and protecting it from greedy encroachment, local disciples of theirs are preaching, with mistaken zeal, popular behavior which will wreck our food production by bankrupting those legitimately engaged in it. And this action is becoming so widespread that something must be done to arrest it. One such exhortation will serve to indicate the class of dangerous suggestions which are now current in this State:

"Save the Fats: Use as little butter as possible in cooking, substituting oleomargarine and the salad oils based on cottonseed oil, and meat drippings clarified by boiling in plenty of water.

"Save Transportation of Foods by reducing the quantity of commercially canned fish, vegetables and fruit; and also of commercially dried fruits and vegetables. Substitute fresh, home-grown and home-preserved articles and such food as cannot be easily packed and shipped."

We are not of course objecting to exhortations against waste and in favor of thrift and conservation, but there are at least two objections against such specific suggestions as the foregoing which tend to disturb the people in use of their chosen foods and thus alarm and dishearten them, and tend also directly toward the depression of certain food-producing industries which are ministering to the people's choice of foods and in which are involved millions of producers' livelihoods and investments. If it were necessary for war, such an attitude on the part of public mentors might possibly be reasonable and justifiable, but it is not necessary for war nor for the personal comfort of the people, and is therefore likely to inflict serious and unwarranted injury. It is calculated to take the confidence out of industries which have been built up with great effort and sacrifice to constitute a part of the economic strength of the country and it will engender alarm among consumers over apprehension of national weakness which does not at all exist. In the few injunctions we have quoted and of which many more are current, there are these economic indiscretions—to say the least of them:

The drive to reduce the present price of butter, which the producer deserves because of higher cost of cattle, feed, labor, taxes, etc. If the price of butter does not rise to meet increased cost of production, the stock and the earnings of men and land must be sacrificed.

The drive to achieve debasement of butter by exaltation of inferior fats is in the face of the laws of the country which have been enacted to discriminate in favor of the genuine and against imitations and substitutes. These laws enforced the just claims of legitimate producers: exhorters are trying to crush the spirit out of the laws.

The drive against olive oil and in favor of cottonseed oil, when the law declares olive oil distinctive and not to be simulated in the trade, is a heinous thing in a State which, through much tribulation, is now successfully demonstrating that America can have olive oil of her own growing and making.

The drive against commercially-prepared canned and dried fruits and vegetables just as our great industries in these lines are undertaking their utmost to make sure that Americans shall lack nothing that will cheer and invigorate them by deliciousness, wholesomeness and nutritiveness, is wrong. Advising people to avoid these things is, in this country, an economic and hygienic sin and an utterly vain recourse, because there is no possible home-made substitute which is adequate. Besides, in California such advice is disgracefully unpatriotic. California's fifty-million-dollar annual product of preserved fruits does more for the physical and spiritual sanity of the American people than any equal product-value which the country produces. Our people have plenty of money for it and a growing desire for it. To check their free enjoyment of it is insanity.

BUT WORSE IS STILL TO COME.

BUT PERHAPS all such hysterical impeachment of reasonable personal expenditure by people for what they desire and can amply pay for, if they are protected from extortion in distribution, which the Government will be all this week still planning to secure, is probably not the worst to take the heart out of American participation in the war. The saddest and most depressing thing is that our soldier boys may not return—but not through the action of German missiles. They may recline upon the fields of France for very different reasons. Two things we read cause our tears to flow: they are these:

The defense council women's committee launched the appeal: "Wear the clothes you have, so manpower now engaged upon feminine fads and fripperies may be released for real war service at home or abroad. Buy at reasonable prices regardless of style. Don't refuse to buy a gown because there's too much or too little material in it. Allow the unenlightened men to find fault with you. Do not draw on the labor market to create 'something exclusive' to tickle vanity and arouse envy in the next door neighbor's house. America's women are wholeheartedly devoted to the nation's interests and will make real feminine sacrifice of style to help Uncle Sam win the war."

America's women surely will remain wholehearted if they follow this advice to make guys of themselves by buying misfits because they are cheap and by abandoning everything which heightens individual charm and attractiveness. But how will that endanger the return of our boys? Oh, well, read this:

A London correspondent in Paris writes: "There is an American accent about all the new French clothes. It is difficult to define, but it is there. Some of the dressmakers when they went on strike carried the Stars and Stripes, and, when asked why, replied: 'Oh, it is the prettiest!' The same logic is applied to clothes. American women have always dressed well, so the Paris dressmakers begin to show a strong American note in their creations. The soft felt hat turned up on one side is worn with a touch of cowboy swagger. The light muslin dress is also an American fashion. Shoes and trimmage show a similar inspiration. In fact, to be dressed 'a l'Americaine' is very much the thing."

And so we are to conclude from the testimony we cite, of women capable to judge, that patriotism requires the American woman to put her dressmaker out of business and into distress and herself into any old clothing which is cheap and without personal character, while patriotism requires the French woman to make herself more charming and attractive than ever. In both cases the reason is to win the war. They will both attain their ends. Uncle Sam will win the war, but his next batch of grandnephews will be largely of French descent!

A MATTER OF IRON AND STEEL.

BUT ALL these things which have provoked our protests so far are rather light in weight and small in stature. Our wonder is how people of great aims in a country of abounding production can concentrate their attention upon things which could only be reasonable in a famine-stricken country where down-to-the-bone saving was indispensable because there was no chance to increase production to the point of adequacy. We are worried to death about using less when we should be valiantly working to produce more. We are told to weep and watch the garbage-can, the old clothes bag and the junk-pile both of materials and ideas when we should be aroused to cheer for a great cause which calls for increased and ennobled effort and commanded to go to it in that way, that America may justify her claim to possess potential leadership of the world for good. Many of the things which are being done for defense are good and we do not condemn them for improper spirit and point of view, as we have some others in preceding paragraphs. But even these good things are, in their intention to serve present needs, almost irrelevant, incompetent and immaterial. The last proclamation from our State Council of Defense which has come to our attention is an exhortation to our farmers to "take care of their tools." It might have been clipped out of a "Farmers' Almanac" of half a century ago. Every farmer already knows he ought to take care of his tools and machinery and every farmer who has any business sense is now doing it. It is no time to place the interests of the country on the chance of reclaiming the fool-farmer—besides that job belongs to our various educational agencies and it will keep them busy for a century to come. The State Council of Defense should be working for capable and competent producers who can use their knowledge and their land if they are supplied with needed capital, competent labor and more and better machinery to make that labor go as far as possible. Our de-

fenders are intent on scraping the rust off half-worn, old style tools with which probably no one could profitably equip our present high-priced, short-hour labor supply, nor could he afford to waste his own time in trying to work with them. This is no distant dream. Right now and here in California our farmers need better and newer-model implements and machines and are trying to buy them. Our dealers and manufacturers are trying to provide them, but many of them now see the end of their undertaking not far away, unless they can get iron and steel for their furnaces and forges. Perhaps the State Council of Defense has already declared to the national organization at Washington that suitable metals must be apportioned to this State and transported hither at once. If they have undertaken and are persistently pursuing such a great issue for the defense of the State, they ought to tell us about it and not allow us to think they are so busy scouring rusty plows that they cannot get a great view of what are the needs of the State if it is to fill its quota of production. Our manufacturers are doing their utmost to scrape up materials. All the scrap iron is being diligently sought, but it must have a certain amount of new pig iron to put life and strength into it. Is the State Council chasing that pig and is it going to keep right on until it gets it by the ear? And there is the same vital question about all the other metals and forms of metals which we need.

FOR THE LORD'S SAKE: CHEER UP!

AND SO go we back to Solomon and his time-honored psychology for the lesson of the present hour which shall make our spirits strong and our hearts confident for our work in the world:

A merry heart maketh a cheerful countenance but by sorrow of the heart the spirit is broken.

The heart of him that hath understanding seeketh knowledge, but the mouth of fools feedeth on foolishness.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Fruit Trees Over Underflow.

To the Editor: I have subirrigated land. It is about four to five feet to the water. On about four acres I want to plant trees. Which trees would do the best? I have thought of planting plums. Which are the biggest and best for market? How would Cling peaches do?—H. G. N., Dinuba.

There is fruit successfully grown over underflow in some instances. You ought to know whether the water ever comes nearer to the surface and whether it rises during the growing season or not. It is also important to consider your soil, whether it is light and well drained naturally or whether it is heavy and apt to hold the trees in mud for a long time. Have you not neighbors, under similar conditions of soil and ground water, whose experience, as shown by their trees, would put you wise? Plums on myrobalan root would be safest. If the soil gets waterlogged, even in the dormant season, it is a poor place for peaches. As for variety of plums, make local inquiry as to which are most desired by your buyers for shipping or canning. It is very easy to plant a lot of plums which might do well and yet not suit the market you are in touch with.

Getting After Atmospheric Nitrogen.

To the Editor: Can you tell me where I can obtain some information about the extraction and fixation of nitrogen from the air. I believe that the Government has an experimental plant in North Carolina and I should like to secure bulletins on it, if any have been published. If you know of any other source of information on the subject, please tell me of it.—G. F. W., Newman.

Probably the only way to get up-to-date details on this matter is to write directly to the Bureau of Soils of the Department of Agriculture at Washington. We do not know of an establishment in North Carolina, but the investigation is progressive and may have recently developed new features, although it has been interfered with by the difficulty of getting machinery in war time. There was recently some work done in co-operation with the State of Oregon to test the availability of cheap power for generating the necessary electricity, of which we have not seen final report. Recently also the Government's soil laboratory at Arlington, near Washington, has been outfitted to test extraction processes for securing atmospheric nitrogen, but that was also delayed by the war. Therefore, we suggest that the only way to know what is currently being done is to get on a direct line and see if anything comes through.

Topping Corn.

To the Editor: I have Indian corn eight to nine feet high and would like to know what would be the effect if, after the kernels were well dented, the stalks should be cut six inches or less above the highest ear. I have seen whole fields treated that way, but had no occasion at the time to find out the particulars. I have plenty of water for irrigating.—G. L., Auburn.

This is an ancient practice, said to have been borrowed from the Indians, who were the pioneer corn growers on the Atlantic side of the country. It has been practically abandoned for half a century, though, like many other traditional methods, it still survives here and there. More recently some careful experiments have been made. In twenty experiments, topping apparently lessened the weight of grain harvested in eight instances: it increased the weight in seven instances, and in the other five instances no difference could be discerned. In all tests we know of, however, the gain of forage, which is the chief aim in topping, was less than the labor cost of getting it. It is therefore better, both for the corn usually, and for the growers' pocket always, to allow the crop to mature naturally.

Potatoes Going to Top and Seeds.

To the Editor: I am sending some plants which make no decent potatoes but plenty of small tomato-like balls on the unusually large tops.—B., St. Helena.

Your potatoes have "gone to tops," which is apt to occur when they have had too much pushing with rich soil and moisture. So long as a potato is making excessive top growth it is apt to avoid tuber development, which is caused by the downward flow of elaborated sap. It is therefore desirable that a potato should not be over-stimulated, but the top should be of moderate growth and disposed to assume early phases of maturity during which the tubers enlarge rapidly. The round green bodies at the top of the growth are the "seed balls" of the potato, which have developed from the blossoms. It is their function to produce seed from which new kinds of potatoes are likely to come by natural variation of seedlings. We do not remember ever seeing them so abundantly produced. Our allies cannot expect to get anything from such plants as you send.

Alfalfa Sowing in a Coast Valley.

To the Editor: When is the best time to plant alfalfa? It is on bottom land and I have plenty of water to irrigate.—M. A., Napa.

There is no generally best time to sow alfalfa, though there may be a best time for each piece of land, according to the presence of moisture, freedom from frost, etc. If your bottom land is not subject to sharp early fall frosts, you can wet the land thoroughly in August and plow and harrow well for sowing in September and early rains will help the plant to grow sufficiently to resist the late fall frosts. If you are subject to sharp fall frosts and harder freezing all winter, as many bottoms are in the coast valleys, it is easier to get a good stand by sowing as early in the spring as you can get the land into good shape and frost danger is over. This would be about the date which you would choose for planting corn on the same land.

Leaf Miner on Beans.

To the Editor: I noticed a few bean plants today for the first time with leaves perforated and with small black deposits on the under side. I did not have my glass with me, so could not tell what sort of a looking villain was doing the damage, but I take it to be red spider.—Grower, Manteca.

The leaves are being attacked by a "leaf miner," which is a very small greenish worm, called a "leaf miner" because it does not eat a hole from the outside but runs a tunnel in the tissue under the epidermis. When the tissue is consumed the skin dries, shrinks and drops out and the hole comes that way. It is not a clean hole, such as an outside feeder would make, but always has fragments of dead skin around the edges. The red spider does not make a hole either way: it only scarifies the surface of the leaf. You are not likely to have leaf miners enough to do any damage.

Base-Hit on Young Olives.

To the Editor: What is the cause of some of my young olive trees dying? From the ground up the bark dies and splits open lengthwise? I have discovered four in this shape out of about four hundred trees over two years old. They have had best of care, plenty of water and are planted on heavy red foothill land.—F. G. L., Tulare county.

We cannot speak confidently of the cause of injury. Our surmise would be that the sun has sent too hot a ray at the base of those trees—either directly on the bark or through reflection from the soil or from water which stood too long around them. Your description seems to indicate such mechanical injury: bark killing, subsequent shrinking and splitting and the failure of the top through the girdling thus produced. Your care of the trees has certainly been good if you have only one per cent of loss.

Walnut Blister Mite.

To the Editor: I am sending leaves from a young walnut tree at Los Altos which has many ugly blisters or swellings which become almost black as they get old. What is it and the treatment?—H. S., San Francisco.

Your leaves have the habitations of the blister mite in which he is now so well roofed over that he can laugh at you like the boche in a bombproof. You have to attack just as the buds are swelling in the spring with a lime-sulphur spray or a thorough sulphur dusting. Fortunately this mite, though widely distributed, is seldom abundant enough to be counted much of a pest.

Nitrate of Soda Per Tree.

To the Editor: In your issue of June 16 there is a prescription of five pounds of nitrate of soda for weary apple trees. Does that mean five pounds per acre?—J. H., Greenfield.

No: it means five pounds per tree, well scattered over the ground occupied by the roots, which is somewhat wider than the spread of branches. This prescription is for old trees which need re-invigorating, not for young plants. Application should be made near the end of the rainy season, when light showers may be expected to carry the nitrate to the roots.

White Fly Takes a Wide Range.

To the Editor: I send a pest which has attacked my irises, red-hot poker plants and some young pine trees to such an extent that it threatens destruction. A madrone tree, too, is affected. Can you suggest a remedy?—E. W. S., Berkeley.

You have the "iris white fly"—common garden species: aleurodes spirœoides. It is abundant on irises in your region and takes eagerly to many other plants, including weeds. The treatment is to spray with a tobacco wash, just as you would for plant lice.

Wet Beet Pulp.

To the Editor: What kind of feed is wet beet pulp right from the sugar factory for dairy cows along with twenty pounds of alfalfa a day? What kind of feed is it for pigs and horses?—Subscriber, Fallon, Nevada.

Wet beet pulp is good for dairy cows, sheep and growing steers: it is not approved for horses and pigs, for it lacks proper concentration. It is equivalent to about half its weight of corn silage or whole roots. It balances well with alfalfa, just as the latter do.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., July 17, 1917:

Stations—	Rainfall Data. Past Week.	Seasonal To Date.	Normal To Date.	Temperature Data. Max'm.	Min'm.
Eureka	...	....	.11	62	50
Red Bluff	...	....	....	110	74
Sacramento	...	....	....	100	62
San Francisco	...	....	.01	64	50
San Jose	...	....	....	86	54
Fresno	...	....	....	108	72
San Luis Obispo	...	....	.01	84	52
Los Angeles	...	....	....	82	60
San Diego	...	....	....	74	64

Pointers on Fruit Drying and Curing

[By R. Schmidt, Division of Pomology, University Farm, Davis.]

PRUNE DRYING.

Prunes are harvested by gathering the thoroughly ripe fallen fruit from the ground. If the trees are shaken, a mere touch is sufficient. Pick French prunes three or four times. Imperial prunes, being larger and heavier, must be handled more carefully and picked oftener. After picking, the prunes are put into a wire basket and dipped into a solution of about one pound of lye to thirty gallons of water, being kept as nearly as possible at the boiling point during the dipping. Dipping is done to slightly crack or check the skins of the prunes, which enables them to dry better. The fruit is dipped into the hot lye but a few seconds, just down and out again, giving them a slight shake while in the boiling lye solution. The lye must not be so strong nor the immersion so long continued as to cause the skin to become cracked all over or until it actually begins to peel off. After coming out of the solution, the prunes are often rinsed in cold water to clean them. They are then put on trays to dry. This takes from five days to several weeks, depending upon the weather. The smallest prunes will become dry first and it is advisable to watch them and take them out of the trays before the larger ones are ready to be removed.

PEACH DRYING.

When a peach is slightly soft to the touch over its whole surface, it is ready for drying and should be picked from the tree and sulphured as soon as possible after being cut and pitted. The peaches are cut in half and laid on the trays "cup" side up. The sulphuring process is practically the same as that described for apricots. It usually takes two to three hours and requires two or three pounds of sulphur for each sulphur box full of trays. When sufficiently sulphured, the skin slips off easily and the juice collects in the cup. Care must be taken in regard to spilling this juice while handling trays.

PEAR DRYING.

Pears are usually picked when the stem separates easily from the tree upon lifting the fruit with the hand. The fruit is then placed either in boxes or straw bins and allowed to remain for about ten days or until ripe. When ripe, but not overripe, the pears are cut into halves or quarters, usually the former. The stem is pulled out and the calyx cut, but the core remains. The fruit is then sprinkled with water and sulphured at least eighteen hours. This will require four or five pounds of sulphur. After sulphuring, the cut pears are put in the sun, sometimes for not more than one day, depending upon the locality, and afterward they are allowed to finish drying in the shade. This will take from two to four weeks, but will result in a very superior dried product. Pears may, however, be entirely dried in the sun if preferred.

FIG DRYING.

Calimyrna: Figs should remain on the trees until they shrivel and drop off of their own accord. Slight shaking or jarring may be necessary to make them drop. Put on trays. The culls and the soft specimens are removed, the latter being put in the sun until dry. Figs must not be over-dried, otherwise the skins become tough. After having been picked over, the properly cured figs are simply piled up and allowed to sweat, if possible for two weeks, being turned over with a shovel several times. They are then dipped into brine composed of four ounces of salt to one gallon of water, and left in this solution for about fifteen minutes. Some growers add about one-half per cent of lime to this brine. After dipping they are again placed on trays and are allowed to dry for about half a day. They are then ready to be stored. The salt solution makes the skin soft and glossy.

White Adriatic: The process of drying the White Adriatic fig is about the same as that of the Calimyrna, with the exception of sulphuring. On account of the greenish tinge of the skin, this variety is usually sulphured for several hours immediately after being picked, or after being dipped.

Mission, or California Blacks, are very easily dried, the process being the same as for the Calimyrna.

RAISIN MAKING.

For raisin making, grapes should be picked when the sugar by saccharimeter test reads at least 25 per cent. If no saccharimeter is available, be certain that they are very sweet to the taste before picking. It is better to have them over-ripe than not ripe enough. In the warmer and drier sections grapes are simply picked and the clusters placed on trays. In about a week, depending upon the location and weather, the upper grapes, exposed to the sun, take on an amber color. The bunches are then ready for turning. This is done by placing an empty tray over a full one and turning them both at once. The original tray is then on top and may be removed. In four or five days more the grapes should be dry, and by rolling one between the thumb and forefinger a thick syrup should flow from the stem end; if not dry enough, the juice will be watery. From the trays the raisins are usually transferred to sweat boxes holding about 125 pounds each and allowed to sweat from ten to twenty days. This equalizes their state of dryness and improves their appearance and texture. For storing at home any size box will do.

Note. — Blueprints showing plans and specifications for constructing sulphur house, home-made dryer and dipper, will be furnished upon application to the Division of Pomology, University Farm, Davis, California.

OLD PRUNE TREES CUT BACK.

A seven-acre block of sixteen-year French prunes owned by S. L. Wattles of Sonoma county had overborne and been allowed to fill up with fine dead brush. This was cut out, with much more brush, and the rest heavily cut back. Next year it bore over a ton per acre of dried prunes and has averaged over three tons per acre ever since, according to Mr. Wattles. Prospects at this writing are for four tons per acre this year. They have not been topped back heavily since five years ago, but have been thinned out at times.

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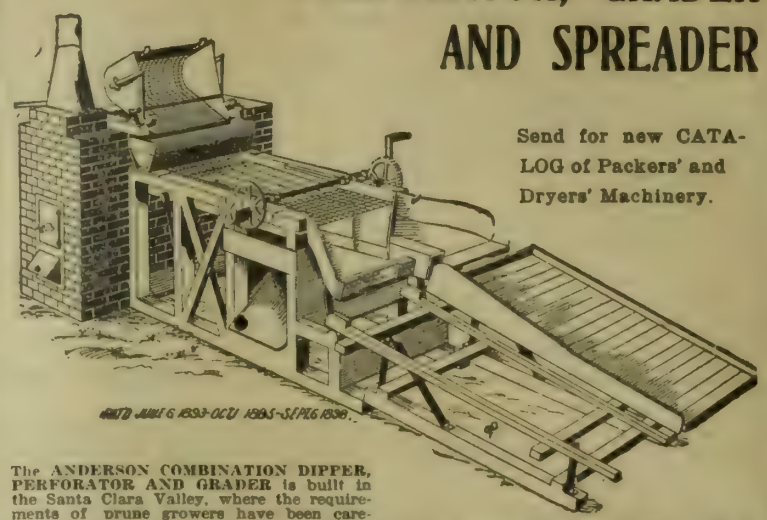

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Women Work Well in Orchards.

[Written for Pacific Rural Press.]

When people talk about importing Oriental labor for the fruit harvests, it is well to remind them of what has proved possible with our own American children and women, to the health and profit of all concerned.

One man, at least, who operates 280 acres in San Joaquin county, mostly of fruit, has never hired Orientals, though he has generally depended on Italians. The latter seemed unavailable this year, and since the hobo element is not wanted at this ranch a better solution has been found.

Fifteen extra men were needed to thin 25 acres of peaches and plums on the N. Vesper Williams ranch. Only six could be obtained; but the fruit was thinned, as fast and more satisfactorily than heretofore by men. The solution of this difficulty pointed the way for grape packing, which began in July on Mr. Williams' 160 acres of table grapes.

He advertised locally for women to do the work. They came, one of them several miles afoot, and he hired them. One had raised fourteen children. She brought two of them and a daughter-in-law along to help with the work. "Ma" was one of the most satisfactory workers on the stepladder; for she is thin. A heavy woman and a stepladder might be dangerous in an orchard. Nine ladies, more or less young, worked through the fruit thinning. Some noses turned red and some witch-hazel and liniment were used the first few nights. Hats proved too much in the way of the workers. Autocaps and sunbonnets replaced them. Roomy overalls made climbing safe and decorous. Short khaki skirts and bloomers may prove better. Sleeping quarters were provided upstairs in the big packing shed. Bedsteads and springs were furnished. Each worker brought her own blankets. Since the ranch employs fifteen to twenty men the year around, it was no trouble to provide boarding facilities for the women. Mr. Williams offered $1.50 per day and board, or $2.25 per day without board, working ten hours a day. Most of the women chose the former. A woman cook was paid $1.50 per day and board.

This Picture Shows Some California Peaches Where They Grow to Perfection.

But when it became known that Mr. Williams was so well satisfied with women's work that he wanted them to pack his grapes, beginning in July, applications came from as far as the south end of the county. Over fifty women had already applied late in May, many of them wanting to bring their own tents and cooking outfits. About twenty-five women will be needed for the grapes. For this reason probably the dormitories proposed will not be built, but tents put up instead, if necessary. A forewoman is to supervise them, though it was not found necessary in the fruit thinning and no troubles developed.

August Lemon Pruning.

Three ways of pruning lemon trees on three acres last August has convinced B. J. Morey that heavy fall pruning of lemons in level Tulare orchards will not do, on account of cold, and that pruning later than August causes new growth that does not harden enough before cold weather. One set of the trees had the tops pretty well cut out and thinned out, but the "skirts" left almost as they grew. These had lots of lemons all through the skirts, but they were small and late sizing up, so they had to be marketed after the first of the year, when prices are poor. Much growth in the top was frozen back and the trees do not look so well. A few in the lowest part of the orchard, which is on the deep red soil of the Lindsay-Strathmore district and is practically level, were not trimmed at all and were not frozen at all. The rest were thinned and pruned moderately all around and in top and skirts. They are in good shape. They had the most fruit; and it sized up before the freezes of last winter. The frost scarcely touched them.

Mr. Morey also prunes in the spring; but he wants the growth following fall pruning to harden up before winter.

SHAKE NORTHERN PRUNES.

Prunes dry considerably on the trees in Tehama county, and hang on longer than in Santa Clara. After the first ones have dropped and been picked up, the trees are shaken lightly to get the riper of those left. Later, everything is shaken off with long hooked poles.

Continual surface cultivation should be given currants and gooseberries.

Get the Right Kind of Powder for Stumping

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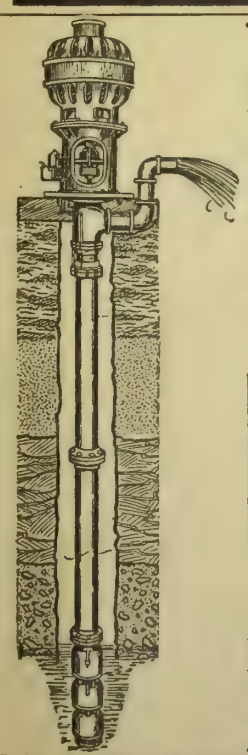

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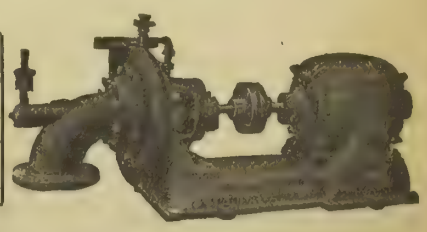

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BYRON JACKSON IRON WORKS, Inc.
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Exterminating Squirrels and Gophers

[Written for Pacific Rural Press.]

An earnest plea is made by Squirrel Inspectors Neil Anderson and A. C. Morgan, appointed last March under a Fresno county ordinance designed to exterminate ground squirrels and gophers. Mr. Anderson inspects the field, inaugurates local "Squirrel Days", addresses country school house and chamber of commerce meetings, explaining that it is possible to exterminate the pests and that both the county and State laws require landowners to do it. If they do not, the county will do it for them at greater cost, which will be a lien on the land taking precedence over all other liens except for taxes. Under the State law, county horticultural commissioners conduct squirrel campaigns. Mr. Morgan takes charge of the Fresno office, answering queries, getting lists of names from the tax collector's roll, etc., and selling four or five tons of poisoned barley per month. Some 2000 notices for landowners to clean out the rodents have been sent per month. Six or seven hundred personal letters must be written per month. The job got too big for the two men, so they now have a stenographer.

The system is to send a notice to every landowner in a township to get rid of squirrels on his land within ten days. Thus everybody's doing it, and there is none of the complaint as heretofore that neighbors furnished breeding grounds from which the animals would reinfest land that had been cleared.

GROUND SQUIRRELS OR GOPHERS.

While ground squirrels are probably worse than gophers, you don't want either. Which infests your land will determine how you go at it to exterminate the tribe. Ground squirrels leave their holes open, much bigger than gopher openings, with dirt pushed to one side. They always feed above ground and in daylight, eating green stuff, bugs, birds eggs, meat, or seeds, but storing only seeds, grains, nuts, and other imperishables. They often take seeds from raisins to store for winter. They carry food in cheek pockets connected with their mouths. These pockets are lined with mucous membrane, and this is the means of their death, as described later.

Gophers generally pile the dirt all around the openings from their holes and then plug them up with loose dirt. They work in the dark or on cool, cloudy days mostly and where the soil is damp. Their food is largely roots. They carry food in pockets folded in the skin unconnected with their mouths. Gophers make main runways, which are kept open so rootlets will grow into them from which the animals may feed. If they see a clump of green even 200 or 300 feet away, they will make a main to it. To dispose of the dirt, they dig short laterals to the surface, carrying dirt out in their pouches as well as pushing it ahead of them and filling the laterals back to the runway. The gopher runway is about level, six to eighteen inches below the surface, and it never shows on the surface. If a root is encountered, they gnaw it in two, even up to six inches in diameter. A nest and storage room is built two or three feet deep, where as much as a half bushel of food has been found. Gophers have scarcely any eyes at all; their fur is short, heavy and brown; they have heavy forepaws with which to shove dirt and their tails are short and hairless.

TRAPS.

Traps are effective for the one who has time and traps to do the work. Insert one in the main runway of a gopher, leaving the hole open but the trap back from the opening. The gopher will soon attempt to close the hole. Traps may be set in the mouths of squirrel holes to get them when they come out to feed.

POISONED BAITS.

Poke a hoe handle into the dirt not far from a line of gopher piles; and when you have found the hole, drop into it some strychnined raisins, potato, etc., with not too much strychnine in each piece. Poisoned barley is best for squirrels. This can be bought from the various farm bureaus or squirrel inspectors, or made from formulas furnished by the Government or others. In Fresno at this writing, poisoned barley from the inspector costs 30 cents for two pounds, $11.25 per 100 pounds, and graded prices per pound for intermediate quantities. A tablespoonful of this is scattered in a radius of several feet around each burrow. The squirrel never eats it without peeling off the poisoned husk and throwing it away safely. This he does if he finds a pile of poisoned barley near the burrow. Mice or birds also would then get much of it. Being scattered about, the squirrel stores it in his cheek pouch until he gets a load, by which time enough poison has been absorbed by the mucous membrane to kill him before he has a chance to eat it. Mr. Morgan has at one time opened twenty dead ones, finding grain in the stomach of but two.

POISON VAPORS.

If there is fruit or other good eating close by, the squirrels and gophers may not take poisoned bait. Poison vapor thoroughly applied is more expensive but quicker in exterminating the pests. Sometimes the vapor is forced into the holes with a pressure machine. Sometimes it is simply put in on waste balls and the holes closed to confine the vapor. Often the vapor is exploded to force it into every part of the burrows. Messrs. Anderson and Morgan have blown up 200 feet of gopher runway at once after charging it with a stove distillate machine. They killed every one on 80 acres once with gasoline, which must be exploded to be efficient. Kilmol has proved most efficient, but is more expensive. Carbon bisulphide works almost equally well. Always be careful about getting burned. Don't breathe much of the gas, for it is poison.

BLACKLEAF FOR SQUASH BUGS.

To the Editor: In the June 16 issue of the Rural Press "Grower," Chico, asks for a remedy for squash bugs. Last year I used blackleaf 40 with satisfactory results. I want to emphasize the fact that each bug must be wet with the spray.

E. P. MONTGOMERY.

Walnut Creek.

Close pasturing of alfalfa late in the fall is what brings weeds in, observes J. B. Kroetch of Glenn county. Cattle eat the good alfalfa and allow the weeds to go to seed.

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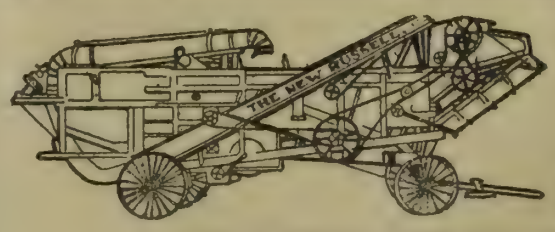

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

A DRIVE ON BEAN APHIS.

Horticultural Commissioner Christierson of San Luis Obispo gives a report on spraying "horse" beans for plant lice. Method of spraying and approximate cost are given in his report as follows:

A Bean triplex power sprayer developing a pressure of 225 to 250 pounds, two leads of hose and Bean disc angle nozzles were used in the experiments. Two pints of Black Leaf 40 and 16 pounds of soap dissolved by boiling in 200 gallons of water constituted the spray material. Ninety-nine per cent of the aphides were killed. Examinations two and three weeks later showed but a very few plants in area sprayed as reinfested.

M. V. Bettencourt, on whose fields trials were made, gave the following figures on the cost of spraying the thirty acres he had then covered:

Black Leaf 40, 10 gallons at $10.75, $107.50; five boxes soap at $4.75, $23.75; rental of spray outfit seven days at $3.00, $21.00; labor, three men seven days at $2.00, $42.00; team, seven days at $2.00, $14.00. Total, $208.25; cost per acre, $6.90.

Mr. Bettencourt is satisfied that spraying will be the means of saving a great part of his $300 per acre crop. The crop is setting beautifully, as many as twenty long, plump pods being counted on one vine.

Later reports indicate that the amount of Black Leaf 40 may be reduced one-quarter and possibly one-half. We hope to spray the small beans for about one-half the cost of spraying horse beans.

POTATOES AND DEEP PLANTING.

They were a fine-looking bunch—the potatoes planted by Mr. E. H. Herron of Los Angeles county in the latter part of last February. The ground was plowed 12 inches deep with a 4-horse team, then a 12-inch lister was run leaving 12-inch furrows 3 feet apart. In this furrow, every 15 inches were planted the potatoes, then 3 inches of dirt was thrown on top. As they grew more dirt was thrown into the furrow. This crop was seen the 10th of June, and at that time the plants stood 2½ feet high, with the stalks averaging ¾ of an inch in diameter at the bottom. They were past blossoming and almost ready to harvest. The ground was not in hills, but the dirt had been continually thrown into the furrow until at this time the ground was perfectly flat. This crop had never been irrigated, dependance being placed on the depth of the plant to get the moisture. By inspection we found a wonderful crop of large marketable potatoes, about 7½ tons to the acre, some between 1 and 10 inches deep, some lay less than 1 inch from the surface. This system avoids disturbance of the tubers.

CORRUGATED IRRIGATION.

Where land is to be irrigated that is fairly level but on which there are no borders to keep the water from spreading promiscuously, corrugation is recommended by P. E. Anderson of San Joaquin county, an experienced land leveler and irrigator who formerly used this method in irrigating grain in Idaho. The principle of corrugation irrigation is similar to furrow irrigation but instead of using small shovel plows to mark out the field a sled-like tool with four 4x6 runners having a plank platform on top is used. These runners are placed at two-foot intervals and are beveled at one end and on the bottom. A piece of steel two and a half inches wide is nailed on the front of each runner to open the small furrow that is to be made by the runner. When in operation the weight of the driver sinks the runners into the ground so that they make small furrows, but, unlike the shovel plow, these furrows do not have porous sides and bottom that absorb an unusual amount of water. On the other hand, they are fairly well packed down, thus carrying the water over the land rapidly. After irrigating is completed they can be cross-harrowed out and the field left in a level condition.

UNIFORM-SIZED BALES OF HAY.

Every bale of hay the same size and just right to fit three across a freight car is an advantage obtained by A. Burns, who bales hay in Tehama county. The bales weigh 140 to 175 pounds each, according to the moisture in them. The equal size is obtained by using wires all 8 feet 3 inches long with a loop in each end, but with one side of one loop bent to a hook shape. When the bale is ready to tie, it is already squeezed to a smaller size. The hook ends of three wires are run through open iron grooves, which lead them around to the front at the other end. The hook is passed through the loop of each wire and the bale released.

CORN BRITTLE IN MORNING.

When corn is cultivated taller than usual, the stalks may snap off in early morning, when later in the day they would bend over without breaking, says N. H. Cox, from experience in Sonoma county and back East.

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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

ORCHARD TRACTOR AND TWO MULES.

[Written for Pacific Rural Press.]

With an 80-acre orchard in Santa Clara Valley, E. T. Nielsen does all his work by tractor since last November, except hauling boxes, fruit, props, etc., and plowing a furrow or two away from the trees. Two mules are kept for this. That they are not overworked was shown by their sleek fatness and by Mr. Nielsen's statement that all they have eaten since spring work began is 1½ sacks of barley and what hay they want. The 18 horsepower tractor does the rest. It is supposed to pull 8 horsepower on the drawbar, and Mr. Nielsen says it does work equal to what eight horses could keep up all day in ordinary weather.

A two-section spring tooth harrow used to be more than three horses wanted to keep moving; but now the tractor pulls four sections easy. The radiator never has been hot enough to steam, though recent warm weather made it pretty warm once or twice when the water got low.

DISK PLOW IN ORCHARD.

[Written for Pacific Rural Press.]

All but one team of work horses were sold when J. D. Cox got an 18-8 horsepower tractor to work his 65 acres, mostly of orchard. He has found it possible to plow 50 acres this year for neighbors also, because he did not plow his own orchard twice, as he usually does. He has found that 30 cents an acre pays for distillate, oil, and grease. He pulls 50 inches of disk plows in his soft river-bottom soil nine inches deep, except close to the trees, where the plow is raised. Moldboards on tractors in orchards are too likely to break machinery or big roots to suit Mr. Cox. He cultivates the open orchard by tractor; but where intercrops are in rows closer together than the width of the tractor, horses are used because the single front wheel on his machine would ride down one row if the tracks did not run on two of them.

RUNS BEAN RANCH WITH TRACTOR.

[Written for Pacific Rural Press.]

When preparation of previously flooded ground for bean planting starts in Sutter county, there is a rush on the larger ranches to get the dirt worked down fine in time for planting. Many tractors have been doing this rush work, and H. M. Thayer, who has used a 20-40 five seasons, is one who says that he "cannot afford to monkey with draft stock and feed high-priced grain and hay." Moreover, the tractor can keep going day and night. Mr. Thayer worked 175 acres of beans in 1916 and has 400 acres of beans this year.

Plowing was done in the fall, five to eight inches deep, pulling 60 inches on high speed over three miles per hour. It breaks the soil up and makes it fall apart when running on high; but for the sake of time Mr. Thayer proposed last spring to add 40 inches more and run it on low, about two and a quarter miles per hour. This makes nearly 2.3 acres per hour when running steadily. The plowing is followed by a double cutaway disk, which does good work in the tule ground. Then it is harrowed and rolled by the tractor. This leaves it in fine shape for planting.

LATE GRAPE IRRIGATION.

[Written for Pacific Rural Press.]

There are many pumping plants in the ditch-irrigated districts of the San Joaquin Valley; for people are more generally recognizing the necessity of saving their year's work by a little irrigation during the hottest months when ditch water in many districts has played out. This is especially feasible in Fresno county, where the grapes often sunburn for lack of water to supply an abundance of leaves to protect the grapes, and an abundance of moisture to replace excessive evaporation from the grapes themselves, due not only to the direct rays of the sun, but also to reflected heat from the sand. For raisin grapes this may well be done as late as possible, and yet have time to cultivate well so the surface will be dry and hot when the trays are laid in August or September. This year the ditch water has lasted well into July, but those who did not use it then may find need of water to mature the grapes.

About 1500 acres, mostly in rice, are irrigated from the river near Knights Landing with a 30-inch centrifugal pump run steadily five months by a 125-h. p. electric motor aided by a 26-inch pump run by a 75 h. p. motor every fourth hour, according to A. Grice, watermaster for the River Farms.

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KILLEFER QUALITY
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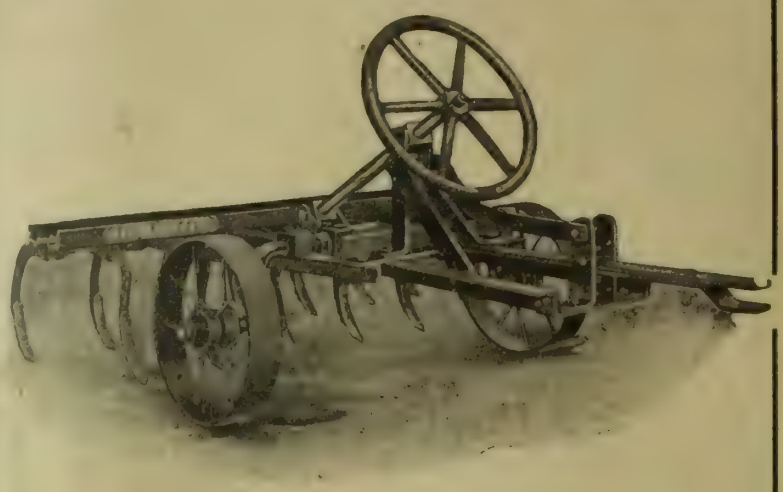

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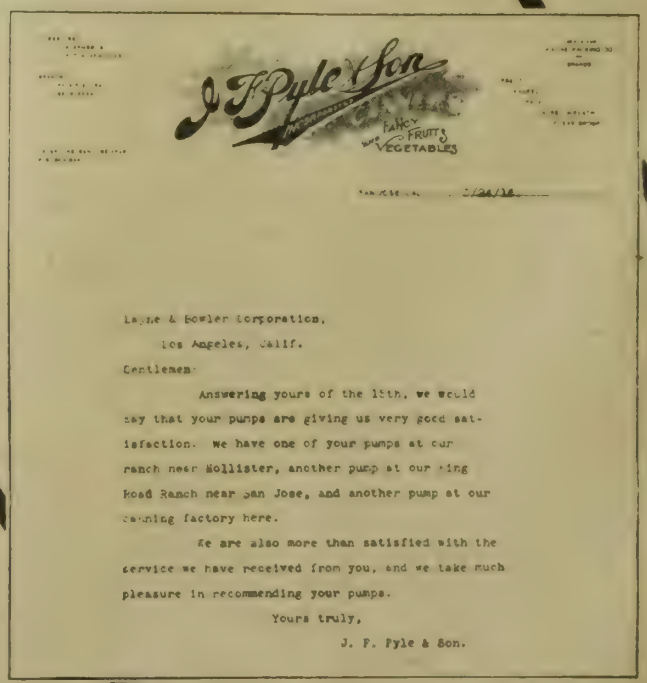
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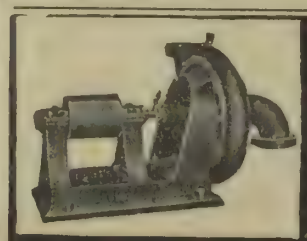

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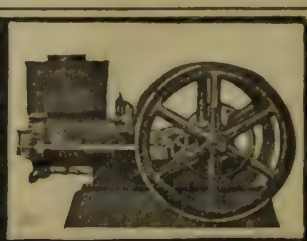

DISAGREEABLE TRACTOR EXHAUSTS.

[Written for Pacific Rural Press.]

Where to place the tractor exhaust outlet has been more or less of a problem with manufacturers. In one wheel-type machine the exhaust blows dirt from the drive cogs. In another machine it shoots upward so close to the driver's face that it makes him sick. This was the experience of E. T. Nielsen of Santa Clara county. He remedied the trouble by putting a stack 15 inches tall on the exhaust. A pin through its base formed a hinge on which it would bend backward when it struck a limb in the orchard. On the front side a wire and coil spring were fixed to pull the stack vertical again.

Another machine avoided similar annoyance by changing the exhaust to a point far enough forward so its fumes spread out in air before reaching the driver, except when facing a strong wind.

Mr. Nielsen sees no reason why the exhaust manifold should not open at its front end pointed forward, instead of from its back end, or upward from the center. Exhausting downward has been abandoned by some machines because the hot fumes rise and envelop the driver.

PUMP AND ALFALFA AVOID ORCHARD CULTIVATION.

[Written for Pacific Rural Press.]

Three acres of Elberta peaches, including a few almonds, have been in alfalfa four years and have averaged 18 tons of fresh peaches during that period for G. B. Abbott of Tehama county. The peaches are on peach root and the almonds on almond. The latter have not all thrived, and the roots of a few in a low place have rotted, probably due to the alfalfa irrigation, so these trees have blown over. But the peaches are fully as thrifty as those on the rest of the same five-acre orchard, which is clean-cultivated. All have dark green, healthy foliage all over the limbs and down to the trunks, which are six inches in diameter.

When seen by the writer in May, 1917, the alfalfa had a good stand, and the second cutting was not yet budded. Five cuttings had been made the year before, though the later ones were not heavy on account of the shade.

A strip of three or four feet each side of the rows is cultivated and is higher than the alfalfa checks, so the trees stand on low, wide borders.

Otherwise there is no cultivation, no disturbance of the roots, which are aerated by air following irrigation down. The alfalfa is flooded by running water through three-inch galvanized surface pipe to the heads of the checks from a two-inch centrifugal pump run by a 3-horsepower electric motor.

VINEYARD TRACTOR GANG PLOW.

[Written for Pacific Rural Press.]

A four-gang vineyard tractor plow used by J. T. Onstott of Sutter county has an additional bottom to take out dirt between vines in the rows. It is hooked to the second plow from the left, and is worked back and forth with a swing of more than ten inches. It has a long beam, so it works behind the furrow wheel of the gang plow. A platform over it rests on the gang and on a wheel which runs on plowed ground. The operator of the swinging plow has a seat on the platform. A hand wheel is fast to a vertical rod through the platform. Under the platform it is bent at right angles to form an 8 or 10-inch arm. This is pivoted to a horizontal rod whose other end is pivoted to the swinging plow beam.

The pulley on Samuel Fox's electric motor was not big enough to speed up the centrifugal pump quite enough, and was not easily replaced by a larger one. So it was enlarged with a piece of leather belting.

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KROGH DEEP WELL TURBINE PUMPS

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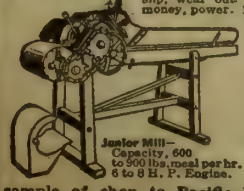

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Plants or cultivates two rows at once. Single front guiding wheel runs between rows—double rear driving wheels outside of rows. Turns short either way at ends to go back on next two rows. Costs less to operate than horses or mules. A great success.

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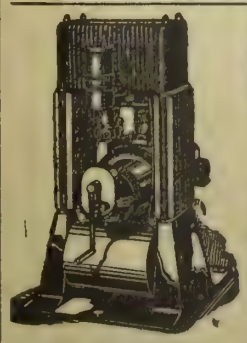

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General Agricultural Review

Field Crops.

Last week 20,000 pounds of hops changed hands in Sonoma county at 12c per pound.

In the Oakdale section ten to fifteen sacks of barley are being taken off on an average.

Herbert Hoover says it is not the intention of the food administration to fix the price for wheat.

The Chicago Board of Trade has fixed a maximum price of $1.28 for December and May deliveries in corn.

Tomato canning will start at Lindsay, August 5. The tomato crop in that district, it is said, will be 1,500 tons.

Hop contractors have been offering Sacramento valley growers to contract the present season's crop on the basis of 10c a pound.

Kern county farmers have just finished digging the early potato crop, which it is said reached 175 cars and to have been worth $150,000.

Strychnined barley for squirrel poison is being furnished to ranchers at cost ($1.10 per gallon) by Tulare county through local distributors.

A bunch of Sudan grass 8½ feet tall was brought to the office of the Dinuba Sentinel, July 6, having been planted April 23 by L. H. Heliot.

Ventura county beans were not hurt by the freak weather of a few weeks ago, say those who have inspected the crop in that county and in other localities in the district.

Cantaloupes are a high-priced fruit this year, but hundreds of cantaloupe growers in the Sacramento river district turned their attention to potatoes and onions—and now regret it.

First beans infested with red spider were brought to Fresno County Horticultural Commissioner early in July. This pest has not been so bad as usual in Fresno and Tulare counties.

Farmers in Inyo county appealed to the State Council of Defense for means of relief against a new species of worm infesting the alfalfa fields there and which threatens growing crops.

In order to reduce the cost of fighting squirrels to a minimum, Horticultural Commissioner Fred K. Howard will supply ranchers in Fresno county with poisoned grain at two pounds for 25c.

A blackeye bean grower near Visalia brought some vines infested with aphis to the County Horticultural Commissioner's office early in July. Hot weather usually kills these pests.

The National Community Trade Bureau of Washington, D. C., is said to be making inquiry about rice land. The Bureau wants to get 10,000 acres of good rice land in either the San Joaquin or Sacramento valley.

Governor Campbell of Arizona has telegraphed to the California State Council of Defense asking what prices could be quoted for carload lots of potatoes and onions. These have been offered at 60c per hundred pounds for onions and 1½c per pound for potatoes.

It is said that potato growers in the Woodville and Poplar districts in Tulare county are considering the formation of an association for the purpose of bringing suits against commission firms who have gone back on their contracts for early potatoes. A number of growers contracted crops at $2.50 per cwt. to San Francisco and Stockton buyers, but now that the market has declined they refuse to accept deliveries.

Deciduous Fruits and Nuts.

The State Board of Horticulture says that the fruit crops are nearly 100 per cent in Northern California.

Several of the Healdsburg orchardists are having local firms build new driers to care for this season's fruit.

Pear growers are taking steps to effect an organization which will insist upon a reasonable price for green pears.

Light ropes have been tied around the tops of many peach trees in the Reedley district to prevent limbs from breaking.

The coming apple crop in the four northwestern States of Washington, Oregon, Idaho and Montana is estimated at 23,000 cars.

Satsuma plums are now coming to market in Los Angeles. The crop is a bumper one and the fruit fine, bringing 75c per small lug.

The California Peach Growers' Association has announced that the final payment of $400,000 will be made to peach growers for their 1916 crops before August 1.

Ontario is now gathering and canning and drying its apricot crop, which is said to be a bumper. It is estimated at 8,000 tons and is giving employment to 3,000 men, women and children.

The establishment of a 6c base rate for prunes announced by the California Combination will cause Oregon growers to lose this year at least $200,000 on their prune crop, so Oregon papers claim.

The Sebastopol Berry Growers' Association is shipping a heavy tonnage to Eastern points. The prices received are good this year, and, barring unforeseen losses, the berry growers will do well.

Hemet is engaged in saving its biggest apricot crop. Two thousand men, women and children are now picking, canning and drying about 5,000 tons of cots, the estimated yield of 4,000 acres of bearing orchards.

The two almond associations at Corning have been merged into one by the California Almond Growers' Exchange, the local association there to be known as the Tehama County Almond Growers' Association.

The question of wages for fruit pickers in the Santa Clara Valley is a vital one at this time. The usual price has been $2 per day, which the growers are now ready to advance to $2.50, but the pickers' union are asking $3 per day.

Prune trees imported into Tulare county to be planted last season numbered 185,186, according to Horticultural Commissioner Collins. Add 5 per cent to this for home-grown trees. In the season of 1916, 114,778 prune trees were imported, and in 1915, 101,318.

Work has started on the big fruit and vegetable cannery of J. C. Kubias of Redlands. A cannery is being built that will handle 40,000 cans

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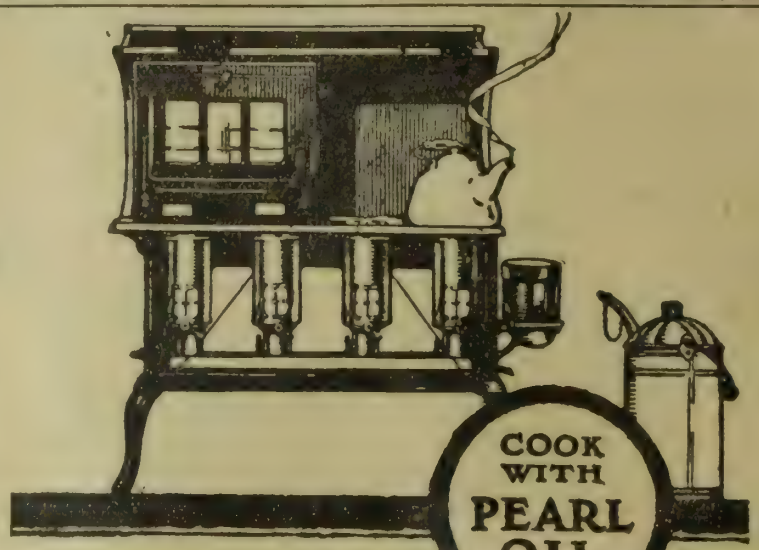

COMFORT
Cook in a cool, comfortable kitchen this summer. An oil cook stove is comparatively inexpensive to buy and it will soon pay for itself in comfort and lower fuel expense. Meals in a jiffy, and a cool kitchen in summer.
Bakes, broils, roasts, toasts. Better cooking because of the steady, evenly-distributed heat. More convenient than a wood or coal stove for all the year 'round cooking, and more economical.
The long blue chimneys prevent all smoke and smell.
In 1, 2, 3 and 4 burner sizes, with or without ovens. Also cabinet models. Ask your dealer today.
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STANDARD OIL COMPANY
(California)

"The Schmeiser Way Makes the Farm Pay"

If you are paying more than 35c per ton for stacking your hay, you are losing money. You can stack it for less than that if you use the
SCHMEISER IMPROVED PORTABLE AUTOMATIC DERRICK,
"The World's Greatest Hay Stacker,"
Stacks hay baled or loose, Saves Labor, Saves Time, Saves Money.
More Schmeiser Portable Automatic Derricks are sold on the Pacific Coast than all other hay stackers combined. The reason is:
"The Schmeiser Way Makes the Farm Pay."
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12 Mechanic St., Davis, Cal.
Manufacturers of
Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; Schmeiser Alfalfa Land Leveler and Checker, Martin Farm Ditcher and Road Grader, and
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RELIANCE TRAILERS
Two and four wheel types, 800 lbs. to 5 ton capacity.
$75 AND UP.
Truck attachments for any car, 1 to 3 ton capacity.
$310 AND UP.
Write for descriptive circulars.
RELIANCE TRAILER & TRUCK CO. 3765 Mission St., S. F.

of fruits and vegetables per day, and when finished will be one of the most complete in Southern California.

There is some activity shown in the Oakley district in contracting for almond crops from those not members of the Association. It is understood as high as 17c per pound for I X L's, with an equally high price for other varieties, down to 14½c, have been offered.

Citrus and Semi-Tropical.

The California Associated Olive Growers are to have a new olive canning plant at Lindsay.

Gray scale seriously menaces orange trees in Fresno county, says County Horticultural Commissioner Roullard.

George Hecke, State Horticultural Commissioner, says the torrid weather of June 15, 16 and 17 practically exterminated the black scale which attacks orange and lemon trees in the South.

The Pomona Chamber of Commerce estimates that the Pomona Valley, through the San Antonio Fruit Exchange, will bring growers more than $4,000,000 more than any other crop ever realized.

The orange crop of Butte county is estimated to be 25 per cent of normal. It is said the decrease in the crop average is due to the burning north wind that blew when the crop was forming.

It is said that the advance in cyanide increases the cost of fumigating oranges from $30 per acre to $50 per acre, which will impose on orange growers of Tulare county an additional tax of $250,000.

Several cases where fruit from orange orchards with cover crops ripened to the 8 to 1 test much later than surrounding clean cultivated orchards have been noted by Tulare County Horticultural Commissioner Collins.

Application has been made by the officials of the Tulare County Lemon and Grapefruit Association to the State officials for their permit to do business in that district. It is expected a plant can be completed in time for fall packing.

A Tulare county citrus orchard sprayed for gray scale has recently developed a most flourishing crop of cottony cushion scale. The spray evidently killed the vedalia which prey and control the latter scale; but the scale were not hurt bad.

A strange new bloom on orange trees has started in various sections of the San Bernardino region, which lost its crop by the heat of June. A general reset of fruit, which seems probable, would save millions of dollars to the growers, it is believed.

Manager Dalton A. Field of Cucumonga says his Exchange paid out more money in June than any previous month in its history. The total payments reached $727,337, against $579,000 in May. June shipments exceeded last year's total by 433,000 boxes.

Difficulty enforcing the new orange standardization law is anticipated by Tulare County Horticultural Commissioner Collins, who has already engaged the co-operation of Northern Field Deputy Cundiff of the State Horticultural Commission to help early in the season.

C. F. Collins, Horticultural Commissioner of Tulare county, says that county has 38,260 acres of citrus fruits. Oranges 25,025 acres, of which 9912 acres are of trees over nine years old. There are 8,862 acres of Valencias, half in full bearing. Lemons 2,666 acres, of which 389 acres are commercially productive. Grapefruit 1,161 acres, mostly young trees, and 486 miscellaneous, including tangerines.

The July issue of the Sunkist Courier says: While it is too early to attempt an estimate of next year's crop, the percentages reported from the different districts, which are believed to be very conservative, indicate that the Exchange's shipments for the season beginning September 1st, 1917, will be at least 55 per cent of this season's, in which were shipped bumper crops of all varieties or about 66 per cent of the volume of other recent years.

Grapes.

The first grapes for the season were shipped from Vacaville, July 8th. They were of the Fontainbleau variety.

In Fresno and San Joaquin counties, two of the largest grape and raisin producing counties in the State, 100 per cent crops are forecast.

Wooden trays for raisin drying are hard to get in Fresno county; and ranchers hesitate to use paper trays after last fall's experience with rain.

Great interest is being taken by vineyardists all over the State in the mass meeting held in Lodi today (July 21) under the auspices of the California Grape Protective Association.

Crops ranging from 90 to 120 per cent are predicted for grapes over most of the State. In the upper end of the Napa Valley, where the frost damaged grape vines, crops of from 65 to 75 per cent are expectd.

The California Associated Raisin Company announces that, owing to the fact that it is not possible to secure an adequate supply of box shook for the coming season, a large portion of seeded raisins must be shipped in fiber containers.

Pre-drying of all Emperors until the stems wilt is proposed if they get rained on this fall. Great loss of fruit and reputation due to last fall's wet and subsequently rotten shipments has led to general plans for the coming season. Wylie Giffen has offered to donate the use of his drier at Dinuba, erected last fall to dry wet raisins. This drier holds over 1,700 raisin sweat boxes of fruit at once.

Miscellaneous.

The fifth annual Riverside County Fair will be held October 9-13 this year.

Canning of non-perishable food products is now permitted, the Government has announced.

Owing to the high cost of raw materials, all bean canneries in Utah have suspended operations.

The second annual Stanislaus Fair and Livestock Show will be held at Modesto, September 17 to 22, inclusive.

Work has been started on the reconstruction of the Hills Sag flume, between Oakdale and Knights Ferry, to cost $100,000.

The Solano County Board of Supervisors have voted $2,500 to protect grain fields from accidental or incendiary conflagrations.

Judge Charles E. Lobbell, member of the Federal Farm Loan Board, will investigate the friction in the Federal Land Bank at Berkeley.

A total of $11,661,905 in first mortgage loans to farmers at 5 per cent interest has been asked by the 230 farm loan associations, chartered by the Federal Farm Loan Board up to July 1st.

Save Your Crops

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Reg. & Pat. U. S. & Foreign Countries

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Full, steady power gets your silage cut, grain separated and other farm work done with least loss and cost to you.

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Easy to place in position and to attach pulley and belt.

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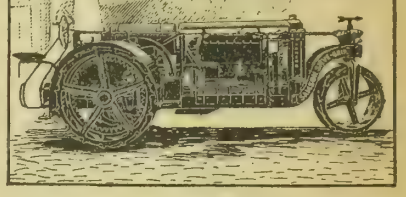

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A MAN is so busy these times that when he does get a couple of days' hunting or an afternoon at the traps, he is looking for *action.*

He wants to be sure about his *gun*—and that is one great reason why everybody speaks so highly of the Remington UMC Pump Gun and Autoloading Shotgun.

And in shells, you will get Remington UMC results only from Remington UMC Smokeless "Arrow" and "Nitro Club," the *steel lined* "speed shells"—and in *black powder*, the old established "New Club."

Sold by Sporting Goods Dealers in Your Community

Clean and oil your gun with REM OIL, the combination Powder Solvent, Lubricant and Rust Preventive

THE REMINGTON ARMS UNION METALLIC CARTRIDGE COMPANY, Inc.

Largest Manufacturers of Firearms and Ammunition in the World

WOOLWORTH BUILDING, NEW YORK

A Revival of Interest in the Sheep Industry

[Written for Pacific Rural Press.]

Our Government, through the Department of Agriculture, has enjoined many duties and economies upon its citizenry as necessities growing out of the war, some wise and some otherwise; but its advice to farmers to raise more livestock, and especially to give more attention to sheep husbandry is undoubtedly good advice. Recent market quotations of both mutton and wool would show the following of such advice to be not only a patriotic duty but a profitable investment. The last issue of the Rural Press quoted dressed mutton in San Francisco at 17c to 19c, according to grade. This is the wholesale price to retail butchers. Wool has soared to sensational prices, undreampt of even a year ago. Recent contracts in the Northwestern States, where the wool trade has been most active of late, have been based on prices ranging from 40c to 60c, and in some few instances above 70c.

WOOL VALUES ESTABLISH A NEW RECORD.

It is hardly surprising that these unprecedented prices for wool prevail when we bear in mind the fact that America's normal annual consumption of wool is about 600,000,000 pounds, and that we will grow this year less than half that amount. It is said that the census of 1900 showed that there were 1,000,000 farmers engaged in the sheep industry, and we are told that today less than half that number are so employed. This situation is due to a combination of causes, among which are the restriction of pasture range and the abnormal demands created by the war situation.

HOLD ON TO YOUR BREEDING ANIMALS.

An alarming phase of the present aspect of the sheep business—common to other branches of the livestock industry—is that holders of fine stock, breeding stock, are succumbing to the lure of the fancy prices now to be obtained and are sacrificing some of their best breeding animals, which augurs ill for the future. Every ewe lamb possible should be saved for breeding purposes. Sheep owners should market for slaughter only those worthless for breeding. Farmers are just beginning to wake up to the present and prospective profits of the sheep business, and breeding stock is coming into good demand. Sheep specialists of the United States Department of Agriculture believe that, although prices for breeding stock are high, those who now start a flock of sheep for the production of wool and mutton on a large or small scale will have no future regrets.

CALIFORNIA ADMIRABLY ADAPTED TO SHEEP HUSBANDRY.

California's climate and pasture resources are almost ideal for the carrying on of sheep raising. Its equable temperatures and short winters call for little housing of any description, though some protection should be afforded from the more rigorous storms that occasionally visit us in the winter months. The San Francisco press contained ominous reports this last spring of disaster to flocks of sheep and herds of cattle grazing in the higher elevations of the Sierra Nevadas, but a little later, when the real facts became known, it was learned that small loss was sustained in this respect. If a farmer carries one hundred ewes, or thereabouts, it will pay to provide a special building for their accommodation. A light, cheap structure will answer all practical purposes in our mild climate, but it is well to select for any type of such building a dry and well-drained site. A southern slope on sandy soil, if available, is to be preferred. Don't have the building too remote from the dwelling-house, as this adds to the amount of routine labor involved in caring for the flock. Besides securing dryness, have the interior of the barn fairly well lighted. It is advised that the windows be placed high so as to secure good light distribution. Also try to provide plenty of ventilation without creating drafts. Strong muslin-screen windows on the lee side of the building are recommended.

DOGS AND COYOTES THE SHEEPMAN'S WORST ENEMIES.

The most serious and discouraging menace to the sheep industry in California is the depradations of coyotes and dogs, and this may be said of the Western country generally. Quite recently several readers of the Rural Press, writing in protest against a brief communication appearing in our columns urging leniency for the coyote, declared that they were almost driven out of the sheep (and goat) business by the enormous losses from coyotes and dogs. If these heavy losses from marauding animals could be obviated, the business of sheep-raising would unquestionably receive a much-needed impetus; and a material increase in the number of sheep kept would inure to the benefit of the land by increasing its fertility. Stray dogs should be outlawed along with the coyote, and all dogs over six months old in or near sheep-raising communities should be taxed, and the license attached to the dog's collar. All dogs, licensed or unlicensed, identified as "sheep-killing dogs" should be killed. Where small bands of sheep graze on small areas sown to forage crops, it has been found practicable to erect dog-proof fences, and even coyote-proof fences. Such a fence is described by the United States Department of Agriculture as follows:

Posts 7½ feet in length, set 2½ feet in the ground and 16 feet apart; a barbed wire stretched flat to the surface of the ground; 3 inches higher a 36-inch woven-wire fence having a 4-inch triangular mesh; 5 inches higher a barbed wire; 6 inches higher a second barbed wire; 7 inches above this a third barbed wire. Total height, 57 inches.

Revada Guernseys
BRED IN THE PURPLE

Every animal on this farm is imported, and carries the blood of such noted sires as Governor of the Chene, Sequel's Monogram, and Governor of the Gree.

HERD BULL IMP, Ricardo of Edgmoor 34367

SOME FINE YOUNG BULLS FOR SALE

No Females for Sale at Present

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Do You Want Long Distance Backing?

We have a son of the California State Champion three-year-old for sale. Born October, 1915; sired by PRINCE ALCARTRA KOENDYKE, whose dam is TILLY ALCARTRA.

The Dam of this young bull is not a fifty-pound cow, but she has to her credit 21,208 pounds milk and 860 pounds butter in one year, which is the largest record ever made in California by a Junior three-year-old.

If you are in the market for a bull, it will pay you to visit our ranch and see what we have to offer—at prices that will surprise you

J. S. GIBSON CO., Box 97, Williams, Cal.

"THE NAME GIBSON INSURES QUALITY."

WHY NOT

Buy a bull from one of our tested cows to head your herd?

Do a little figuring, and see just what you are losing by using a bull at the head of your herd that should have been sold for veal in the first place?

Stop the loss now, by buying a good bull?

Get into the profit producing class?

Write now for descriptive booklet of a remarkable offering of males and females.

GOTSHALL & MAGRUDER

THE HOME OF THE STATE CHAMPION TWO YEAR OLD

RIPON, CALIFORNIA

In and Around the Dairy

[Written for Pacific Rural Press.]

PECULIAR DAIRY BREEDING SITUATION.

Bull dairy calves in Humboldt county are sold at birth to people who buy them for the hides at $1.75 to $2 each, alive. Many of them cook the meat for hogs. It was dried for poultry feed at one time, but didn't pay. Skim milk is too high priced at the condenseries, dried milk factory and casein plants to make it pay to raise veal, as figured by most dairymen except those in the hills too far from such factories to haul their whole milk.

Heifer calves are sold to whoever can use them, and perhaps a sixth are raised to replenish their owners' herds. The splendid success of the Cow Testing Associations makes it possible to select intelligently the best calves.

Since with this exception the only use for a bull in the average dairyman's herd is to get the cows with calf, any scrub bull will do as well as a purebred.

On the other hand, while purebred herds are scarce, there is probably not a county in the State where the general run of cows is of so high a grade—so nearly purebred. Dairymen realize the value of pure breeding in their milking cows, and calves from them; but do not need purebred bulls simply to make their cows freshen.

DON'T LIFT MILK CANS.

Dairymen in Humboldt county quite generally deliver whole milk to the creameries or skimming stations; since that has been found the best preventive of rotten cream such as may be found in many other districts. They use 20-gallon cans quite generally. These contain about 160 pounds of milk and are awkward to lift. At the creameries nobody lifts the cans. Lugs have been soldered on opposite sides of the cans, a trifle over half way up from the bottom. In each lug is a hole about three-quarters to one inch across.

At the creamery a rope runs over a line shaft and out over the arm of a derrick. The derrick is made of an upright at the door of the receiving room, with a horizontal arm extending from the top, far enough to reach over a wagon standing beside the building. At the end of the rope, which runs over a pulley at the outer end of the arm, is a pair of grappling hooks a good bit like ice hooks.

The milk receiver slackens his end of the rope and swings the derrick arm over the wagon. The hook pulls the rope down so its points can be inserted in the lug holes. A slight tightening of the rope causes the line shaft to lift the can. Then it is swung around and easily dumped.

REINFORCED STAVE SILO.

The wind swept up over J. D. Huston's barn in Imperial county and caved in his stave silo, though it was guyed and the hoops tightened. It won't do that again, for a one-half inch iron band has been put around inside the top of the silo and half around in the middle on the windward side. An eight-inch concrete wall has been built several inches up on the staves inside of them.

Pollard L. Kenyon, tester for the Gridley Cow Testing Association, reports that for the month of June nine cows in the Association made records exceeding 50 pounds of butterfat. The best cow was a Durham owned by Troncatty and produced 63.6 pounds of butterfat.

Gertie's Son, Victor, No. 123159
Dam, Victor Lady Lake (R. O. M.) of 536 pounds butter in 303 days as a 4-year-old.

INVEST in JERSEYS
AND START RIGHT
135 Registered Jerseys in my herd, including 18 Register of Merit Cows. Blue-ribbon winners at 1916 Hanford, Bakersfield, and Visalia Fairs.
CORRESPONDENCE SOLICITED.
A. A. JENKINS
TULARE, CALIF.

Purebred Registered
HOLSTEIN CATTLE
The most profitable dual purpose cattle are Holsteins, as impartial investigations conducted by experiment stations of Michigan, Iowa and Nebraska have conclusively shown. The Holsteins showed a greater gain per steer at a less cost per pound of either roughage or grain than any of the other breeds. Holstein calves are big, strong, and grow quickly, and Holstein beef is as fine in texture and taste as that of any cattle. Purebred Holsteins have firmly established themselves as the world's best dual purpose breed.
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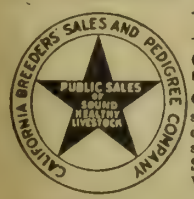

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Large or small lots. Any order executed.
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Cattle selected from best Imported and Advanced Register Stock.
Now Offering Choice Bulls.
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NOW
Is real thrift and genuine economy

"THRIFT" means saving wisely. "Economy" means spending wisely.

There is no economy in going without money-saving and labor-saving equipment.

It is poor economy to try to do without a De Laval Cream Separator—a machine which would not only save you a lot of time-wasting work, but would add from 15 to 25 per cent to your cream crop by putting a stop to your butter-fat losses.

This country is at war. The nation cannot afford, and you as an individual cannot afford, to allow the present enormous waste of one of our most valuable foods—butter-fat—to continue an unnecessary day.

See the local De Laval agent today. Get him to explain to you how the De Laval saves butter-fat that is lost by gravity skimming or the use of an inferior or half-worn-out separator. If you do not know the De Laval agent, write to the nearest Le Laval office for new catalog or any desired information.

Every New De Laval is equipped with a Bell Speed-Indicator

DE LAVAL DAIRY SUPPLY CO.
LARGEST DAIRY SUPPLY HOUSE ON THE PACIFIC COAST
Alpha Gasoline and Distillate Engines, Ideal Green Feed Silos, Acme Ensilage Cutters and Blowers, Irrigation Equipment, Centrifugal and Deep Well Pumps and Alpha Spraying Outfits. Send for Special Catalog.
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50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

CALIFORNIA HOG BOOK
"Worth Twice The Money"

The California Hog Book, by W. S. Guilford, issued by the Rural Press nearly two years ago, is winning its way among the swine breeders of the Coast. Here is what one buyer thinks of it:

He Changed His Mind

On July 4th he wrote us that he had heard of the book and to send him a copy to his address, C. O. D., at Los Angeles. On July 11th he wrote us:

"I am in receipt of a package with charges of $2.03. If this is the book I wrote about, it is too expensive for me. I have not opened it. The package is at your disposal."

Later, on the same day, he writes:

"Wrote you this morning, offered to return Guilford's book on hogs. Began reading it, wouldn't part with it now for twice the money. Many thanks.—M. McC."

California Hog Book, Price $2.00 Postpaid

Pacific Rural Press, Publisher
525 MARKET STREET SAN FRANCISCO

Champion Ram P. P. I. E.

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

M. Bassett of Hanford recently sold a nice Poland-China boar to Brunk of Oregon, and another to the "Twelve-Mile Ranch" of Oregon.

Dealers in PAPER
Blake, Moffitt & Towne
37-45 1st St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

In San Luis Obispo county the Verde cow-testing unit has grown from 1,000 cows to start with to 2,200 cows signed up June 6. A sales organization to dispose of cull cows cooperatively is now being organized.

Forty-seven of the 766 cows tested for the Stanislaus Cow Testing Association during the month of June won a place on the honor roll. The best individual record was made by a Holstein owned by L. D. Thompson—2.17 pounds of butterfat a day.

Chas. W. Ward, the Humboldt county nursery and bulb man, has fitted up a portion of his land near Carlotta and this week received from the East twenty-one registered Jerseys. Mr. Ward believes there is money to be made by producing high-testing milk and in raising purebred Jerseys. His foundation stock is from the Sans Aloi Financial King family.

Swine.

William Smith of Hanford bought three registered Poland-China boars recently from Dr. J. A. Crawshaw of Hanford, to use on the former's pork herd.

Dr. J. A. Crawshaw of Hanford has just received a $75 weanling black Poland-China boar from Iowa. The animal is sired by Peter Mouw's Gerstdale Jones. Twenty-three sows bred to the Gerstdale boar averaged $321 each at Mouw's sale.

The National Duroc-Jersey Association has appointed R. L. Hill of Columbia, Mo., as field secretary, who will help in promoting the breed. Mr. Hill will attend the California State Fair this fall and wishes to meet as many breeders as possible.

Charles R. Hanna of Riverside writes us that he has recently sold a boar pig to A. F. Beck of Kellerton, Iowa, three bred gilts to C. R. Laurence of Cottonwood. Also that he had just received a royally bred Poland-China boar from E. D. Frazier of Drexel, Mo.

Herrold Gist of Holberk Stock Farm, Tulare, has sold a registered Berkshire boar pig to W. D. Green. This pig is sired by a son of Laurel Champion out of Duke's Lady Value 10th. This sow was junior and reserve grand champion sow of America in 1913.

J. K. Macomber of Tipton, who bought some fine Poland-Chinas from W. Bernstein of Hanford, will show some pigs entered in the State Fair futurity by Mr. Bernstein. Mr. Macomber has Chief Picture 2nd, the sire of the $1,000 boar bought at the P.-P. I. E. by Mrs. Anita Baldwin of Santa Anita.

Frank Brush of Santa Rosa is fitting an exceptionally fine herd of Berkshires for the State Fair. He will have entries in practically all classes, including some good ones in the fat barrow class. Princess Leader, daughter of the Grand Champion sow at the P.-P. I. E., Riverby Princess, by the Grand Champion boar, Grand Leader, is coming along fine. She was farrowed June 24, 1916, now weighs over 400 pounds and is a splendid individual.

Sheep and Wool.

There are many thousands of sheep in the mountains in Clark county, Nevada.

Chas. Kimble of Hanford recently bought a carload of registered Rambouillet bucks in Ohio and Indiana.

The Frank Mecham Estate reports that the extraordinary demand for Rambouillets and Merinos has exhausted its supply for this season. They are also practically sold out of Shropshires.

It is estimated that 75 per cent of the wool output is being withheld from the market to take advantage of any later advance. The growers are holding back about half the clip and speculators hold the remainder.

In some sheep litigation in Oakdale recently the defendant claimed that he had impounded the sheep as estrays under the State estray law, and held them for $50 damage they had done his land. He filed a cross-suit for the $50 and the court upheld defendant's claim.

T. S. Glide of Davis writes that last week he sold to the Grand Canyon Stock Co. of Williams, Arizona, some stud rams which will be used to breed with their best ewes, from which they sell their rams. Mr. Glide also recently sold a ram to a party who two years ago bought a ram, from which he raised yearlings that weighed 169 pounds, while the average of his herd from other stock weighed only 136 pounds.

Beef Cattle.

Northern California has shipped to the Omaha and Chicago stockyards over a hundred carloads of livestock in the last three weeks.

Fourteen cents a pound on the hoof, the highest price on record in Chicago, was paid recently for forty head of cattle averaging 1,600 pounds.

W. F. Handley has received word from J. H. Hollister, Jr., of San Luis Obispo, secretary of the Central Stockmen's Association, that this organization will hold a meeting in Salinas today (July 21).

Fewer cattle are on the ranges in the mountains east of Porterville than at any time in the past five years, according to beef men. Practically all the finished cattle have been marketed, and everything remaining which is good enough for the block is under contract.

W. E. Premo, manager of the Porterville Alfalfa Company, says feed and range conditions in that section are superior to those of any portion of the State. He has taken in upwards of 1,000 head of stock cattle, which are to be finished for the block on the company's properties west of there.

Livestock Miscellaneous.

The Tagus ranch of Tulare recently bought twenty-six brood mares from Chas. Kimble of Hanford.

County Livestock Inspector Frank Griffith reports that the livestock in Kings county is in good, healthy condition.

The State Council of Defense calls attention to the shortage of feed in the State for range cattle and sheep and asks that no straw or stubble be wasted. It requests that the State Council be supplied with information as to the area of stubble available and whether the same is the stubble of wheat, barley or oats.

RURAL PRESS DAIRY PRIZE WON BY J. W. COPPINI.

Prof. F. W. Woll, who has charge of the State Dairy Cow Competition, informs us that the Rural Press prize of $25 for largest production from five grade dairy cows for the month of June, was won by J. W. Coppini of Ferndale, Humboldt county. These five cows averaged a production of 1260.6 lbs. of milk, or 67.297 lbs. of butterfat, and were 65 days in milk.

Eleven other breeders had five grades in the contest during the month of June which were eligible to the Rural Press prize, viz.: Iverson, 66.939 lbs.; Trigg, 65.599; Hollow Hill Farm, 63.409; Beebe, 57.839; Abbott, 53.617; Stenzel, 51.054; Southern California Hospital, 49.786; Bohnett Bros., 49.268; Hess, 47.226, and Christen, 30.263 lbs.

THE COMING CARRUTHERS BERKSHIRE SALE.

Among the several important sale attractions of the near future looms the coming sale of Berkshires from the herd of W. M. Carruthers, Mayfield, Cal., display announcement of which has already appeared in the Rural Press, and which appears again in this issue.

That it is "important" to the breeding industry of this State and agriculture generally does not admit of question, nor is it sustained alone by our opinion. The "importance" of it is felt and will be felt as far East as the Mississippi Valley. Among those who have been attracted by this event and who are coming to this and other early sales are Dean C. R. Curtiss of the Iowa Agricultural College, who is one of the leading breeders of Berkshires in the United States and president of the National Berkshire Association. In his company will be Dean Mumford of the Ohio Agricultural College and Mr. Wing of the editorial force of the Breeders' Gazette, Chicago. When men of their standing will journey from the East to attend stock sales in California, it should establish the "importance" of the sales.

But the quality of the offering makes the sale important to all who are interested in more and better livestock in California. A representative of the Pacific Rural Press has recently visited the Carruthers farms and has very carefully looked over the individuals composing the sale offering. It is a very conservative statement when we say that this offering, taken on its merits, either from the points of breeding or quality, would be considered important at any point where good Berkshires are appreciated.

Of the individual breeding there is no need of mention here, for the catalogues are ready for distribution and contain the extended pedigrees of each individual, of course, as well as extensive footnotes prepared by a disinterested expert in such matters, after careful inspection.

Of the hogs themselves it can truthfully be said that they are of the kind that are and have been sorely needed on the farms of California. They are fit to go into the best purebred herds or into the hands of the stockman or farmer who wants to enter the purebred business and who wants to start right. Further, those who are looking for show animals will find them here, for Mr. Carruthers puts in his entire show herd without reservation.

Boars will be found fit to head the best of herds, and there is a line of females that simply have to be seen to be fully appreciated. They are all of a big type and that type a good one. In fact, the uniformity is almost surprising. There are a few aged sows, an outstanding array of bred gilts, and Mr. Carruthers will offer a few weanling gilts—an unusual thing and an unprofitable one for the seller, but Mr. Carruthers believes that this experiment is well worth trying and if he makes a mistake the buyer will be the gainer.

It is reasonably certain that a part of this offering will go into Eastern herds and at good prices, and it is also reasonably sure that a good average will be made, but that is as it should be, as the offering deserves it. But that need not deter the stockman or farmer who desires to start a herd—and he is, after all, the one we are most interested in—for if foundation stock is right and of the kind the beginner should have, the price does not much matter.

And so we would urge especially those who wish to found a herd of the right kind of Berkshires to attend the sale and to come prepared to buy.

SPECIALISTS WORK TO COMBAT HOG CHOLERA.

It is interesting to swinemen to learn that the United States Department of Agriculture has seventy-five veterinary specialists engaged at the present time assisting in the suppression and control of hog cholera in many States, among them California. These specialists co-operate with the proper State agencies in combating this dread disease among hog men. The advice and service of these inspectors are available to farmers, stock raisers and others in States mentioned, and activities along this line for the last few years by State and Federal authorities have reduced hog cholera losses, which have been estimated as high as $65,000,000 in a single year, fully 75 per cent.

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Shropshires sired by rams imported by me from England.

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My purebred range-raised yearling Shropshire and Merino rams are now ready for inspection at my place.

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PURE-BRED SHROPSHIRES FOR SALE

500 RAMS, one and two years old, 300 yearling EWES

These sheep are of SUPERIOR QUALITY and are offered in lots to suit at

REASONABLE PRICES

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GRAPEWILD BERKSHIRE SALE.

On August 2, the day following the Carruthers sale, will occur another prominent Berkshire event at Escalon, when A. B. Humphrey will sell a draft of forty-two head from his noted Grapewild herd.

It will be convenient for those who attend the Carruthers sale to reach Escalon in time for the Grapewild event. Take the Southern Pacific from San Francisco on the evening of the 1st, arriving at Stockton the same evening. Take electric cars for Escalon the next morning—cars leaving an hour and a half apart. Or take the Santa Fe from San Francisco the morning of August 2, arriving in Stockton about 11 a. m., then electric cars for Escalon.

A representative of the Pacific Rural Press recently inspected the Grapewild herd, but more especially that portion of it which goes under the hammer August 2d. The catalogues, giving extended breeding and other details, are out and can be had on request.

There is one feature of this sale that should not be forgotten at this time by all interested in Berkshires. This is the last time people on the Pacific Coast will have a chance to appraise and secure any great number of the daughters of Grand Leader 2nd, as this sire has recently been sold to head a prominent herd in the East. And this chance should be appreciated, for his progeny is going to be in demand for a long time to come. That he was a great show hog, the records of his ring performance attest, and that he was equally as good as a breeder none will deny who have seen his get at Grapewild or any other place.

To describe the young sows sired by him and which make up a large part of the offering, space does not permit, but they are so uniformly good that description of any one of them would do no violence to the remainder. There are minor differences, to be sure, but they all are first-class pork machines, with all the fancy points needed. They are smooth, with good, wide, strong backs, good hams and stand on good legs and feet. They will be sold in just about the right condition, or the condition they should be sold in for breeding purposes. Enough of flesh will be carried to show what may be expected from either as exhibition specimens or as producers, and it is good flesh, rightly put on. The ration used is such as every hog raiser should have—alfalfa pasture—with plenty of alfalfa on it—dairy by-products, and enough grain to firm the flesh. No pampering. There will be no "cooling out" necessary after the sale, as there has been no forcing.

Another feature to be remembered is that many of these females will be bred to Royal Superbus, the boar that won First as a junior yearling at the National Swine Show last year, when he met the best in his class from the leading herds both East and West. Judging from both breeding and appearances, he should form an ideal combination with the breeding already represented. A Grand Leader 2nd gilt bred to Royal Superbus should form almost ideal foundation stock for the beginner and should be mighty attractive to established breeders. And there are many other good combinations.

The Grapewild herd now numbers 300 and during the last sixty days Mr. Humphrey has consigned to the shambles two carloads of registered Berkshires. This is noted merely to show how they cull at Grapewild, and guarantees the statement that nothing but the best will be sold for breeders. Send for catalogue and plan to attend both of these Berkshire sales.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

SWINE.

Poland-Chinas.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

SPECIAL SALE of weaned boar pigs of the famous Whitten Ranch Poland-Chinas. Get one and grow him out. He will put money-making qualities into your herd. Prices very low; satisfaction guaranteed. Send for free booklet, "Hogs for Profit." Packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, 610A Security building, Los Angeles.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

POLAND-CHINA HOGS—Large type. 200 lbs. in 6 months. I guarantee to please you. O. L. Linn, Linview, Modesto, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REGISTERED POLAND-CHINAS and Duroc-Jerseys. Cholera immune for life. T. H. Beckman, Lodi, Cal.

POLAND-CHINAS—Three extra fine boars, one large and two medium type. W. Bernstein, Hanford, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS—A few gilts left at $15 each. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A. Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of Champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

REGISTERED BERKSHIRES — Progeny of Improver B. Young stock now ready for sale. Start your herd with breed and strain of established reputation for California conditions. Geo. G. Meckfessel, Berlin, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

BERKSHIRES—Young stock from prolific stock now ready. Can furnish trios or more if desired. Write for prices. W. G. Thompson, Napa, Cal.

IMMUNIZED NORMANDY BERKSHIRES—Good type. Breeding stock, any age, for sale at all times. Cast iron guarantee. Arlington Smith, Visalia, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Second annual sale August 1st, 1917. Mayfield, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

REGISTERED BERKSHIRES—Geo. M. York, Modesto, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 Third. Prices $20 and up. Haden Smith, Woodland.

RANCHO RUBIO DUROCS—Only a few September gilts left. One corking good fall boar by Orion Model, son of the last International Grand Champion. Place your orders now for weaned boar pigs. Best I ever raised. Elmer Lamb, Ceres, Cal.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 631-637 Brannan street, San Francisco.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

REGISTERED DUROC-JERSEYS — Service boars from prize-winning stock are money-makers. They grow faster. New England California Corporation, Ripon, Cal.

DUROC-JERSEYS — Herd boars. E. N.'s Colonel and Tulare Boy. Sweepstakes winner at Fresno, 1915. Choice breeding stock. J. P. Walker, Visalia.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROCS — Crimson Wonder stock. Young stock, both sexes. L. D. Collins, Denair, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

HOLSTEIN HERD FOR SALE—Herd consists of seven females and five bulls; including a splendid cow, her four daughters and a granddaughter; all registered stock of good breeding, priced for quick sale. P. A. Hogaboom, Route A, Fair Oaks, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

SPECIAL SALE DURING JULY — Registered Holstein bulls, three weeks to thirty months of age. Sunnybrook Ranch, Willits, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

PACKWOOD FARM HOLSTEINS — Fine young bulls of serviceable age out of tested A. R. O. cows. W. F. Mitchell, Visalia.

TWO SERVICEABLE SONS of Colantha Sir Pontiac Aaggie for sale. Moorland Farm, K. W. Abbott, Milpitas, Cal.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN-FRIESIAN CATTLE—J. M. Campbell, Escalon, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

A. R. O. HERD OF HOLSTEINS—Alex. Whaley, Tulare, Calif.

Jerseys.

N. H. LOCKE CO., LOCKEFORD, CAL.—Jerseys. Bull No. 432, born Dec. 2, 1915; sire, King's Valet; dam, Derrien's Lassis of L. She produced 604.6 lbs. fat in 351 days at 4 years. Price, $200. Bull No. 491, Oct. 20, 1916. King's Valet-Sunshine of L. 56.9 lbs. fat third month. Price, $100. Records made under dairy conditions at a profit. Service bulls and bull calves with profitable production backing. Prices, $50 and up. Poland-China boar Big Wonder, over 400 lbs., a good breeder, $50. Chester White Swine—boars and gilts.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

CHOICE REGISTERED JERSEY FEMALES—Fresh and Springers. Breeding and individuality the very best. McLouth, Orland, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

Guernseys.

PUREBRED GUERNSEY BULL—Aged one year and four months, for sale at sacrifice, owing to lack of accommodations; his dam sired by imported and advanced registry stock. Fern Ridge Farm, Yuba City, Cal.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

REGISTERED GUERNSEY BULL — No. 24342 from A. R. and imported stock. Write for prices and pedigree. A. G. Lane, Amsterdam, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

Ayrshires.

PLEASANT VALLEY AYRSHIRE FARM—Registered bulls for sale. Write for prices. Sullivan Investment Co., 1942 Folsom street, San Francisco.

NORABEL FARM AYRSHIRES—Pure bred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

SCOTCH AND SCOTCH-TOPPED SHORTHORNS—We have the largest herd of straight Scotch cows in California. Foundation stock of both sexes for sale; also a choice lot of range bulls. Barco Ranch, Hollister, Cal.

D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM — Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder registered Herefords. Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of Hampshire Ram Lambs, sired by Walnut Hall and Butterfield; rams purchased at Salt Lake, August, 1916; lambs ready for delivery after July 15, 1917. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

WANTED—500 breeding ewes; fall or immediate delivery; name herd. Box 363, Napa, Cal.

HORSES AND MULES.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

FEEDER HOGS FOR SALE—Eighty-five choice Poland-Chinas by registered boars and out of nearly pure sows. The fast growing, quick fattening kind. Call at Whitten Ranch, Saucelito School Corner, between Pixley and Terra Bella, Tulare County, or write owner, R. H. Whitten, 610 Security Bldg., Los Angeles.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal—the best California calf raiser. Geo. H. Croley Co., Inc., 631-637 Brannan st., San Francisco.

The Hog Pen and Sheep Fold

[Written for Pacific Rural Press.]

FARM HOG BUTCHERING EASY.

A most convenient hog butchering outfit is that on the ranch of Ennis & Williamson in Riverside county. Three men, with a fourth one part of the time, butchered and cleaned a dozen hogs in five hours. A sheet iron tank rests on a concrete foundation so that a fire may be built under it. A chimney at one end creates a draft. A platform stands beside the tank to scrape the animals on.

A hog is shot and stuck in the pen; then hauled to the tank. A rope with both ends fastened to the platform two or three feet apart is laid across the tank and the hog rolled onto it. With the rope the hog is let down into boiling water and rolled back and forth twice to loosen the bristles. It is easy then to roll him onto the platform, where he is scraped. Then a gambrel stick is inserted under the tendons of his back feet and hung across two horizontal poles about five and a half feet off the ground, whose ends project slightly over the platform. There he is dressed, along with others hanging from the same poles.

SELF FEEDER FOR BREEDING HOGS.

In using a self feeder to develop pigs for breeding, mix the ration in a way that will make them eat all of it. If the various feeds are kept separate, the pigs are likely to put on too much fat. That is one advantage of self feeders for fattening hogs. W. M. Carruthers of Santa Clara county last spring raised 20 registered pigs, with a self feeder for their dry ration from the time they were first able to eat. Skim milk was fed separately. He also fitted breeding hogs for his sale by feeding a mixture of 90 pounds wheat middlings per 225 pounds rolled barley in a self-feeder; supplementing this with skim milk. They would have eaten too much barley if it were fed separately.

TWO CLIPS OR ONE?

A Sonoma sheepman last spring sheared with his flock three sheep belonging to a neighbor who had sheared them last fall. The three yielded 11 pounds of wool of eight months' growth. One of the first man's sheep sheared by another neighbor yielded nine pounds of a year's growth, much more valuable per pound. The semi-annual clips yielded less than half the weight per sheep and it was worth seven or eight cents less per pound; though there was about twice the cost of rounding up the sheep and shearing them. However, the difference sometimes goes the other way.

Where fall shearing is practiced, it is done in the Sonoma district generally early in August to allow enough growth before the cold of late September and October. Sunburn does not affect shorn sheep here as it might in interior districts, where later shearing is advisable if done at all in the fall.

DAILY GAINS OF TWO AND A HALF POUNDS WITH HOGS.

Two and a half pounds gain a day was what J. H. Hansborough was securing on fifteen head of hogs that averaged 170 pounds each when we visited his ranch near Modesto in April. At that time they were closely confined in a fattening house that had a small outside runway and were being fed thirty gallons of milk, a sack of rolled barley in a self-feeder and about half a sack of rice middlings a day.

This was Mr. Hansborough's first experience with self-feeders, he having previously fed in troughs, getting excellent results with previous lots by the use of one sack of "gyp" corn and all the skim milk the hogs wanted. Usually he was able to market six-month-old hogs averaging 200 pounds in that manner, but he believes he secured better results with the corn than he has since been able to with rolled barley. Feed alone is not responsible for the good gains Mr. Hansborough secured, for all of the pigs fattened were sired by his purebred Poland-China herd boar that he uses on his purebred sows. At twenty-two months this hog weighed 750 pounds and he transmits this early maturing faculty to his offspring.

SHEEP DIPPING FOR SCAB.

Not much scab is to be found on California sheep; but B. M. Bucknell of Mendocino county thus describes the way sheep are dipped at each shearing to prevent scab; and again two or three weeks later if they had it when sheared. A vat 30 inches wide, four feet deep, and two or three rods long, is filled with sheep-dip or lime-sulphur solution rather warm. Sheep are run through a chute one at a time and must jump into the vat. A man with a hooked pole shoves each one under, and then pulls it up if necessary to prevent drowning. Then they swim to an incline to drain temporarily. Then they go into a corral which drains to the center and back to the vat.

PLAN TO INCREASE SHEEP OUTPUT.

Plans to add 1,000,000 head of sheep to the total breeding stock and to increase the annual output of wool by 7,000,000 pounds were agreed to today by representatives of every large packing concern located in Chicago, meeting in conjunction with the National Sheep and Wool Bureau and the United States Department of Agriculture. The details of the agreement are based on the saving of ewe lambs from slaughter.

Shorthorns

Paicines Ranch Co.

Offers for summer and fall delivery both registered and unregistered weanling bull and heifer calves.

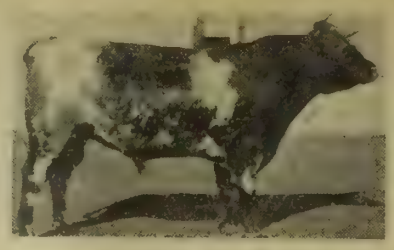
For prices and particulars apply to

DAVID J. STOLLERY

320 Sharon Bldg.

San Francisco, California

INNISFAIL DAIRY SHORTHORNS



GLENSIDE ROYAL 408155.

Our herd of registered Shorthorns has been carefully selected from the leading milk producing strains of the breed and is being developed along the same lines in our hands. The herd is headed by

GLENSIDE ROYAL

a prize-winner at the 1913 International and grand champion at Panama-Pacific Exposition.

Sired by him and out of large cows of good milk production, we offer for sale a few choice young bulls.

Our entire herd is tuberculin tested.

Alexander & Kellogg, Suisun, Cal.

Farm on Grisly Island.

HAMPSHIRE SWINE FOR IMMEDIATE SALE

Two of my good sows, two service boars and one or a dozen bred or open gilts, which I had reserved for myself, are to be sold to reduce the size of the herd. This is a rare opportunity to get some of the best mortgage lifters with the best blood of the breed by a timely order, as these will go fast.

DR. J. W. HENDERSON, First Nat'l Bank Bldg., Berkeley, Cal

SHORTHORNS | **BERKSHIRES**

Herd headed by Count Glory (426982), Grand Champion California State Fair, 1916. Our herd comprises more Scotch females than any herd on the Coast.

This herd won the premier exhibitors' banner at the Panama-Pacific Exposition. This herd contains one of the greatest collections of brood sows in the world. Strong in the blood of Rival's Champions Best.

STOCK FOR SALE AT ALL TIMES.

CARRUTHERS FARMS, MAYFIELD, CAL.

City address, Hearst Building, San Francisco, Cal. Telephone Sutter 1311

BULLS - Shorthorns - HEIFERS

REGISTERED AND TUBERCULIN TESTED.

Animals of either sex ready to deliver in car lots or singly.

H. L. & E. H. MURPHY, Perkins, Cal

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.

Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED.

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE

ORMONDALE CO.

R. D. No. 1
REDWOOD CITY, CAL.

DIGESTER TANKAGE

Send for Sensible folder on feeding hogs

WESTERN MEAT COMPANY

Animal Food Dept. 704 Townsend St., San Francisco

Hauser's Digester Tankage

GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.

Hauser Packing Co. Los Angeles

SPECIALS ON Pure-Bred Poland Chinas

Commercial hog prices are higher. Our prices on pure-breds have not raised.

The Grand Champion P. P. I.-E. Herd

ROUGH'S GREENFIELDS

Arlington Station, Riverside, Cal.

Duroc Jerseys

Cherry Red Color.

HERD SIRES:

Tulare Boy

and

E. N.'s Colone

Tulare Boy was Sweepstakes Winner at 1915 Fresno Fair. Weighed 276 pounds at six months of age.

Choice Breeding Stock for Sale

John P. Walker

Visalia, California

MONTELENA HERD

Large Yorkshire Swine

THE IDEAL HOG FOR THE PROGRESSIVE FARMER

MONTELENA BIG DICK,
First Aged Boar and Reserve Grand Champion.

Won 9 Prizes
With 8 Entries
at Sacramento.

Young stock for sale — both sexes.

A. L. Tubbs Co.
Calistoga, Calif.

Registered **Duroc Jersey** Association
of
TULARE COUNTY, CAL.

BREEDERS' DIRECTORY

	Sows in Herd	B	G
J. P. Walker, Visalia, Cal.	7	--	--
S. A. Williamson, Visalia	1	--	--
Glen Johnson, Lindsay	8	--	--
Allen Thompson, Tulare	9	--	--
Clifford Land Co., Strathmore	4	--	--
W. J. Fulgham, Visalia	6	--	--
Tagus Ranch, Tulare	20	--	--
C. E Ellis, Tulare	2	--	--
J. L. Dickenson, Visalia	7	--	--
W. J. Higdon, Tulare	2	--	--
R. C. Sturgeon, Tulare	6	--	--

Place Your Money on the Red

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes.
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

RHOADES & RHOADES
Expert Live Stock Auctioneers.
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Sales Conducted in All Parts of Calif.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

CHEAP WIND AND RAIN BREAKS FOR CATTLE.

[Written for Pacific Rural Press.]

Cheap protection from cold, driving winds and rain is usually found advisable in all cases where beef cattle are being corral-fed, because of the shrinkage in weight which would otherwise occur, and it is not too early to begin planning such preparation.

On the Stanford University ranch near Durham, Butte county, winter feeding of alfalfa hay is practiced as a supplement to the range pastures in seasons like the one just experienced whenever the cattle begin to get a little thin. As these corrals are built on open ground, there is no natural shelter, so protection has been provided by the construction of board wind breaks, 10 feet high and about 100 feet long, built like a high board fence. They are built in an east and west direction and so located that the cattle in the corral can go on either the north or south sides of them at will.

The prevailing winds in rainy weather are from the south, and as a consequence the cattle may usually be found on the north side of the fence in such weather. The cold winds from the north are likewise guarded against by the cattle hovering around the south side of the fence, it being high enough to keep off all driving winds from either direction.

FIELD CROPS CROSS-FENCED FOR LIVESTOCK TO HARVEST.

[Written for Pacific Rural Press.]

Livestock should not be given free range over large fields when they are turned in to harvest the crop. Corn, velvet beans, sweet potatoes, and sometimes peas, can be harvested cheaply and efficiently by hogs or cattle, but they should be limited to a small area at a time. If they are given the whole field, they will roam over the whole and trample down more feed than they will eat. Much of this will get dirty and become so damaged that its nutritive value will be lessened even though the animals would eat it. Farmers are advised to put in cross fences and limit the range of the stock.

Permanent fences might interfere with cultivation; temporary fences would be more desirable and less expensive. The wire can be attached to stakes and moved from one place to another. An additional advantage is to be had from being able to sow the harvested areas to other crops, especially winter covers. If the stock are allowed free range over the field, they probably will not get all the crop harvested until too late to plant other crops.

FEEDS COARSE GRAIN HAY.

[Written for Pacific Rural Press.]

White oats sowed in January by Frame Bros. of Humboldt county on runout pasture land had stalks as big as pencils and over waist high, June 8, and not yet headed, though oats generally in the neighborhood were already headed out. They intended to cut it earlier for green feed, but since it got so tall they let it go for hay, which was a bit coarse. The plan was to sprinkle molasses on this as they had one year on rank, coarse barley hay. Cattle ate it much better. Red oats would not have grown so rankly.

2nd Annual Sale BERKSHIRES

CARRUTHERS FARMS
MAYFIELD, CALIFORNIA

WEDNESDAY,
AUGUST 1st
1917

Sows are bred to Ames Rival 100, son of Rival's Champion Best; Iowana Rival Majestic 3d, a son of Rival's Champion; and Mayfield Champion, son of Ames Rival 70th.

44 Sows and 6 Boars

In this sale will be included ten sows and two boars, comprising the best show herd that has ever left Carruthers Farms.

Entire Show Herd will be Sold

Mighty Good Pigs Moderately Priced

ANCHORAGE FARM NOW HAS FOR SALE SOME VERY GOOD SPRING PIGS, SIRED BY MAYHEWS LEADER 6TH, A PRIZE WINNER AT THE P.-P. I. E., AND A SON OF THE $3,000 WORLD'S CHAMPION, GRAND LEADER 2ND.

THESE PIGS WILL BRING FINE BLOOD INTO ANY HERD. THEY ARE MODERATELY PRICED AND ANCHORAGE FARM STANDS BEHIND EVERY ONE. SEND FOR DETAILS.

We are glad to answer your letters. Address

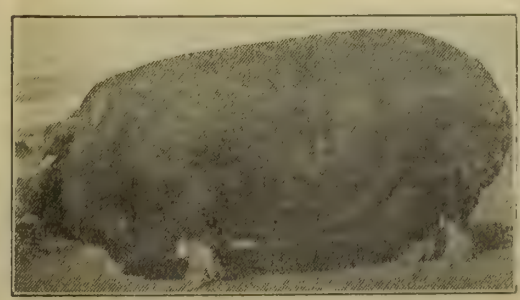
ANCHORAGE FARM
Orland California
Quality Products

All Anchorage Farm Pigs are cholera immune.

THE HOME OF STAR LEADER

GREATEST BERKSHIRE IN THE WEST

BASSETT'S POLAND CHINAS



GRAND CHAMPION SOW,
P.-P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.

Young stock, $30 Up.
M. BASSETT,
Box 1, Hanford, Cal.

VETERINARY QUERIES

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

[Subscribers wishing an immediate reply should send money order for $1.00. No charge for questions answered through this department. Name and address of subscriber must accompany each query.]

Would Suspect Tuberculosis.

To the Editor: We have a half-grown hog that has contracted some disease. The only symptoms I can give you are heavy breathing and weakness. He has a good appetite when he gets a chance in the fight to eat. Is it a contagious disease? In any event, how can I treat the case?—E. F. L., Yountville.

This looks like tuberculosis. Treatment will be of no avail. Heat your skim milk to 106 degrees for 15 minutes before feeding it, as 90 per cent of this trouble in hogs is contracted from the milk of tubercular cows.

Sheep Have Snuffles.

To the Editor: My sheep have the snuffles or catarrh. Some can scarcely breathe. Can you tell me what is the matter and suggest a remedy?—W. T. J., Stent.

Smear pine tar over the nostrils daily and provide clean, dry quarters. The following may be given in severe cases. Beechwood creosote, 2 drams; spirits camphor, 1 ounce; linseed oil, enough to make 8 ounces. Give one tablespoonful three times a day.

Cow Holds Up Milk.

To the Editor: My cow habitually holds up her milk, sometimes two or three times in succession; then she gives all she has, and after that the same thing over again. She is gradually going dry. When fresh last January she gave almost four gallons and now only a little over two gallons per day. Can you suggest any remedy?—A. N., Fresno.

This is almost a hopeless condition. Try giving fluid extract of cascara in one-half ounce doses twice a day.

Cow Refuses to Dry Up.

To the Editor: Our cow will be fresh about July 20. For six weeks we have tried to dry her up. She gives more milk now than a week ago. Seems impossible to dry her. Is it necessary or will calf be all right any way?—G. H. W., Van Nuys.

The milk flow has no effect on the cow. Continue to milk less and less to dry her up.

Pig Partly Paralyzed.

To the Editor: A pig about three months old eats well, grows fast, is quick motioned and lively; but she sits down too much, and if she runs her hind legs give way and she falls. What is the matter, and what should I do?—A. C. B., Pismo.

This is a mild case of paralysis. She will probably outgrow the trouble.

Jersey Falls Off Rapidly in Milk.

To the Editor: When my black Jersey cow came fresh about three weeks ago, she gave four gallons of rich milk a day. About a week ago she went down in her milk all at once to only two quarts. Can you tell me what to do?—A. N., Lodi.

Give two pounds Epsom salts and two ounces ground ginger in a gallon warm water.

Heifer Slobbers and Vomits.

To the Editor: I have an eighteen-months' old heifer that slobbers and vomits about eight times a day. She eats little and is in poor condition. She has been in this condition about ten days.—A. C., Modesto.

Have your veterinary examine her mouth and prescribe for her.

Cowpox.

To the Editor: Can you prescribe a good treatment for cowpox on udder and teats? Is it contagious to the person milking the cow?—W. V. D., Palm City.

Iodine ointment is good to use in this trouble. At times it is given to the one doing the milking, but is very rarely of serious consequence.

The University Farm of Davis has been inquiring for two span of brood mares. If any of our readers can supply this need, write to the Farm.

Agricultural Jottings.

It is reported that ground squirrels in the vicinity of Palo Alto have a bacillus infection which is causing bubonic plague among animals in that section.

Enough names have now been secured to make certain that Tulare county will soon have a Farm Adviser. Tulare is the twentieth county to apply for such an official.

At a largely attended meeting held at Red Bluff, Saturday, July 14, the Iron Canyon irrigation project was endorsed. Congress was memorialized to consider the matter at once as a war measure.

Survey for a thirty-mile canal from the Yuma project, in order to irrigate from 120,000 to 200,000 acres adjoining the Imperial Valley, has been authorized by a contract between Secretary of the Interior Lane and Mark Rose, representing the Imperial Laguna Canal Company.

Acting on the suggestion of the Oregon Insurance Commissioner, a secret organization of business men and farmers has been effected at Pendleton, Ore., and members appointed as deputy fire marshals are to have full power under the State law to deal with any situation which arises from threats of Industrial Workers of the World to burn the vast grain crops of that section.

CUTTER'S
BLACKLEG PILLS
"California's Favorite" for nearly 20 years
For the Prevention of Blackleg in calves and young cattle

Their superiority is due to nearly 20 years of specializing in "Vaccines and Serums only."
Year in and Year Out they give better satisfaction than any other vaccine made, and the cost of a few cents per dose is cheap insurance against a disease that always takes the fattest and best.
Single Pills may be used for ordinary and range stock.
Double Pills should be used for pure bred and high grade stock.
Use any Injector, but Cutter's simplest and strongest.
Prices:
10 dose pkge. Single pills $1.00
50 dose pkge. Single pills 4.00
10 dose pkge. Double Pills 1.50
50 dose pkge. Double Pills 6.00
Cutter's Pill Injector.... 1.50
Insist on Cutter's. If unobtainable, order direct.
Write for new booklet, "The Control of Blackleg." It tells about Anti-Blackleg Serum which cures Blackleg and may be used simultaneously with vaccine to combat outbreaks and safely protect valuable stock.
The Cutter Laboratory, Berkeley, Calif.
The Cutter Laboratory of Illinois, Chicago
Eastern Agent

ABSORBINE STOPS LAMENESS
from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar trouble and gets horse going sound. It acts mildly but quickly and good results are lasting. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how. $2.00 a bottle delivered. Horse Book 9 M free.
ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. $1 and $2 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps.
W. F. YOUNG, P.D.F., 86 Temple St., Springfield, Mass.

REDWOOD TANKS.

35 years in this business. I sell direct to the consumer. You act as your own agent and save 20%. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.
R. F. WILSON, Stockton, Cal.

Registered Jacks
Range raised; Guaranteed satisfactory breeders; Field Jacks a specialty.
REGISTERED SHIRE COLTS
James W. McCord, Hanford, Cal.

First Public Sale of
Grapewild Berkshires
AT
Escalon, Cal.
August 2, 1917
42 SOWS AND GILTS
The get of such noted sires as GRAND LEADER 2ND, the Grand Champion of the Panama-Pacific Exposition, and today recognized as one of the greatest sires of the breed; SOLANO EMBLEM and FASHION LONGFELLOW, both outstanding as individuals and as sires of the class of Berkshires Grapewild has become noted for. In the offering there are other lines of popular breeding, sufficiently so that herd founders need go no further for outcrosses.
This offering is from the tops of the 300 head composing the herd now, and none will be offered that are not fit individually to remain in the herd or to go into any other with profit and credit to all concerned.
Many of the females will be bred and safe to ROYAL SUPERBUS 220200, 1st yearling boar at the National Swine Show, where he defeated many of the greatest boars of his class. This magnificent boar has recently been purchased from the Gregory Farms, Whitehall, Ill., and promises to make an ideal "nick" with blood lines now in the herd.
All animals of breeding age are guaranteed breeders and will be found just as represented. Catalogues are ready for distribution. If interested, write for one now.
A. B. HUMPHREY
ESCALON. CALIFORNIA

Herd sire at age of 16 months.
First in class, Sacramento, 1916.
BIG TYPE
DUROC - JERSEYS
The Leading Blood Lines of the East and Middle West
Offering at the present time choice spring pigs, either sex. A few boar pigs sired by Critic D, also a few by Indianwold's Orion Cherry King out of a sow sired by Joe Orion II, for May delivery.
FREDERICK M. JOHNSON,
NAPA, CAL. R. F. D. 2, Box 87

HIGH CLASS HOLSTEIN BARGAIN
H. Artis T. Netherland (Making him better than a 30-lb. bull.) Sire's dam 31-32 lbs. butter in 7 days. Dam 30-27 lbs. butter in 7 days.
1 Two-year-old Segis Pontiac heifer by a 30-lb. bull.
2 Senior Heifer Calves by famous show bull.
These 4 head registered Holsteins are in excellent condition, not related to this bull, and constitute ideal foundation stock for one wishing to make an auspicious start in Holstein industry.
PRICE $1,200. TERMS IF DESIRED.
Bull alone should sell for that amount.
BUENA ALTA HERD
629 Fifty-sixth Street, OAKLAND, CAL.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

TOBACCO FOR WORMS IN FOWL.

Some time ago one of our subscribers wrote for information regarding the feeding of tobacco for worms. At that time I had little knowledge on the subject of giving tobacco internally, except to hogs. I have made inquiries, also obtained a bulletin giving full directions for the treatment of worms by tobacco.

For one hundred fowls take one pound of finely chopped tobacco stems; steep them in water for two hours, having just enough water to cover them. After this soaking, mix both stems and liquid into sufficient mash feed for the hens' usual feeding. Before feeding the tobacco it is best to prepare the fowl by reducing the feed of the day before to half the usual amount. On the day of treatment give no breakfast, and feed the tobacco mash about 2 o'clock p. m., and take care that each fowl gets its share. Two hours later give another feed of about one-fourth the regular amount of mash, in which has been dissolved eleven ounces of Epsom salts. The treatment should be repeated in seven days.

Younger chicks may be given the same treatment, not forgetting to make allowance for difference in age in the amount of tobacco. Epsom salts are preferable to Glauber's salts as a physic, for the reason that it dissolves more rapidly and does not crystallize on standing like Glauber's salts. The tobacco treatment costs about ten cents a hundred fowls. Not every one, however, will be able to buy tobacco stems, but I presume tobacco itself will do, only it costs more.

DISINFECTION OF YARDS.

After the fowls have been treated for worms, they should be removed to clean quarters that are free from the eggs of worms. The bulletin states that "three brooder yards in which worm-infested fowls had been kept were selected for microscopic examination of the soil. And the examination revealed the presence of large numbers of round worm eggs to a depth of two inches below the surface. No eggs were found at any greater depth. All the loose dirt from the surface was then swept up and hauled away. One of the yards was then sprinkled with a 1 to 1000 solution of bichloride of mercury (corrosive sublimate), one ounce to eight gallons of water; and the other yard with a 5 per cent solution of bluestone (copper sulphate). The third yard was not treated at all. It was found that it took at least one gallon of the solution for every ten square feet of ground to enter the necessary depth of two inches.

After treating the fowls for worms as described, and finding by postmortem examination that the worms were gone, and assuming that all the hens were free, they were distributed in these three yards. The birds in the treated yard, where corrosive sublimate was used, improved in condition and increased in size rapidly, while those in untreated yards showed by postmorten examination that the worms were just as bad as ever, because the hens had eaten the eggs. In the bluestone yards no fowls were put, because it was not considered a good article to use.

Bichloride of mercury is a powerful poison, so must be guarded and kept from animals and children. It should be made in wooden vessels for best results. It will be necessary to spray the houses and keep the droppings cleaned up every morning and cremated, because if this is not done the hens pick the worms from the droppings and are soon as bad as ever. This treatment is for round worms only.

TURKS HAVE DIARRHOEA.

To the Editor: I have lost two turkeys. The first one was sick three or four days. It refused to eat. The droppings were thin and mostly white. The other was sick about a week; ate quite heartily; droppings were yellow. What should I do for them?—C. C. N., Linne, Cal.

Feed your barley dry for a while as you do the wheat, and give a half teaspoonful of tincture of nux vomica in a quart of drinking water. Keep it up until droppings are all right.

LEG WEAKNESS.

To the Editor: My young turks, about three months old, are developing wabbly legs. What can I do for them?—R. J. Y., San Miguel, Cal.

A few oats soaked in water and left to sprout a little would help; also some cracked bone or bone meal. The trouble is probably due to fast growth. Keep on giving milk, as this is helpful. Rub the legs with tincture of arnica and put half teaspoonful of tincture nux vomica in a quart of drinking water for a while. This aids digestion, and doesn't allow well birds to tramp over the sick ones.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

FEEDS AND FEEDING.

(Continued.)

THE NUTRITIVE RATIO.

The nutritive ratio is the relationship between digestible protein and digestible carbohydrates and fats, the latter being reduced to a carbohydrate basis, as fats are 2¼ times more concentrated than carbohydrates. The formula is:

$$\text{N. R.} = \frac{\text{Carbohydrates X 2¼ Fat.}}{\text{Protein.}}$$

and the nutritive ratio is expressed, for instance, 1:4.5 where there are four and one-half as much carbohydrates as protein. The nutritive ratio striven for is that expressing the relationship of digestible protein to the digestible carbohydrates in the formation of a balanced ration—one that contains the proper amounts of protein, carbohydrates, fats, etc., which will return the highest yield or efficiency.

For example, we have been using in our flock the following ration for egg ration: Grains—Wheat, 100 lbs.; oats, 70 lbs.; barley, 70 lbs. Mash—Bran, 60 lbs.; mids, 90 lbs.; shorts, 80 lbs.; meat scraps or fish meal, 25 lbs. If oil cake or soy bean meal is obtainable, the quantity of meat may be reduced and vegetable protein added. The mash is placed in hoppers which are open at all times, but the scratch feed is thrown in litter, about 50 pounds per day being fed to 500 hens. Our hens are educated to eat a lot of mash, it being cheaper than grain. The above ration has proven a success with us, but we would not recommend changing your ration to the same as ours, as conditions are different with different flocks and localities.

The aim should be to feed sufficient protein—for instance, to supply the needs of maintenance and reproduction. Experiments at the University Farm have shown that certain amounts of meat scrap, for example, aid in egg production, whereas feeding meat scrap in excess of that amount brings no added return. Not only is there added expense, but the increased amount of protein material may be sufficient to break down the health of the fowl. The normal or balanced ration is that which returns the maximum efficiency for a given purpose, depending on whether it is desired to raise young stock, feed laying hens, or fatten fowls. A ration which contains more carbohydrates than the normal is styled a wide ration; while one that contains less—that is to say, where there is less carbohydrates to a unit of protein—is narrow.

The nutritive ratio should be the guide in compounding a ration. A narrow ration would probably result in indigestion; a wide ration would fatten the fowls; either would cut down the egg production. In determining the normal ration, different ingredients may be used, depending upon market conditions and other factors. Wheat, the price of which makes it prohibitive for poultry feeding, or corn, which is almost in the same class, may be eliminated and some other grain substituted to maintain the ration. Changes in feeding must not be made frequently, or the digestive organs of the fowl will be upset. Insofar as they have the power of choice, fowls determine their own ration. It was found at the Davis Farm, where a grain mixture and a mash were fed, the fowls ate 49 pounds of grain and 23 pounds of mash per year per hen.

(To be continued.)

ARE YOUR HENS LAYING WELL?

The average egg production this fall has been better than that of any of the preceding years, as shown by the egg receipts of the San Francisco and Los Angeles markets. This is due to the fact that the culls were sold early in the season and the workers fared better. This is perfectly natural, and is one of the best things that ever could have happened to the industry. California will be better off because of this culling.

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, box 396, Los Gatos, Cal.

DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

INCUBATORS—For Essex Model Incubators at factory prices, write Geo. H. Croley Co., Inc., Poultry Supplies, 631-637 Brannan st., San Francisco.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks. Fairmead Poultry Farm, Fairmead, Cal.

BRONZE TURKEYS — Albert M. Hart, Clements, Cal.

Classified Advertisements

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

MISCELLANEOUS.

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REGISTERED COLLIE PUPS—$10 up. Arbor Barth, Escalon, Cal.

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WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

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FOR SALE—Seed potatoes, White Rose and American Wonder, grown at Yucaipa; not affected by heat and ready to grow; perfectly clean, fumigated and sprayed. Address E. E. Chinn, Yucaipa, Cal.

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Mrs. Best's Letter.

MODES FOR BEACH BATHERS AND OTHERS.

My Dear Friends—A great many of the stores are showing bathing suits and quite a range of colors and materials are seen. All bathing suits for women and girls are much more simple, scant garments than we used to think were necessary. They are almost always one piece garments of jersey, satin or taffeta worn with knickers of the same material. Some of the jersey ones are gay with worsted embroidery in bright colors around the neck, arm holes and hem of the skirt, while the taffetas in blue and black are piped with gay silk with sometimes a wide sash girdle in Roman stripes or oriental designs.

For wear with the elaborate suits are bathing wraps of satin or jersey, with a rubberized lining. These are finished at the edge with fringe or a binding of contrasting color.

For simpler use are the beach robes of crash or turkish toweling, that are not in any danger of being spoiled by contact with water.

In caps there is such a variety that everyone may be suited. There is, of course, the plain, tight-fitting cap, but also there are demure Quaker bonnets, rakish tams with pompons, and oriental turbans of silk finished with fringe or tassels, all made of rubberized materials, so that you are not sacrificing comfort for style.

For use on the beaches are shown beach pillows in gay cretonnes and linens with accompanying bags of the same material to hold knitting or other fancy work.

For midsummer wear a very nobby garment is the sport satin skirt shown in all the popular light shades and some dark ones. It is a simple style, two-piece with gathered patch pockets and a belt resting loosely over the gathered waist line. For wear with pretty blouses, it would practically take the place of a dress. These are shown now as low as $5.00 and the better ones at $7.50.

Almost all the shoe houses are having special sales on shoes, particularly the white and light colored ones. But these shoes can be dyed black later, so they are not the extravagance they might seem. If one has a difficult foot to fit, it would pay in comfort, if in no other way, to definitely find the make of shoe that belongs to one and just reorder from that style, instead of having each time to find something comfortable.

I feel that I must tell you again of the wonderful values in sweaters that can be secured now. Nearly all sweaters, whether pure silk, fibre silk, Shetland wool, or the heavier wool weaves, are selling at about half price. Some of them of course are old models, but others are just being closed out to make room for new stock, no prettier and no more desirable to own than the sale goods. These sale garments are in the regular models, with or without sash and collar, and also in the slip-ons, both with and without sashes.

ROSABELLA BEST.

HOW TO PACK A TRUNK.

About packing a trunk, it helps a lot to use separate small boxes for delicate dresses and waists, and other things which must not be crushed or wrinkled. Carefully folded into these small boxes, with plenty of tissue paper, they will arrive in as good condition as possible.

Dainty neckwear may be laid flat between two pieces of pasteboard and then packed down tight to prevent slipping and wrinkling.

If there are many shoes, they may be put on the bottom of the trunk, packed around with soft underwear, stockings, etc., and also filled up inside in like manner. Everything which may be packed in solid may also go into the bottom compartment of the trunk.

The trays of course will be used for lighter dresses, wraps, waists, delicate lingerie, etc. All packing should be done with quantities of tissue paper. Spaces around hats, in their own compartment, may be filled in with veils, feather boas, or other light and airy things, or with crushed tissue paper to protect the trimming from damage.

Of course if you use a wardrobe trunk, a different scheme of packing will naturally suggest itself, and these trunks are particularly desirable when one is making temporary stops, as they need not be unpacked. By simply opening the trunk and extending the rod on which clothing is hung, it will serve as a clothes closet, from which garments may be selected as needed, and the small drawers on the opposite side are almost as convenient as bureau drawers, so that a very little unpacking suffices for comfort in dressing.

THE HOME CIRCLE

STUFFED TOMATOES.

Take 1 tomato for each person to be served, a cup of dry boiled rice and 6 tablespoons grated cheese, salt and pepper. Slice the tops from the tomatoes, scoop out the centers, add them finely chopped to the cheese and seasoning. Add rice or bread crumbs to make a stiff mixture and fill the tomatoes and bake for 15 minutes.

HOUSEKEEPERS' INSTITUTES.

A new departure by the University of California is the establishment of housekeepers' institutes. This is to teach the housewife how to dry or salt string beans, peas and other vegetables; how to can fruits and plan a balanced ration, so that cheaper foods may be used without sacrificing nourishment. The first of these centers has been established in San Francisco, but it is planned by the University to give this same opportunity to any group of women in any accessible part of California who write to the University Extension Division pledging an attendance of fifteen women for such a domestic science course. The course consists of domestic science lectures and demonstrations of fifteen sessions of two hours each, the fee being five dollars.

RECIPE FOR TOMATO PASTE.

The following recipe for tomato paste was furnished by Mrs. F. A. F., Chico:

Wash, slice and cook till tender (without water) as many tomatoes as desired. Crush thoroughly and force through sieve to remove seeds and skins. Simmer until the consistency of good, thick mush; spread on platters or trays about 1 inch in depth, and set in sun to evaporate, covering with glass to prevent dust settling on it. When water is all evaporated, leaving it waxy, work and knead into it with the hand a teaspoon of olive oil at a time until you have a paste like cornmeal mush when partly cooled. Pack tightly in stone jars, cover and use as needed. A generous tablespoon added to rice, macaroni and even soups is a welcome addition, other seasoning being cooked with the foundation article. Care must be taken to prevent burning while cooking down.

OILED DRIVEWAYS.

One of our subscribers in Southern California has written about keeping the dust down around the house. They had the men who oiled the public roads, drive in and oil the roadway without any preparing of the soil, but afterwards the husband raked the oil into the dust well and covered it with a layer of gravel and sand. This does away with dust in summer and mud in the winter, and should be repeated every two years for best results.

CONVENIENT JELLY BAGS.

There is a new convenience for jelly making on the market, consisting of a jelly bag fastened to a wire arm which can be placed anywhere over a bowl. Many housewives cook their fruit in the evening and let the juice drip over night.

RESTORING COLORS.

If ribbons or waists of delicate shade become soiled or faded, the color may be restored or darkened by adding tube paint of the desired color to gasoline and dipping the article. Be sure that the paint is well dissolved in the gasoline before dipping and be careful to not get too much in.

COVERING FOR COOK BOOK.

Covering the cook books with paraffine paper will keep them in good condition and at the same time allow the lettering to show. Besides looking neat, the covers are protected and last longer.

How to Catch Moles

[Written for Pacific Rural Press.]

Moles damage gardens not so much by eating plants, seeds or roots as by burrowing the soft surface soil so that it dries out in spite of frequent watering. Their burrows are marked by a rounded ridge of cracked surface soil and by an occasional mound of dirt from the holes. That they travel back and forth in these holes is affirmed by Fresno County Deputy Squirrel Inspector A. C. Morgan, who has for years studied various rodents of California. His trap for moles is to make an old-fashioned deadfall with a "figure 4" trigger which projects back in the hole. The board supported by the trigger is placed lengthwise over the burrow and weighted heavily. It is studded with long nails or spikes, which impale the mole when he hits the trigger.

Good Health.

[By H. E. Pastor, M. D.]

The Unsanitary Flour Sack.

The following communication contains some suggestions on the subject of the proper preparation of receptacles for foodstuffs well worth consideration:

Editor Rural Press: From a sanitary point of view, and also as a means of food conservation the present flour sack is far from satisfactory. As at present loosely stitched, the sacks afford entrance for the mature weevil to lay its eggs, and the result is weevils and worms in the flour. The seams on the sides and bottom of the sack are at fault, as well as the top.

I see in a recent issue of the Literary Digest that some millers are against the increased manufacture of whole wheat and similar flour on the ground that great loss is occasioned in such flour by weevils and worms (the latter being simply the larvae of the weevil). They evidently ignore the fact that if tight receptacles were provided for the flour there would be small danger from weevils. The sacks, if resewed with the tight stitch of a common sewing machine, render the flour practically free from weevils. I have long thought that there should be a miller's regulation by the State Board of Health in regard to the method of sewing flour bags. Cornmeal is peculiarly susceptible to the flour weevil, but millers and dealers take no precaution to use suitably sewed bags.

When I buy a sack of cornmeal or graham flour, unless it is all for immediate use, the first thing I do is to empty the sack, sew it all around on the sewing machine, and refill it. The result is no weevils as long as it is kept well tied up.

Most people who dry fruit for home use put their dried fruit into flour or sugar sacks. The result is wormy fruit, which has to be thrown away. The fruit moths crawl through the crevices between the long, loose stitches and lay eggs in the fruit. Again, I always sew all round the flour sack on the machine, as well as all holes that may be worn in the sack, and my experience has been no worms in the dried fruit put in it.—K. P., Beckwith, Cal.

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WRITE FOR PRICES

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It's Really a Peach.

Some time ago we took up a little space in this column in discussing the hygienic and medical value of figs and prunes. As peaches are now ripening in California, and as they form a delicious part of the menu in many families, it may not be out of place to say a word anent it. There is no more wholesome or delicious fruit placed on the table than the peach. It may be partaken of by both the well and the unwell—by the former freely and by the latter in moderation. The peach agrees with persons of all ages, from babyhood to senility. One thing must be borne in mind, however, and on this point too much stress cannot be laid—the peach must be fully ripe and not overripe. It must not be diseased nor infected with parasites, and is better freed of the skin, which may be contaminated with dirt, visible or invisible, and which sometimes proves irritating to the gastric and intestinal mucous membrane. The peach will stimulate a sluggish appetite. It is easily assimilated and leaves little refuse. It not only does not produce sickness, but tends to correct some forms of stomachic and bowel disturbance. In diarrhoea, for example, when hardly any other form of fruit is permissible (with the exception of the citrus fruits), the peach may be taken, not only with impunity but with benefit, remembering always that the peach must be in its prime—just fully ripe and not ripe too long, for it is a fruit that decays quickly. Being naturally a sweet fruit, it should be eaten with little or no sugar, though pure cream is permissible, and the two together make a luscious and wholesome combination.

A HYMN FOR THOSE WHO FLY.

Lord of the last eternity,
Thou by whose breath the worlds suspire,
Who rul'st the elemental three,
The air, the water, and the fire,
O keep within Thy gracious care
Thy servants flying in the air.

God of the wind, by Thy dread laws
Preserve their path, that in their wise
They, traversing the airy floors,
May give Thee glory in the skies.
O keep within Thy gracious care
Thy servants flying in the air.
—T. H. in The Aeroplane.

FEATHER DUMPLINGS.

Feather dumplings which are inexpensive can be used in many ways, two cups of flour being enough to serve five persons. To 2 cups of flour add ¼ teaspoon salt and 1 scant teaspoon baking powder. Add as little water as possible and drop by spoonsful into boiling broth or stock. Cover and let cook for 15 minutes. This makes a fine dessert by adding a little cinnamon to the dumpling dough and dropping by spoonsful on top of boiling fruit.

SAVORY EGGS.

Butter as many molds as needed; mix 4 tablespoons of chopped ham, 2 tablespoons chopped parsley, salt and pepper to taste; put a little into each mold, then break egg in each; dot with butter, steam until well set, turn out, and serve.

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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, July 18, 1917.

WHEAT.

While wheat has hardened a little in price in the East, owing to revised estimates of the crop, no echo of this has reached this market, which is declining owing to influence of the season's harvest. Northern bluestem dropped Tuesday quite sharply and red followed. Russian red is again quotable at a lower range than for bluestem. Generally the market continues dull, with light trading.

Sonora wheat	None offered
Northern Club	None offered
California Club, per ctl	None offered
Northern Bluestem	$4.00@4.20
Northern Red	3.75@4.20
Russian Red	3.65@3.70

BARLEY.

Receipts continue light and most samples of new crop arriving are not attractive in quality and create but little interest. Choice feed has declined. There is no doubt an extreme weakness in all lines of barley, due to suspense created by deferred action on the food bill in Congress. A cargo of barley destined for Norway has been stopped at this port by operation of the embargo.

Shipping, per ctl	Nominal
Brewing	Nominal
Choice Feed, per ctl	$2.05@2.10

OATS.

Choice offerings of good clean grain suitable for seed will bring an advance over quotations, but most stocks in the market are weak at quoted prices because of poor quality. Both white and red feed have declined and trading is listless and sparse in volume.

White Feed, per ctl	$2.25@2.35
Red Feed, per ctl	2.10@2.15

BEANS.

Values of bayos and small whites show a falling off from those of last week and seem to have followed last week's lead in several other lines. Brokers report few sales of sizable quantity, but a fair amount of small trading. While the market is quiet, there seems to be no indications of any real weakness; too early for coming crop to show its influence.

Bayos, per ctl	$ 9.75@10.25
Blackeyes	8.00@ 8.75
Cranberry beans	11.50@12.00
Horse beans	4.00@ 4.50
Small whites (south)	14.50@14.75
Large whites	14.00@15.00
Pinks	10.00@10.25
Limas (south, recleaned)	11.75@12.00
Red kidney	13.50@14.50
Mexican reds	10.00@10.50
Tepary beans	None offered
Garbanzos	$6.25@6.50

CORN.

There is no California corn of choice, or even of moderately good grade, offering. Eastern yellow has advanced owing to scarcity of supplies and to extraordinary activity of Eastern speculators in this grain. On Monday corn in Chicago reached the highest point ever known—$2 a bushel. It has since broken and risen again in that market. No Egyptian corn offering here today, and any quotations given would not be reliable. Apparently there is a general shortage in the visible supply of corn all over the country.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, per ctl., bulk	$3.40@3.50
California, sacked	Nominal
Milo Maize	None offered
Egyptian	None offered

HAY.

The expected increase in the hay receipts in this market has come. Receipts for the week were 2,306 tons, an increase of more than 50 per cent over the 1,520 tons of last week. From now on further increases in the receipts are to be expected, as practically all sections are ready to ship, the only drawback being lack of cars in some places. This the railroads promise to overcome shortly. Considerable hay is moving by water from points around the bay and along the rivers. The abnormal prices are beginning to ease off and hay is changing hands more rapidly at lower figures. It is claimed that some local dealers who were forced to buy at high prices are having a hard time to get cost prices in return. Local trade here and in Oakland is light, most consumers preferring to wait till later before buying for winter. There is no export movement other than regular Government shipments to Manila. Fancy red oat hay has been coming in freely and is of good quality. Alfalfa arrivals are heavy and demand light. No new straw has yet come in.

Wheat, No. 1	$17.00@19.00
No. 2	15.00@17.00
Tame oats	18.00@19.00
Wild oats	13.00@16.00
Barley	13.00@16.00
Alfalfa, new, first cut	13.00@16.00
Stock hay, new	10.00@12.00
Straw, per bale	Nominal

FEEDSTUFFS.

Rolled barley has dropped a dollar since last week's quotations, which is the only change in values. Feeders seem to be buying alfalfa and new crop hays in preference to millstuffs. While prices appear on the surface to be well maintained, they are weak under pressure of purchasers and yield concessions.

(Per ton, San Francisco.)

Beet Pulp, per ton	$38.00@40.00
Alfalfa meal, per ton	30.00@32.00
Bran, per ton	36.00@38.00
Oilcake	50.00@55.00
Coconut cake or meal	38.00@39.00
Cracked corn	72.00@73.00
Middlings	49.00@50.00
Rolled barley	44.00@45.00
Tankage	None offered
Rolled oats	$53.00@54.00
Rice middlings	None offered
Rice bran	$30.00@33.00
Shorts	43.00@45.00

POTATOES, ONIONS, ETC.

Asparagus is practically off the market. A few dealers are handling small quantities, but most have discontinued. Peas are still in good demand, but arrivals are none too plentiful and price has advanced. Summer squash and Sacramento river tomatoes are arriving packed in lug boxes and move well at quotations. Receipts of potatoes from interior are coming in good supply, though farmers report labor as being scarce. Quotations would be lower were it not for the fact that orders from Texas and other States eat up the surplus before it has time to accumulate. Oregons have ceased coming. Offerings of onions show better quality and command somewhat higher prices.

Asparagus, per box	$1.50@2.00
Peas, per lb	3@4c
String beans, per lb	2@4c
Wax beans, per lb	2@5c
Hubbard squash, per lb	None
Summer squash, per box	75c@$1.00
Cucumbers, per box	$1.00@1.50
Celery, per lug	Nominal
Tomatoes, per lug box	50c@$1.00
Sacramento river	$1.25@1.75
Potatoes, Salinas	Cleaned up
Oregon	None
New, per ctl	$2.00@2.50
Sweets, per lb	None offered
Onions, yellow, per sack	75@90c
Reds	75c@$1.00
Garlic, per lb	2½@3½c

POULTRY.

The market generally is in a healthy condition, in spite of the heavy receipts from the country. There is a good local demand and a number of dealers are buying for storage purposes, which relieves the market from pressure. Small Leghorn hens have dropped off a cent, but old roosters have gained the same amount. No Eastern stocks arriving, nor is it likely that any will arrive for thirty days or more. This is a condition very favorable for the home poultry raisers and should be taken advantage of. On the whole, the market, in all important lines, is better situated from the viewpoint of the producer than it has been for a long time.

Turkeys, live, lb	Nominal
do, dressed, large, lb	Nominal
Broilers, 1½ to 2 lbs	25@26c
do, under 1 lb	23@24c
do, 1¼ lbs	23@24c
Fryers	27@28c
Hens, extra, per lb., colored	21@25c
Small leghorn	16@17c
Smooth young roosters, per lb. (3 lbs. and over)	30c
Old roosters, per lb	12@13c
Geese, per lb	19@20c
Squabs, per doz	$2.50@3.00
Ducks	15@18c
Old	12½c
Belgian Hares (live)	14@15c

BUTTER.

Receipts have fallen off from last week's by 20,000 pounds and the U. S. Government is absorbing nearly all of Humboldt county's receipts—taking 30,000 pounds daily. Nevertheless, the market is on too high a basis for safety. Values are now 50 per cent higher than they were at this time last year and are on a par with the New York quotations. There is a danger that the high prices may react, consumers becoming shy and decreasing their consumption.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	38½	37	37	37½	38½	38½
Prime firsts	37½	36½	36½	37	38½	38½

EGGS.

The egg situation today shows depression and a decided downward trend, indicated by gradual declining of prices during the week. This has happened, despite a dropping off in volume of the week's receipts. Many consumers are out of town, which serves to decrease local demand, and there is not likely to be any revival in the egg market until pleasure seekers return and schools open, after the first week in August.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	34½	34½	34	33½	33	32½
Extra 1sts	34	34	33½	33	32½	32
Extra pullets	32	31½	31	31	31	30
Ex. 1sts pul.	31	31	30½	30½	30½	30

CHEESE.

Receipts of cheese have not equaled those of the previous week by 50,000 pounds and there is no evidence of any market activity. Yet prices appear to be sustained on a basis not justified by the situation and the reasons for this are hard to fathom. That the market is top heavy at present figures, however, seems to be a fact and operations at ruling prices are a gamble. Jacks or Monterey cheeses are in no firmer position than they have been for some time and hardly make any display of moving.

Y. A.'s	22½c
Fancy Calif. Flats, per lb	20c
Monterey cheese	8@18c

DECIDUOUS FRUITS.

A slacking off of receipts of cantaloupes from Imperial Valley and the early shipments from Turlock gradually taking their place has created somewhat of a scarcity in the local market, causing small advances. Watermelons sell now by the crate instead of bulk. Cherries continue in good supply, but currants have advanced in price. Peaches and apricots are being shipped in boxes instead of crates and are offered in great plenty, with good demand. Figs stand at the quotations of last week and are of good quality.

Apples, per box	$1.00@1.75
Pears, per box	75c@$2.00
Cantaloupes, per crate	$1.50@2.25
Currants, per chest	4.00@5.50
Cherries, bulk, per lb	4@7c
Royal Anne, per lb	6@8c
Apricots, per box	75c@$1.50
Peaches, per box	50@75c
Figs, per box	50c@$1.00
Plums, crates	50c@$1.00
Watermelons, per crate	$3.50

CITRUS FRUITS.

There has been a very strong demand for grapefruit, which is at a higher range this week. The heavy midsummer arrivals of the many varieties of fresh fruit have proved too much for oranges, both locally and in the valleys. They are no longer popular and only the extremely insistent call for them from the Middle West and East prevents a heavy slump in prices. Lemons continue to hold their own well and although the peak of prices in this line was reached two weeks ago there seems to be no indication of declines.

Oranges:	
Valencias, fancy	$3.50@3.75
Valencias, choice	3.25
Lemons:	
Fancy, per box	$6.00@6.50
Choice	5.25@5.75
Standard	3.75@4.00
Lemonettes	3.25@3.50
Grapefruit, fancy	3.50@3.75

DRIED FRUITS.

Growers sell peaches slowly at 8c but readily at 8½c, while apricot sales are made at a range of 13c to 16c. At the same time there seem to be concessions made at the time of buying and sales have been reported of prunes below the Association standard. There is little movement in this market, buyers preferring to hold off for lower prices. Export trade does not develop and the restrictions placed on the importations of dried fruits by Great Britain have reduced our possible exports to that country to 40 per cent of the dried fruits shipped there at the opening of the war.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop	9@9½c
Apricots, per lb	13@16c
Figs, black, 1916	None
do, 1917	5¾@ 6¼c
do, white, 1917	6½@ 6¾c
Calimyrna, 1917	10 @11 c
Prunes, 4-size basis, 1917	6 @ 6½c
Prunes, 1916	None
Pears	8 @10 c
Peaches, 1917	8 @ 8½c

BERRIES.

Strawberries arriving show better quality and condition and command slightly better prices. Canneries are taking all raspberries they can obtain, leaving the surplus for shipment to this market. Lack of interest, possibly, on the part of the consumers here has caused slightly lower prices.

Strawberries, per chest	$8.00@10.00
Longworths	8.00@9.00
Blackberries, per chest	5.00@6.00
Raspberries, per chest	7.00@8.00
Loganberries, per chest	5.00@6.00
Gooseberries, per lb	6@7c

Special Citrus Market Report

Los Angeles, July 17, 1917.

Shipments of citrus fruits from Southern California from November 1 to July 15: Oranges, 33,643 cars, and lemons, 6,404 cars. Same time last season: Oranges, 25,998 cars, and lemons, 5,270 cars.

More quiet and lower markets were had at the East the past week. The navel season is now over and Valencias have the market, and while meeting with a fair demand at the leading eastern markets, prices are now 25c per box lower than a week ago.

Lemon prices are not quotably lower, the crop being cut short by the hot wave in June in Southern California caused lighter marketing and this has prevented a decline. The weather, however, has been against the market, hence slow sales.

Locally there is no change from a week ago. What few moving, brought about last week's prices. The larger sizes of highly colored oranges met with a fair demand. Local packers paying in the grove, picked, 1½@2c per pound for Valencias. Grape fruit continues dull and market weak. Packers paying 1½@2c per pound in the grove, picked. Lemons dull. Packers paying 2@3c per pound in the grove, picked, for choice shipping.

AUCTION SALES.

New York, July 17. Forty cars oranges and two cars lemons sold. Market on oranges 25c lower. Lemons steady. Valencias averaged $1.90@$4.85. Lemons averaged $3.40@$4.50.

Boston, July 17.—Twenty-one cars sold. Market easier on Valencias, but doing better on lemons. Valencias averaged $1.70@$3.30. Lemons averaged $2.80@$4.85.

Philadelphia, July 17.—Eighteen cars sold. Market lower on oranges, but unchanged on lemons. Valencias averaged $1.90@$3.75. Lemons $2.55@$4.35.

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., July 17, 1917.

Unsettled weather and a light storm movement in the Atlantic Seaboard markets were responsible in a great measure for the weakness in the plum market. Furthermore, plum shipments have been unusually heavy from California and sizes running small.

The shipment of Georgia Belles and Elbertas has been very heavy during past ten days, the movement averaging in excess of 200 cars a day. Georgia shipments, however, will discontinue between the 20th and 25th of this month and we anticipate a good, strong demand for peaches and other fruits for the balance of the month and through August.

California peaches have been unusually small and, consequently, have not attracted the better class of trade, so conditions as a whole are not responsible for the weak market for California peaches up to the present writing. The varieties to follow, such as Crawford and Elbertas, will run to good sizes and good quality.

Quite a few cars of Thompson Seedless and Malaga grapes have been shipped from the Coachella and Imperial Valley, but few have up to the present time arrived in the East, except what have been forwarded by express. Consequently the market on grapes will not be available until next week. The quality of the early grapes is reported as above the average though the crop has been somewhat cut down by recent extreme heat.

All Tokay and Malaga districts in the San Joaquin Valley report growing conditions very favorable and though the crop will be later than last year, the quality of the grapes will be superior. If nothing interferes with conditions, we look for the heaviest shipment of grapes in the history of the industry.

Eastern buyers are making inquiries for wine grapes, prices from $20.00 to $25.00 a ton f. o. b. California. Indications are that the movement will be heavy.

The following prices have ruled for the week:

New York.—Santa Rosa plums, average, $1.47; Tragedy, $1.57; Climax, $1.40; Burbank, $1.26; Formosa, $1.12; Thompson seedless grapes, $2.78; Royal apricots, average, $1.12; Triumph peaches, 65c; Hale, 60c; Bartlett pears, $4.25; Bartlett H/B, $2.77; Wilder H/B, $1.95.

Chicago.—Santa Rosa plums, average, $1.65; Tragedy, $1.72; Clyman, $1.05; Climax, $1.37; Simoni, $1.23; Maynard, $1.45; Burbank, $1.37; Formosa, $1.50; Royal apricots, average, $1.00; Alexander peaches, 50c; Triumph, 65c; Hale, 72c; St. John, 94c; Bartlett pears, $3.55; Thompson seedless grapes, $2.43.

Boston.—Tragedy plums, average, $1.65; Climax, $1.15; Burbank, $1.10; Red June, $1.00; Santa Rosa, $1.50; Maynard, $2.35; St. John peaches, average, 80c; Triumph, 70c; Alexander, 65c; Bartlett pears H/B, $2.25; Republican cherries, $1.05; Bing, $1.30; Royal apricots, 75c.

Total shipments to date, 2,478 cars.

Total shipments same date, 1916, 3,848 cars.

CALIFORNIA POTATOES IN GOOD DEMAND.

Texas, Arizona, the Central Western and the Northwestern States are buying the first crop of California potatoes, causing higher prices than were being offered a week ago. For shipping purposes Delta potatoes have commanded from $1.90 to $2.25 per cental. This demand is known to be only temporary, but may last long enough to use up the entire first crop, leaving the market bare when the fall crop is harvested. It now looks as though the potato growers would enjoy a prosperous season.

LOS ANGELES.

Los Angeles, July 17, 1917.

BUTTER.

Receipts of week ending July 17....370,320
Receipts of same week last year....344,170

Market was firm the past week in face of good receipts. The consumptive demand holds up well and reports from the country indicate falling off in production. Cold storage stocks here, too, are lighter than a year ago, 83,811 pounds. There were no receipts into cold storage for week ending July 12, 1917, to the contrary, there was loaded out 6,960 pounds. The same week last year there was taken into cold storage 35,461 pounds. Hence prices were held up. On Monday Chicago showed no change, while New York declined ¾c. This weakness failed to influence market here. Tuesday brought no change on call. Receipts were good, but as San Francisco was up a cent, this caused buyers to hold prices up in face of lower market in Chicago.

We quote:

California extra creamery	39c
Prime first	38c
First	37c

Daily quotations:

	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
1917—						
Extra	37	39	39	39	39	39
1916—						
Extra	26	26	26	26	26	26

EGGS.

Receipts (railroads) for week ending July 17, 1917, 1,939 cases.

Receipts (railroads) for week ending July 17, 1916, 2,851 cases.

THE ANOMALOUS SITUATION IN THE PEAR MARKET UNCHANGED

The widely divergent attitude of grower and shipper in the pear situation has undergone no change in the past week. The grower still clings to his estimate of $50 or $55 per ton as a fair price, while the shipper, with equal tenacity, adheres to his $35 figure. The failure of the pear growers to effect a State-wide organization, as have the peach, apricot and prune growers, probably accounts for the two interests remaining so wide apart. It is understood that efforts are being made by a group of pear growers in the Sacramento district to effect some form of co-operative organization, which efforts have met with some success. If a general get-together spirit can be worked up among the producing interests, it is likely that a compromise figure of about $45 a ton will be settled upon as a fair price, notwithstanding the cutting off of the British market temporarily and the record crop promised by our orchards.

There has been quite a break in this market from a week ago. Receipts were lighter than for several weeks, but there were 16,369 cases more eggs in storage here July 12, 1917, than the same time last year. This with falling off in consumptive demand, caused speculators to hold out of the market. There was taken into cold storage for week ending July 12th, 57 cases, against 467 cases this time last year.

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	36	35	34½	34½	33½	33
Case count	36	35	34½	34½	33½	33
Pullets	33	32	31½	31½	31	31
1916—						
Case count	27	27	27	27	27	27

POULTRY.

Market the past week held up very well for young stock and hens. Receipts fair and demand good. Ducks are coming in more freely, slow sale and weak. Turkeys continue dull.

We quote from growers:

Broilers, 1¼ to 2 lbs.....21@22c
Fryers, 2½ to 3 lbs.....22c
Hens over 4 lbs.....20c
Hens under 4 lbs.....13@14c
Ducks 16c
Geese 15c
Roosters, 3 lbs. up (soft bones).....25c
Turkeys, heavy, 12 lbs. and up.....29@30c
Turkeys, light .....24@25c
Squabs, live, per doz.....$1.50@3.00
Dressed ..... 3.75@4.85

FRUITS.

Market well supplied with all classes of fruit the past week and all choice fresh offerings met with a fair demand. Prices held fairly well. The cherry season is about over, this week seeing about the last of them. Some pears are now arriving and meeting with fair demand. Grapes coming in more freely and lower; demand fair. Local figs now arriving and selling fairly at old prices. Apples coming in slowly; market firm. Plums weaker and slow sales.

Apples, White Astrachan, per box....$1.50
do, Red Astrachan, per lug....1.15@1.25
Apples, cooking, lug.....50@65c
do Crab Apples, lug.....50@70c
Avocados, per doz..... 4.00@5.00
Cherries, black Tartarians, per lb...10@12c
Royal Anne .....11@12c
Bings .....10@11c
Apricots, per lug .....40@65c
Peaches, local, per lug.....50c@$1.00
do, Northern, per lb.....2½@3c
Figs—Black, 2 layer .....$1.25@1.50
Grapes—Malaga, lb. .....5@6c
Plums—Burbank, per lug .....50@75c
do Santa Rosa, per lug.....$1.00@1.50
do Tragedy, per lug.....$1.00@1.25
do Satsuma, per lug .....50c@75c
do Gages, per lug .....25c@30c
do Climax, per lug .....50c@60c

BERRIES.

No change to note in this market. Receipts were not heavy, yet equal to demand. Some moving, but no life to the market.

Strawberries—
Fancy, per 30-basket crate....$1.10@1.20
Poor to choice, per 30-basket crate ..... .90@1.00
Blackberries, per 30-basket crate. 1.25@1.35
Raspberries, per 30-basket crate. 1.35@1.50
Loganberries, per 30-basket crate 1.20@1.30

MELONS.

Receipts the past week showed a falling off and with good demand market made sharp advance. While the Imperial cantaloupes have been about marketed, Arizona cantaloupes are coming in. They are a good substitute for the Imperial Valley melons. A few home-grown were also in during week. Watermelons coming in more freely and lower; demand fair. Honeydew melons unchanged.

Cantaloupes—
Imperial, standard crates .....$2.00@2.25
do, pony crates ..... 1.90@2.00
Imperial Valley Honeydew melons, per crate of nine and ten.. 1.50@1.60
Watermelons, per cwt..... 1.00@1.25

VEGETABLES.

Market remains much the same as a week ago. Not many price changes, but what made were downward. Peas were lower. String beans broke and sales slow. Tomatoes coming in freely and choice in very good demand, but poor were slow sale. Onions lower. Cabbage unchanged but dull. Potatoes held a little firmer. Corn arriving more freely and lower. Cucumbers slow sale, but firmer. Summer squash dull, but steady. Lima beans scarce and firm.

New potatoes, per cwt.....$1.25@1.50
Peas, per lb.....5@6c
New onions, crystal wax and Bermuda, per crate .....65@75c
Onions, Northern, per cwt.....$1.25
String beans, wax, per lb.....2@2½c
do, Kentucky Wonders, per lb....3@3½c
Tomatoes, local, 4-bskt crate.....70@75c
do, local, per lug.....75c@$1.00
do, No. 2, per lug.....40@50c
do, culls, per lug.....25@30c
Summer squash, lug.....15@20c
Cucumbers, per box of 2½ to 3 dozen .....15@20c
Green corn, lug .....30@50c
Cabbage, per 100 lbs.....50@60c
Lima beans, per lb.....7@9c
Okra, per lb.....6@8c

HAY.

Quite a dropping off in receipts the past week. Growers having trouble in getting labor for baling and a scarcity of cars, both working against receipts. With light offerings a steady and firm market was had for choice hay. But only such lots were wanted for immediate use. No one cared to buy ahead. Receipts, 105 cars.

We quote f. o. b. Los Angeles:

Barley hay, ton .....$19.00@21.00
Oat hay, ton ..... 20.00@22.00
Alfalfa, northern, per ton..... 16.00@17.00
Alfalfa, local, ton ..... 18.00@19.00
Straw, ton ..... 9.00@10.00

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Special Livestock Market Report

San Francisco, July 18, 1917.

CATTLE.—At this date arrivals of beef cattle are somewhat in excess of consumptive requirements, though choice prime steers are promptly bought up at top figures. Notwithstanding this evidence of weakness, price quotations stand. Calves are in light supply.

Grass Steers—
No. 1 weighing 900@1200 lbs....8½@8¾c
No. 1 weighing 1200@1400 lbs...8½@8¾c
Second quality .....8 @8¼c
Thin undesirable .....6½@7½c
Grass Cows and Heifers—
No. 1 .....6¾@7 c
Second quality .....6¼@6½c
Common to thin .....4@5½c
Undesirable .....
Hay-fed Cattle ½@¾c higher.
Bulls and Stags—Good 5½c
Fair .....5@5¼c
Thin .....4@4½c
Calves—
Lightweight .....9@9¼c
Medium .....8@8¼c
Heavy .....7@7¼c

SHEEP—The sheep and lamb situation is somewhat strained, as stock continues hard to get. While with the rising price of wool from week to week, holders of stock show an indisposition to part with their supplies, independent of this fact there is an actual shortage of mutton stock. Sheepmen are prone to hold for prices at which it would seem their stuff could not be handled, yet some business is done, though receipts are light. Prices are steady, as there is a limit beyond which the buying public will not go.

Lambs—
Yearling .....12@13c
Milk .....12@13c
Sheep—
Unshorn wethers .....10½@11c
Unshorn ewes .....9½@10c

HOGS.—There is a let-up in hog receipts, as at this season of the year stock is held by growers to take advantage of stubble and refuse incident to the harvest season. Arrivals in this line just now show lack of finish. Last week's quotations stand.

Hard, grain-fed, 100 to 150.....13 c
Hard, grain-fed, 150 to 300.....14½c
Hard, grain-fed, 300 to 400.....14 c

WOOL.—There are few transactions in wool in California at this season, still some small lots change hands at intervals, but only when the buyer yields to the exacting demands of the holder. In the Northwestern States, where quite a little business is still doing, prices advance a little from week to week, and there is a bullish feeling on the part of holders. Following quotations are for the California spring clip:

Sacramento Valley, spring clip.....50@52c
Mendocino and Humboldt .....55@60c
Cloverdale .....50@52c..
Southern, spring clip .....40@45c
Nevada, year's .....50@55c

Los Angeles, July 17, 1917.

CATTLE.—While there is no quotable change to note since our last review, the tone is weaker. Feeders more disposed to sell. Market to the north and east of us not being so bullish causing feeders to offer cattle more freely. Especially medium and fair fleshed that make up most of the receipts. Choice steers still scarce.

Calves coming in less freely and market steady, demand fair.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs.....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers..... 6.50@7.00
Calves, per cwt. ..... 8.00@9.00

HOGS.—Coming in a little more freely and market weaker. Killers, while still paying old prices, were more critical and decline may be looked for any day. California continues to give us all hogs needed, they are mostly half grown and half fat. Real choice hogs continue scarce and command premium over quotations.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 250@300 lbs..$12.00@12.50
Mixed, 200@250 lbs..... 13.50@14.50
Light, 175@200 lbs..... 13.50@14.50

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP.—Same old story in this market. Light offerings and good demand at firm prices. Killers all wanted a few sheep and lambs and paid full quotations both for wethers and ewes. California furnished what few coming in. Arizona now shipping east, being attracted there by high markets.

Per cwt. f. o. b. Los Angeles:
Prime wethers .....$ 9.00@10.50
Prime ewes ..... 9.50@10.00
Yearlings ..... 10.50@11.00
Lambs ..... 13.00@14.00

WHOLE MILK LAGS IN ATTAINING PROPER PRICE LEVEL.

On July 1st, in New York, milk advanced one-half cent a quart; buttermilk two cents and cream and condensed milk were raised one and one-half cents per quart. California dairymen are agitating for a raise in price of milk, which is necessary owing to higher price of feed and the scarcity of labor. At this time there are too many good milk cows being offered at bargain prices. The price for butterfat has been good so far this season, but sellers of whole milk have not participated in this increase.

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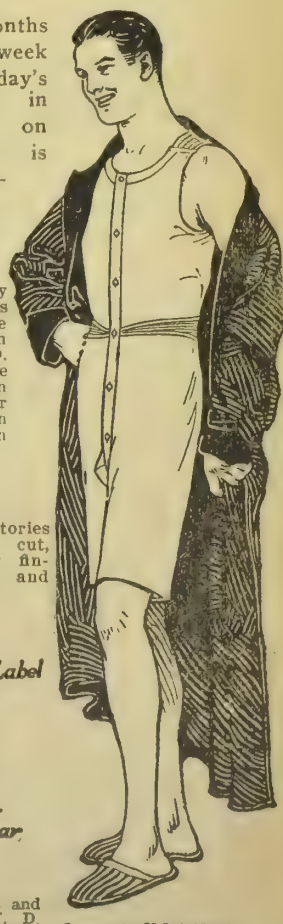

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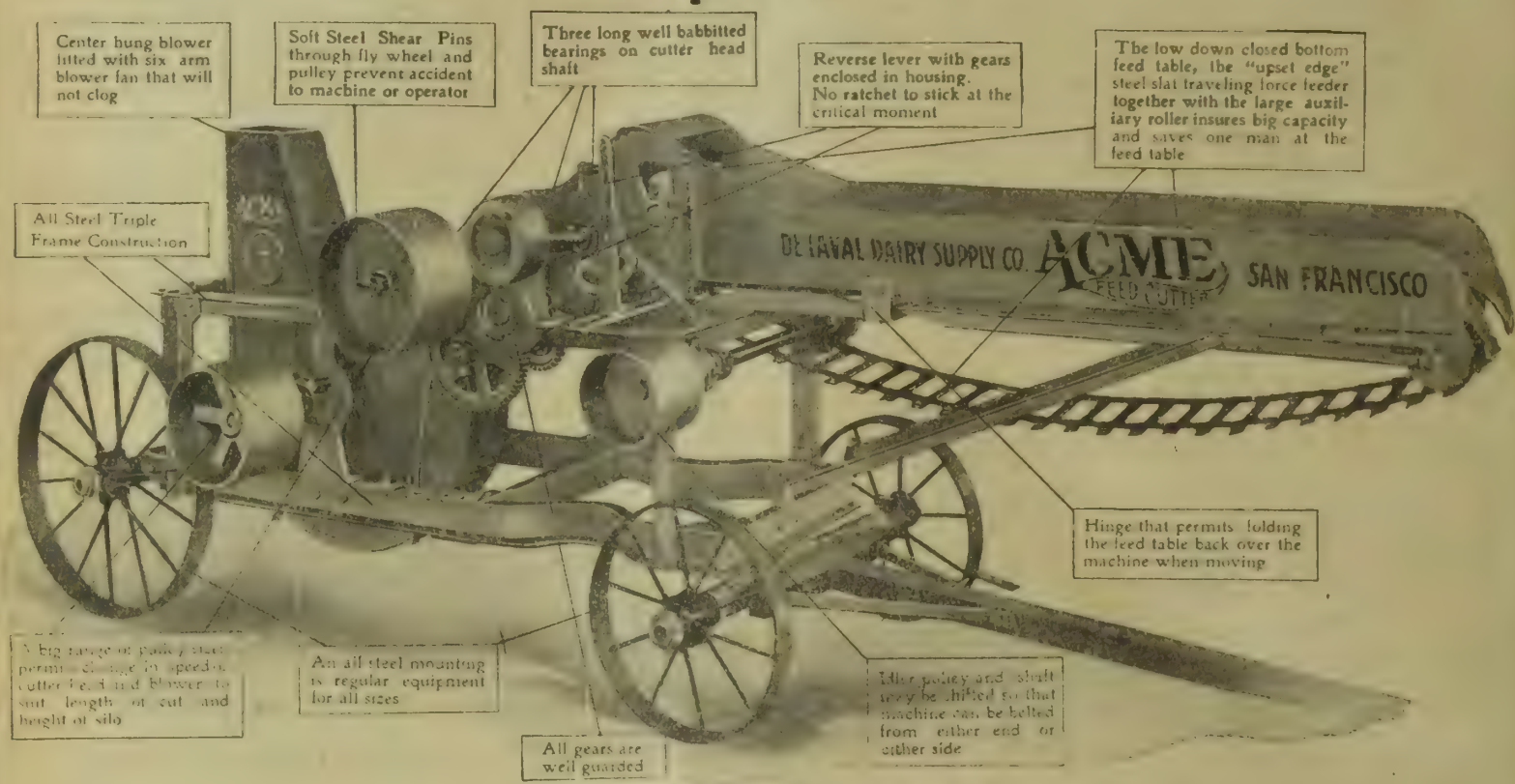

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P.R.P.—7-21-17

Vol. XCIV—No. 4 Forty-seventh Year

THE PACIFIC RURAL PRESS

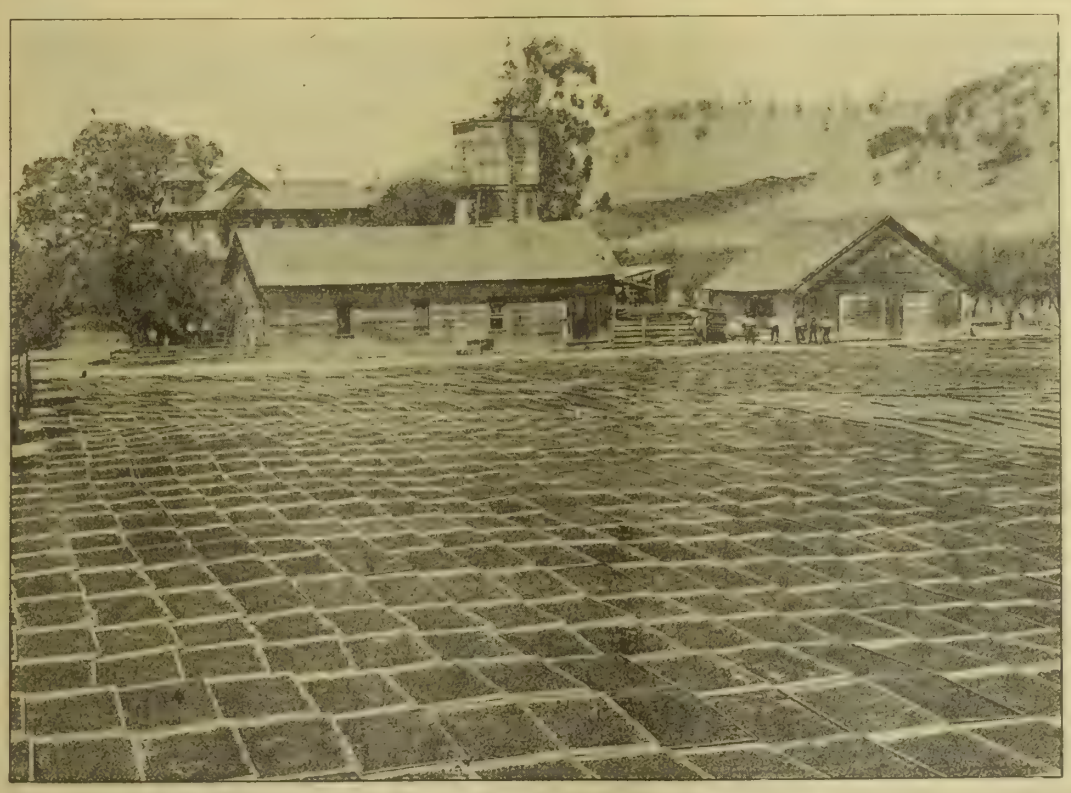
SAN FRANCISCO JULY 28, 1917 LOS ANGELES

Up-to-Date Prune Drying in Tulare County

[Written for Pacific Rural Press.]

THAT PRUNE GROWING in Tulare county has for at least twenty-five years been a side issue generally, on farms producing other crops and livestock, is given as one reason for the very different methods adopted by various growers in culture and drying. Over 400,000 prune trees have been shipped into Tulare county for planting in the past three years, according to Horticultural Commissioner Chas. Collins, and everything looks favorable for increased, profitable production.

Different methods of drying are also due to the more extended ripening season, greater persistence of prunes in hanging on the trees, and later growing of the trees, according to Geo. A. Fleming, who dried his fortieth annual prune crop last season and has ranches in both Tulare and Santa Clara counties. Another point distinguishing this from other districts is the large proportion of Robe de Sargents, which ripen earlier than the French and thus permit a smaller force to work through a longer season. Probably the most outstanding example of this, and probably the largest bearing orchard in the county, is that of the Swall Land Co., managed by Arthur Swall. They have 80 acres bearing, 300 acres of young prunes, mostly Robes, and plan to set out 125 acres of the same variety next spring. This variety is generally considered ready to pick August 20 to 25 and is generally half in the house when French are ready to pick about September 1. This earliness has prevented all loss of Robes by rain for the Swall ranch. It has also led to the earliest deliveries, for new crop prunes are scarce when Robes are ready.



Prune curing in Solano county—Partial view of a ranch drying ground and adjacent buildings for storing and packing the product.

Preparation of the Ground.

The last cultivation before picking is often done with a roller, "smoother," or clod masher to make a smooth surface for prunes to fall on. Mr. Swall, however, uses a spring-tooth because, on subirrigated land, weeds come too soon otherwise.

Late and Frequent Picking Better.

Familiarity with raisin drying where the vines are stripped at one picking has led to the general adoption of this practice. There is much to condemn this practice, however, and leading growers are changing over to two or three pickings. As pointed out by Mr. Fleming, if labor supply permits the old general aim is to let half of the prunes ripen, and some will have fallen when the trees are shaken to remove the rest. As labor is easier to get early in the season, many people are tempted to pick their fruit too green. This not only loses premium for large sizes but loses the added weight which comes in the ripening process.

Where green and ripe fruit are picked together, it is commercially impossible to separate them. When they are dipped in hot lye water the ripe and partially withered fruits are not much checked, while the firmer greener fruits have the outer skin loosened and often folded back along cracks which expose the red underskin and make the dried fruit dull finished and sticky. Nothing but tabooed coloring matter can restore the appetizing black color to such prunes; and nothing can overcome their roughness. Making several pickings keeps prunes of varying ripeness separate so each can be checked about right, and the later ones can get riper so the excessive checking can be more easily avoided.

Many of the growers, familiar with the use of canvas sheets in harvesting apricots, find it less labor to spread sheets under the trees, roll the prunes into boxes and run them over a cleaning machine to take out the trash before dipping. Five hundred pounds of fruit may be shaken onto a single sheet. As this requires the help of men, those growers who have women and children to pick their fruit generally pick direct from the ground.

Boiling Water for Sterilization.

Dipping is where the most care and judgment seem to be required, as each variety and each stage of ripeness takes different amounts of lye; and each box of fruit dipped changes the composition of the dip solution. The first object of dipping, according to Mr. Fleming, is to sterilize the skins by submerging them an instant in boiling water, so they will not ferment in drying. He believes the fermentation which causes "bloaters" or "frog-bellies" starts from the skin and is due almost, if not quite, entirely to low temperature of dip solution. One season, when his foreman had an excessive number of bloaters, Mr. Fleming found by thermometer test that the water was actually at 140 degrees F., though it was in a furious state of ebullition, due to the steam circulation system in the vat. Wood fires had been used under the vat, and proper attention was not given. He rigged up an oil burner, which kept the water uniformly above 200 degrees, and has had very few bloaters since. Leaving prunes in cool dip too long, trying to make lye do what hot water should, is also believed responsible for many bloaters.

Lye to Remove Oily Bloom.

The second object of dipping is to take off the oily bloom which clogs the pores and hinders evaporation. This is accomplished by adding lye to the boiling water, about a pound per 50 gallons for a starter. If this checks the skins so the cracks are easily seen, add more water; for Mr. Fleming believes neither in checks nor in pricking prunes on needleboards, though they do no harm if their effects do not show in the dried fruit. It is enough if dots show on the fruit. If the bloom is not taken off, add more lye. Remember that each boxful takes some lye out and leaves some dirt, fruit juice and oily bloom in the dip, making soap by combination with some part of the lye. Add lye at intervals. Mr. Swall believes that bloaters are often due to lack of lye and too little checking, which prevents the air or gas of fermentation from getting out.

Less lye is needed for green fruit than for ripe, and for Robes than for French. If all could be uniformly slightly wrinkled when dipped, there would need be no peeling or roughness or lack of uniform checking. To get uniform wilting without waiting so long that early fruit sunburns on the ground, it is suggested that the trees be shaken lightly a day or so ahead of the pickers. Even strong lye then is not likely to overcheck them.

Dippers and Heating.

With basket dippers, the outside prunes get more heat than those inside,

(Continued on page 83.)

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EDITORIALS

FOOD ADMINISTRATION GAINS A COG.

AFTER TWO WEEKS of hard talking, the United States Senate has returned to about the same spot on which it had formerly concluded to stand on the food administration legislation—as indicated in our issue of July 14. It did, in fact, quite succeed in swallowing a whole lot of its own tail, for the former vote was 45 to 37, while the vote on July 21 was 81 to 6 in favor of food control. It is surely worth while to talk when talking brings a stronger push for the right thing. The talk has also given us a rather better form for the right thing. These were the especially agricultural propositions which prevailed in the Senate last Saturday by a vote of 13½ to 1, viz.:

A food administration board of three members. One of the men must be a practical farmer.

Commandeering of all bonded liquor, the Government to pay a "fair" price for it—and prohibition of distillation of spirits.

Minimum price of $2 a bushel for highest grades of wheat until July 1, 1919, with prices of other grades in proportion.

Appropriations of more than $150,000,000 to secure action on various control lines and $10,000,000 of it for Government purchase and distribution of nitrate soda to help stimulate crops.

And now, as we write on Tuesday, these Senate propositions go to a joint conference committee to be rubbed up against the holdings of the House of Representatives and perhaps to be somewhat modified by such attrition. Once more, therefore, we have to go to press without informing our readers exactly under what provisions they must undertake the largely increased food production which is expected from them, for a new flood of oratory must sweep the field and cut gulleys therein—with what effect upon farm production none can foretell. There is, however, no escape from it. The statesman is born or made to talk. He would talk even if he were about to be hanged—oblivious to the fact that the longer he talks the more the public becomes reconciled to the deep sadness of his taking off. And while statesmen must and will talk, we delay events not a whit by writing of them. Therefore, while statesmen talk we dip our pen to the impress of the maker's name, determined to have as good a time as they.

SHALL THE COUNTRY BE TALKED TO DEATH?

WE HAVE to trust to our broader brothers of the general press to fully expound some things in the bill as it leaves the Senate which vex the President. We must say, however, that we fully sympathize with the President in his protest against the plan of the Senate "to create a committee of five Senators and five Representatives to ascertain just how contracts were being let and money spent in the conduct of the war and to report to Congress whenever it so desired." It is certainly no time to put the details of the Government's conduct of the war on a set of rolls for the congressional phonograph so that the enemy may be edified and all our own private-interest orators awakened to counter-attacks. We have entered a war: we have not joined a debating society. If we cannot trust our President and his advisers, let us throw mud at them from the gutters and not bury bombs in the middle of the highway over which we must all finally march to victory. The main thing now is to clear away entanglements and get ahead over this road! If anyone should doubt that such contemplated continuous reference to Congress would retard effective conduct of the war, let him remember what has happened in this single affair of food administration. It should have been in operation within a week after the declaration of war: it has actually been eight or ten weeks in the congressional limbo and we cannot yet announce its accomplishment. If things have not yet been done which place the country in the grip of greed in the matter of food supplies, it has been because peculators and speculators fear the American conscience which has been awakened by the President's appeals. It is surely a time to do things, not to arrange a series of pink teas for alleged patriotic discussion, during which thimble-rigging can be done by private interests. We have our best men in executive action or in counsel: let them do their job!

A FARMER ON THE FOOD BOARD.

BUT WE are inclined to believe that the Senate has talked some good points into the food administration law. For instance, we are glad that the public has been aroused to the ridiculousness of the effort to increase and influence the course of food production by men who did not have in their original possession a single fact or point of view gained by experience in the work they would increase and influence. Councils of Defense, which proclaimed food the chief munition, had no member known to be actually producing a pound of it and whose experience therein, if they ever had any, was in retrospect and gained under very different economic, scientific and sociological conditions. The foolish things they did at first in their attitudes toward speeding production, the labor supply, etc., are now being demonstrated in their true light by the experience and investigation of the last three months. This should have been foreseen: it was only what was to be expected from forgetting to call farmers into council on the capacity, requirements and practical operation of the most stupendous farming movement the country has ever been thrown into. We are aware that the great spur which plunged into the farming industry was not considered in the light of its conditions and consequences. It was administered as a well-meaning, patriotic kick: "speed up," "get a move on," with no thought of the requirements and the effects, and the thrust was almost immediately followed by denials of the only conditions which could make it sane or safe. This experience leads one to strongly approve the position of the Senate that there should be a practical farmer included in the executive authority which is to stimulate food production and regulate food distribution during the continuance of the war. And in our mind such provision does not reflect upon the ability and sufficiency of Mr. Hoover. How, in the nature of things, can he know the bearings of any contemplated action of his upon the practical operation of an industry in which he has had no training nor recent experience, and how could he determine whether advice given him by a bureaucrat or by a farming-politician was the real farming thing or some vagary of near-farming? That is probably the reason why the Senate decided that there should be associated with him a "practical farmer." We have not seen the text of the bill passed by the Senate, but gossip says that the Senate would require the appointment of a "man who was actually engaged in farming at the time of his appointment." Evidently the Senate desires neither an agricultural has-been nor would-be, but will be only satisfied with a Cincinnatus straightly summoned from daily converse with his cabbages. It is our notion that Mr. Hoover should have associated with him such a real farmer from the central region of the country, where the sky hangs high and the horizons are wide apart; a real farmer who has been operating on a scale large enough to teach him the problems and the pitfalls of extended and expedited production on a national scale. If we get such a force in food administration we shall not have waited in vain.

NATIONALIZATION OF FERTILIZERS.

IF WE DRAFT the wheat plant into recognized national service, it is reasonable that the plant should be fed like a soldier. We have not seen the argument on the basis of which one of several fertilizers was apparently singled out for such distinction, but it was probably based upon the fact that nitrate not only furnishes its own particularly valuable plant food but its action in the soil renders others available. Still, we would like to see other plant foods provided—a few millions' worth of other forms of nitrogen and plenty of phosphates, for instance. Considering the scarcity of ships and the high cost of freight, one might think it expensive and difficult to get so much nitrate from Chili in time for use next spring. We are making many good forms of nitrogen and can turn out almost any quantity of superphosphate from our copper smelters which are running to capacity—both the nitrogen and phosphate being by-products of our own national industries. And then if we are giving or lending national money in the form of nitrate as a plant food, why not do the same to furnish wheat growers with water—which is the greatest of all plant foods, not only giving its own substance but setting free all other plant foods in the rich soils of the arid region? But we are not complaining at this moment: we do not know definitely enough what the Senate has really done: the telegraph is too stingy of details. However, there are things in the action taken, whatever it was, and in the talk about action also, which is immensely significant. We think of two such things: first, that we have a national declaration that wise use of commercial fertilizers is fundamental in crop-increase, and that if American agriculture is to go forward into greater acre-products as it should, money must be freely spent to feed the plant which is to produce the greater money. The great, new West has been too slow to bring its farm policies upon this fundamental fact. The second significant thing is that money wisely spent for fertilizers is a direct investment for production and therefore should be made available on easy terms to farmers who have land and knowledge to use money to make more money. From the point of view of scientific agriculture the fertilizer trade of the farther West is almost ridiculously small. It looks as though one of the permanent benefits of the war might be a general awakening to this fact.

INADEQUACY OF THE LABOR SUPPLY.

IT IS BECOMING daily more clear that we were right in our impatient protest against the great hush placed upon the farmers' claim for adequate and capable labor, by all the committees, councils and commissions, with their great warm hearts for the laboring man's welfare and their quick political consciences for their own. The demonstration, which anybody could have foreseen, is that the high school youths would rather join the marines; that the grammar school kids would rather go fishing; that the hoboes would rather enroll in the Kaiser's I. W. W. dismounted cavalry; that the idle men about town would rather watch the trolley cars go by—in fact, that everyone who knew nothing about farm work or who hated it would sidestep it. The public, indulging rural dreams for other people, is shocked: the farmers knew that the stuff such dreams are made of would never meet their real needs and that if they put in crops in such a wind of public assurance that there was plenty of labor, they would reap the whirlwind when it came to harvest. And some of them are now trying to stem that twister and facing disaster. As we understand it, the early results of efforts to actually realize upon the assurances of ample labor indicate almost ridiculous inadequacy and indisposition on the part of everybody. Some troops of boy scouts and other youths singly and in groups are doing well at light work with fruit and deserve credit, but the great army of huskies who were held to be waiting the farmers' summons in the towns is still very busy on the baseball grounds. The following are current reports:

In Los Angeles the attempt to secure volunteer labor by a growers' association was unsuccessful. After a spirited campaign had been conducted for volunteers, only 141 people in the whole city responded. And of this number ninety-one were

women. Railroad fares for the entire number were paid to the place of employment, and almost immediately a majority of them quit and returned to the city. In answer to a call for farm help in Riverside twenty women volunteered, of which number twelve were colored.

Of course, we do not wish to be unjust and prejudiced. There are other cities still to be sounded, but when Los Angeles, with nearly half a million people, yields only fifty men claiming to be "effectives" for farm work, and when they run away from the work when they see it, it does not seem reasonable to expect much help for farmers from these sources which have been so resolutely dreamed of. It is not surprising that these city idlers should not take to farm work, which is confessedly no kind of calisthenics. The surprise is that anyone should think that such people either could or would do it to any appreciable extent. The real trouble and difficulty are that the farmers have been prevented from getting experienced and effective farm help by the over-officiousness of people who have butted into a situation which they knew nothing about. And now that it is apparently fast approaching a demonstration that all such people were mistaken in their actions and all their claims groundless, it is just the right time for the farmers to try again to get the help they need and make their appeal in such a way that it will get through the entanglements of political bureaucrats into the sight and hearing of those who are really trying to help the food-producers to reach the ends in production upon which the winning of the war depends.

A WELCOME VISITOR.

CARL S. VROOMAN, Assistant Secretary of Agriculture at Washington, made a flying visit to California last week to see some phases of the work of his department in this State and apparently to feel the patriotic pulse of the far West. It is only fair to Mr. Vrooman to say that he gave our patriotism new thrills and in his many addresses before local associations he did very much to heighten our consciousness of our duty and privilege to meet the needs of the country in personal effort and sacrifice. We count his visit of distinct advantage to California and to the general patriotic service which he so earnestly desires to promote. He carries a fine line of direct talking, alert to important issues, pointed in enforcement of impressive facts and winning to conviction and action on the part of his hearers. He was called to his post in Washington from direct conduct of large agriculture in Illinois and he shows sympathetic mastery of the important work now entrusted to him.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Fertilizers for Potatoes.

To the Editor: Kindly advise me through the Rural Press what kind of commercial fertilizer I should get for planting with potatoes on light sandy soil; also how to apply it.—M. S., Atwater.

Potatoes take commercial fertilizers very profitably providing they are not over-stimulated by quick manure and excessive moisture to run too much to tops—from which condition they are very apt not to settle down to good work underground. A good general statement of the needs of potatoes is that of the late Prof. E. B. Voorhees, as follows:

Potatoes require not only an abundance of food, but should have a large proportion of nitrogen and potash present, primarily because early potatoes particularly are grown upon soils usually of an open, porous character, generally sandy loams. These soils are, as a rule, deficient in potash and nitrogen. Besides, potatoes belong to that group of plants which are called "potash lovers"; that is, they require large proportions of these elements. The following formula is an example:

	Lbs.
Nitrate of soda	100
Sulphate of ammonia	100
Ground fish or tankage	250
Superphosphate	1100
Muriate of potash	350

This fertilizer should be applied at the rate of 800 to 1200 pounds an acre, depending upon conditions.

This complete manure for potatoes should be applied just before planting, so that it may have time to exert its full influence: as, however, it is nearly all readily soluble it should not long precede planting if considerable rainfall is expected to follow.

If the time has passed by for realizing full value from such a full ration for the plant, a strong help to the plant can be had by applying 400 pounds superphosphate and 200 pounds nitrate of soda and 200 pounds muriate of potash, well mixed and evenly applied to the moist soil after the irrigation which has fitted the soil for late planting. If potash is not to be had at a reasonable price, it can be omitted, for it is part of the business of the nitrate of soda to render available some of the natural potash content of the soil, and, fortunately, California soils have much potash ready for such action. It is also true that if potatoes are already growing and seem to need help to growth even when moist enough, 200 pounds of scattered nitrate of soda should be cultivated into the moist soil or scattered in advance of irrigation in cases where the soil needs irrigation. Such use of nitrate has often greatly increased the yield.

Intruding Tree Roots.

To the Editor: My neighbor has a row of Balm of Gilead two years old, within two feet of my fence, and their roots and branches are spreading very rapidly on my orchard. I am afraid that in a year or two my place will be entirely overrun with the roots and growth of the pest. What can I do for my protection? Can I compel the neighbor to dig a trench on his side of the fence, or remove the trees altogether?—Subscriber, Fresno.

Such little law as we know gives us the impression that your neighbor has a legal right to grow whatever leaves and roots he desires in his own sky and soil, if they are not a menace to your health, and no right to grow them in yours. Therefore, on general principles, you cannot compel him to sacrifice a part of his right by digging up part of his own land and taking the roots out of it, for they have a right to be there. But you have a right to dig the trench on your side and cut off all roots at the property line—just as you have a right to saw off all branches which enter your sky above that line. But of course you have a lot of moral rights to pull on him. A good neighbor will not allow any of his property to encroach upon you nor will he run tunnels into your peace of mind and comfort even if he has to make a little sacrifice to refrain from it. And you can encourage him to think that the trees are not very desirable to have anyway, for they are the home of the pemphigus populicaulis, the tecabius populimonilis, the pemphigus populitransversus, the chionaspis orthobolis—not to speak of the cossus populi and the thyridopteryx ephemeræformis, which is likely to drop from the tree at any time. If you doubt your ability to keep your face straight while using this argument, get an ex-judge with his best sentential voice and undertaking faciography to argue the case for you with your neighbor. It is also quite possible that he may pull a law about property line trees which we do not know about. We have always had a strong conviction that before you try to monkey with the law to compel a man to do anything it is a good idea to hire a lawyer.

Dwarf Pears Not Advised.

To the Editor: I have a walnut orchard, five years old, from nuts planted in the field. When three years old I began to graft, also interplanted with pears in the rows, which are 45 feet apart. The land is mostly heavy, moist bottom land, and I propose to interplant further between the rows with more pears. I am advised to use quince stock, as a dwarf tree could remain longer before having to be removed when the nut trees get big. Also, the quince stock would not suffer on the wet spots. How do dwarf trees compare with the standard in size, bearing and precocity? The trees would then all stand 22½ feet apart in every direction on triangular plan. Should the pears be double worked on Beurre Hardy and quince? If so, why?—E. P. T., Pacheco.

So far as we know there are no commercial pear orchards in this State on quince root. Dwarf trees were largely planted in early days, but were practically abandoned forty years ago, and the few old trees now surviving which started on quince roots grew their own roots long ago and thus became standard on the pear root. If you start on quince your trees will also soon come on their own roots unless you excavate and cut off such roots every year. As there has been no fruiting of any amount of pears absolutely known to be on quince root for several decades in this State, it is not possible to answer your questions as to their comparative behavior. Theoretically they should bear sooner and on smaller trees, but the fact remains that the decision of the pioneers against dwarf trees for commercial purposes has never been impeached since they rendered it. Dwarf pears may be a very nice fruit-garden proposition, if one will take the pains to keep them on the quince root, but we do not advise them for commercial planting. They are double-worked because some pears do not take kindly to the quince. We should plant standard trees and expect them to do well at 22½ feet for a good many years—providing the land is not too cold and wet to be suitable for any fruit.

Cherry Gum, Ants and Lice.

To the Editor: I have a cherry tree which has been infested with Argentine ants for some time. I have noticed that some of the leaves curled up, which, upon opening, I would find full of ants. One morning about a week ago I discovered chunks of gum—some as big as my fist—on the trunk and in the crotches and even on the limbs. Could the ants have caused this condition and is there a remedy?—E. I., Oakland.

Cherry-gumming in chunks or masses is not the work of any pest. It may be physiological and due to some condition which makes the sap circulation abnormal; or it may be merely mechanical due to fissures in the bark, from some unknown cause. When it occurs in a crotch it is usually due to the crushing and upsetting by the growths of the bark of stem and branch failing to make a good union, and generally does not mean lack of thrift in the tree. These gobs of gum will be softened by the winter rains and can be cleaned off with a stiff brush. Of course, the ants have nothing to do with them. The ants are collecting in the curled leaves because leaf lice are in there and are making lots of honey dew, which is ice-cream soda to ants. Therefore, the way to keep the ants away is to kill the leaf lice, with soap and tobacco spray, early in the spring, before they multiply sufficiently to curl the leaves. The ants are therefore not a cause but a consequence. But they are not nice, and to kill them send to the University at Berkeley for a bulletin of details on that subject.

Irrigating Teparies..

To the Editor: I have five acres in tepary beans and irrigated them a week ago, but as the checks are not level as might be, I did not do a good job on them. They are in blossom now. Would you irrigate again? When is the best time to irrigate this kind of bean?—A. S., Denair.

We should not irrigate again very soon but keep the surface loose and when the running of the plant warns you that they are going to close out the cultivator get in another irrigation so as to leave you a chance to cultivate well before laying by. The best time to irrigate teparies is when you see that they will soon need it.

Are They Sun-burning?

To the Editor: A few of my French prune trees planted last year have gum exuding, and on others the thin outer skin of the bark cracks open and rolls back, exposing the inside layer of bark. Will this cause any permanent injury?—E. F., Novato.

They are probably sun-burning. We should whitewash all exposed bark. If some show considerable bark dead later in the season we should replace them with new trees and protect the bark from the sun.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., July 24, 1917:

Stations—	Rainfall Data. Past Week.	Seasonal To Date.	Normal To Date.	Temperature Data. Max'm.	Min'm.
Eureka	...	....	.11	58	48
Red Bluff	...	....	....	106	68
Sacramento	...	....	....	106	62
San Francisco	...	....	.01	88	52
San Jose	...	....	....	102	54
Fresno	...	....	....	106	72
San Luis Obispo	...	....	.01	86	52
Los Angeles	...	....	....	88	60
San Diego	...	....	....	70	64

Record Citrus Buds at Cost

[Written for Pacific Rural Press.]

That citrus growers and nurserymen may hereafter be assured of high-producing buds with which to work over low-producing old trees and to propagate future plantings, is a project of the Fruit Growers' Supply Co., an organization affiliated with the California Fruit Growers' Exchange. Primarily the company is a purchasing agent for members of the latter, but will furnish buds to all growers regardless of marketing affiliations.

From last May 1, when the project began, until July 15, some 27,500 record buds had been sold to growers at cost, 3 cents each. If by reason of the high-producing heritage of these buds they produce two extra oranges per tree (or per branch when used for top working), they will have paid for themselves in the first year.

The plan is to select bud wood from trees producing above the average in selected orchards; and, as urged for some years by A. D. Shamel of the United States Department of Agriculture, each bud stick must, when cut, have a fruit on it of the most desirable type. No buds will be taken from trees with less than two years' records of production and type; none will be taken from trees with any notably off type limbs or fruit nor from orchards where many sports occur. They are cut in the presence of C. S. Milliken, who has immediate charge of the work, or of B. B. Pratt, who has charge of the field department. Records of trees from which buds came are available to the buyers.

Two orchards each of navels and Valencias, Eureka and Lisbon lemons and Marsh grapefruit have been used for budwood this season, records having been kept on the individual trees for several years past. Demands for buds have been so insistent that the department has been submerged in the work of supplying them and in assembling the records into readily available form. As the demand increases, other orchards will be used, records being kept on them now for the purpose. As rapidly as possible records will be established on orchards budded from trees of known performance and in time all buds will be cut from orchards of this character.

NURSERYMEN TO BE SUPPLIED.

Nurserymen have expressed great interest in the project and some of them are already planning to use the buds for their entire planting, with a view to serving their patrons with more reliable stock. An agreement will be required on their part to use only record buds in designated nursery rows both for first budding and for rebudding seedlings that do not "take", and to render a statement of all sales of the trees so propagated.

Buds will be furnished to all who care to use them, and if the charge proves greater than the cost, it will be lowered in coming seasons.

Thus comes to a commercial realization the tireless, persistent work of the man who found that one-fourth of the citrus trees of California are not producing as much as they cost, the man whose work and methods have already been described in our columns—A. D. Shamel.

Quickest and Best Almond Blanching

[Written for Pacific Rural Press.]

When almonds are dipped in water before bleaching, they must wait until drained and nearly dry before being put into the sulphur house. Water gets into the cracks with disagreeable results. F. W. Wilson of Yolo county bleaches almonds in the cleverest way we have seen on a farm. Many neighbors bring their almonds here to be bleached at $5 per ton.

He has recently built a treble concrete sulphur house for fruit drying. One of the compartments is used for almonds. Three men moisten, sulphur and resack five tons per day, "a ton per shot," and the gain in weight due to moisture added to the shells goes far toward paying the cost. One lot of one and a half tons gained 76 pounds last year.

The almonds, with trash screened out, are stacked up in 22 wire-bottomed trays six feet long and six inches deep, on two cars, which are run into the sulphur house, one behind the other. Steam is turned in at 40 to 50 pounds pressure from a boiler in which the pressure does not go below 30 pounds for fifteen minutes. This puts a thin film of moisture on the almonds. Then about a quart of sulphur is burned for the harder shelled varieties, leaving them in about forty-five minutes. Softshells, like Nonpareils and Ne Plus, cannot be sulphured so long without becoming rancid later.

The trays are of pine with half-inch mesh galvanized wire bottoms. They cost $1.25 each and have been used two years with no damage to the wire. B. F. Chadwick, the ranch foreman, says that redwood trays would be spoiled by the sulphur.

Field-Packed Tokays

[Written for Pacific Rural Press.]

Field-packed Tokays are fresher and in better shape when they reach market, and require less work in packing. These are the reasons N. Vesper Williams and J. N. Furry of San Joaquin county furnish their packers light three-legged tables and send them to the vineyard to work. The table is a shallow box about 18x24 inches, on which the crate to be packed is set beside a vine. Each bunch is picked and put into the baskets direct, so the bloom is not rubbed off nor berries loosened or bruised, as in shed packing. When a crate or basket is to be finished off, if the right bunch does not remain on the nearest vine, it is found close by. Big bunches are used without cutting. Culls are put into the box-table and dumped perhaps once per hour. Mr. Williams says they pick and pack nearly as fast as they would pick into lug boxes. They avoid this extra handling as well as the pawing over of piles on the shed tables to get the right bunches. Packed crates are set in the shade and collected about 3 p. m. The covers are nailed on at the old packing shed. Three hours later the grapes are on board cars at Woodbridge ready for Eastern trains.

In the Modesto irrigation district there has been a decrease of 10,000 acres in the amount of alfalfa planted in the last two years. Beans, on the other hand, have increased in acreage from 5,734 acres for beans and grains combined in 1917 to 17,466 for the bean-grain crop in 1917.

"A Puff in Time Saves the Vine"

The American Beauty Dust Sprayer

PROTECT

KILLS

red spider
mildew
aphis
rust
corn ear-worm
boll weevil
codling moth
cabbage worm
etc.

The Liquid Flame Kills
squirrels, gophers, etc.
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Have You Enlisted

in the fight to overcome the great world food shortage?

Do you want to "Do Your Bit" by making every acre of your land produce its utmost? If so you must feed your soil, i. e., increase the available supply of the elements required by your crops.

GOLD BEAR FERTILIZERS

are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

LET OUR FERTILIZER DEPARTMENT HELP YOU SOLVE THE PROBLEM OF BIGGER AND BETTER CROPS.

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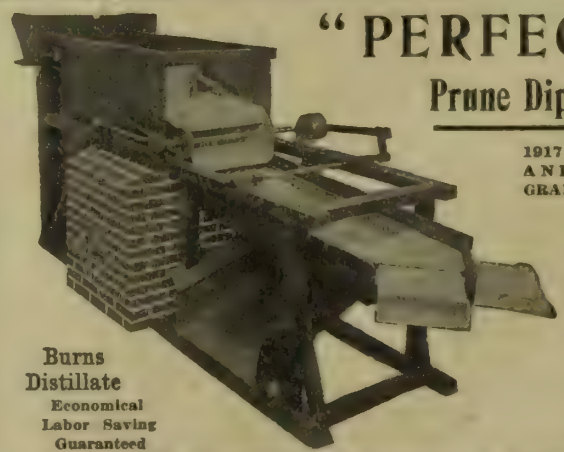
FOR CALIFORNIA SOILS

"PERFECTION"
Prune Dipper and Grader



1917 MODEL—IMPROVED AND SIMPLIFIED—GRADES 3 SIZES.

Automatic throughout. Dirt screen and Leaf Extractor—Fruit passes into Dipper clean and is sufficiently scalded—Dipper then carries automatically to grading screens, which gives three grades delivered on your trays.

Burns Distillate
Economical
Labor Saving
Guaranteed

WRITE FOR PRICES, TESTIMONIALS AND PARTICULARS

F. J. YANDLE
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P For Every Purpose NEW Threads & Couplings Hot Asphaltum Dipped I Second Hand and NEW P Fittings and Screw Casings Valves Guaranteed for Pressure E

Pacific Pipe Co.

MAIN AND HOWARD STREET, SAN FRANCISCO, CAL.

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

VITICULTURAL COMMISSION INSURES EMPERORS.

It is a bad time to underwrite autocrats, but the California Viticultural Commission is ready to guarantee that California Emperors will get through in good shape. The commission made a wide inquiry as to the condition in which our table grapes arrived in distant markets during the fall of 1916, the main idea being to assist in the improvement of our pack, in so far as crated grapes are concerned, and also in the matter of shipments of Emperor grapes in drums and kegs packed in redwood sawdust. Most all of the Eastern handlers of California grapes replied to the inquiry and a great many submitted comments in detail. Generally speaking, it appeared that our crated grapes arrived in good condition, but the comment was not so favorable on the shipments of Emperor grapes in drums and kegs. The commission immediately took up the subject of the packing of Emperor grapes with the growers. They held a conference in Fresno, and an important paper bearing on the subject was read by W. Flanders Setchell of Fresno, which the commission is widely circulating. They will furnish this year special inspection and every possible endeavor is being made to ship nothing out of the Emperor sections which is not packed in first-class and perfect condition. The surface moisture was apparently the cause of the trouble last season. Many of these grapes were packed very quickly after an early fall rain. Their damaged condition on arrivel was probably due to haste in packing, and this is to be overcome this year by thorough inspection. We have the co-operation assured. The producers will provide themselves with means of drying the surface moisture from the Emperor grapes before packing in sawdust. Every possible supervision of this work will be undertaken by the viticultural department of the State, and it is believed distant receivers will not have cause to complain, no matter what the weather conditions may be. If some grapes should arrive in poor condition, the commission wishes to know the names of the shippers and the points from which the grapes were shipped, so that they may trace to a certainty any slack work which may cause bad condition of the fruit.

LABOR NEEDED FOR FRESNO CROPS.

The items below are from the Fresno County Labor and Food Survey Committee's report, which was completed July 5, 1917:

Fresno county fruit acreage has increased by 3,500 acres this year. Nearly 11,000 farm laborers will be needed to harvest Fresno farm crops this year. About 6,300 more helpers will be required in August for peach work than are normally available. The figures for July are 5,100. Raisin harvest will require 7,000 to 9,500 more men through September and October than are available, for field and factory work. Japanese and European laborers are going to the home land and none are coming this direction. Fresh shipping fruits will require laborers in excess of supply in sight numbering 1,260 in August, 1,425 in September, and 365 in October. There are 76,371 acres under irrigation that are not cropped.

FUZZLESS DRIED PEACHES.

Fuzzless, un-resulphured dried peaches with the skins on, cheaper than peeled dried peaches, is the problem which Manager J. F. Niswander feels confident the California peach growers have solved by a special process. The cost to the trade is to be half way between the cost of peeled and unpeeled dried peaches. A greater advantage of the new process than removal of fuzz is the fact that the fruit can be packed without resulphuring, as seems necessary under present methods. Uncle Sam frowns on resulphured goods, largely because some packers over-sulphur very inferior fruit sometimes to make it presentable.

PEELED DRIED PEACHES DEMANDED.

Sales of 1917 peeled dried peaches have been very fine at opening prices, according to J. F. Niswander. These are peeled by the Association's process, which enables them to be sold to the trade at 2½ cents per pound over the price of unpeeled peaches. The peeled fruit used to sell to the trade at over 100 per cent greater price.

WILT LEMONS TO SET FRUIT.

There is a natural lemon bloom in August from which fruit is ready to pick in the spring. This is not so sure to set fruit or even to be abundant as at other blooming periods, on account of hot weather, says Horticultural Inspector S. J. Bolser of San Bernardino county. To get a more abundant bloom, it may be advisable, where possible, to let the trees wilt for lack of water and then give them a good irrigation. This policy is practiced annually in Sicily in order to mature the crop at the most desirable season. The wilting should be done soon now and must not be allowed to last very long.

ROADSIDE TREES AND THEIR FRUITAGE.

It has been decided by the State Supreme Court that fruit and nuts growing on or falling from roadside trees belong to the owner of the abutting property. Heretofore this question has been a matter of doubt and of much bickering and contention. Now that the question has been formally and finally answered, residents in rural districts are hoping that the predatory instincts of passing auto parties and others will be restrained, and that the depredations heretofore suffered will cease.

ERADICATING LAWTONS.

Where Lawton blackberries have been pulled out there will be much annoyance from root sprouts unless handled right. M. J. Moniz of Sonoma county says to plow late in summer, then use a sharp sprout or weed cutter five or six inches deep two or three times in August and September. This may have to be repeated two or three years.

Separate runners from the strawberry plants and set them in the new bed.

Cultivate Your Orchard With Hercules Dynamite

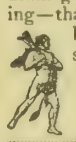
THERE comes a time in the life of an orchard when great benefit results from the breaking up and redistribution of the soil around the roots.

The best way to achieve this result is by the use of dynamite.

HERCULES DYNAMITE

will do wonders for your orchard. After the soil has been properly broken up by blasting at intervals between the rows, the trees will produce more fruit and better fruit. They will grow larger and live longer. The cost of the work will quickly disappear in the increased returns.

Our book, "Progressive Cultivation," tells how soil blasting in orchards should be done. It contains other information—on tree planting, drainage work, irrigation, rock and tree blasting—that you will find interesting. A copy will be sent you free on request if you will simply fill out and mail the coupon below.



HERCULES POWDER CO.
Chronicle Building
San Francisco, California

Hercules Powder Company,
Chronicle Building, San Francisco, California
Gentlemen:—Please send me a copy of "Progressive Cultivation."
I am interested in dynamite for.....
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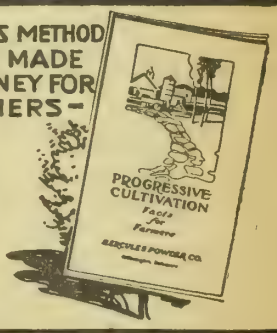
THIS METHOD HAS MADE MONEY FOR OTHERS—



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Reinforced by Stout Iron Band

Keep Dollars In Your Pocket

We Buy Raw Material Direct From the Mills

Anything Everything in the Sheet Metal Line

AMES-IRVIN COMPANY, Inc.
EIGHTH AND IRWIN STREETS SAN FRANCISCO

One of the many styles and sizes of Fruit Trucks I manufacture. Sixteen years of experience has taught me how to make trucks that will stand the hard knocks and that will last. For prices and particulars, address

BROEDEL ORCHARD TRUCK CO. 552-556 South First St., San Jose, Cal.

Southern California's Vegetable Business

[Written for Pacific Rural Press by a large vegetable shipper.]

That Southern California does an enormous business in shipping fresh vegetables outside of the State is indicated by the approximate number of carloads given below. Shipments of the past season have exceeded the average by at least 25 per cent, while the prices have averaged at least 50 per cent better than normal. City gardening has had no appreciable effect on the market, according to this authority; and newspaper reports of potatoes rotting in the ground are not borne out by the facts, although a peculiar situation affects cabbage growers as mentioned below, in connection with average annual carload shipments out of the State. Cantaloupe exports have increased phenomenally, as mentioned elsewhere.

LETTUCE.

From Imperial county during February, March and April, about 500 cars are shipped out of the State; from Los Angeles and Orange counties, from November to June, 1000 cars are shipped, making a total of 1500 cars distributed throughout the Eastern markets and Canada. Practically the only variety shipped is the New York Special, which is sometimes called Los Angeles.

CABBAGE.

Fifteen hundred cars of cabbage are usually shipped from Southern California, all from Los Angeles and Orange counties—the principal shipments moving March 1st to July 1st. The Early Winningstadt and Danish Baldhead are the two leading varieties. The two best shipping months for cabbage are March and April, but this year, owing to the cold winter, the bulk of the crop matured after May 1st, with a result that the two best consumptive months for Southern California cabbage were lost.

CAULIFLOWER.

About 1000 cars of cauliflower are shipped from Los Angeles county from November to April. J. N. Teague, probably the largest cauliflower grower in the world, produces 160 acres of cauliflower every year, and personally shipped over 100 carloads from his own fields. There are three varieties of cauliflower produced in this section, namely, Early, Middle and Late; this with a view of giving the trade a continuous supply.

POTATOES.

The early summer crop of potatoes of about 1000 cars are produced in Orange, Los Angeles and San Bernardino counties, and are ready for shipment May 1st to August 1st. The White Rose and American Wonder are the two principal varieties. The fall crop of potatoes is marketed very largely within the State for seed and commercial purposes.

ONIONS.

About 1000 carloads of the Bermuda type of onions are shipped to interstate markets, principally from Coachella and Imperial Valleys. These onions move from April to July.

TOMATOES.

Twelve hundred cars of tomatoes are shipped of the Early Ann and Stone varieties from August 1st to January 1st, and are produced largely in Los Angeles and Orange counties.

CELERY.

Three thousand cars of celery are shipped to interstate markets every year; 75 per cent is grown in the Delta of Southern California, and the remainder in Los Angeles and Orange counties, Southern California. This celery moves from November 1st to April 1st, and is of the Golden Self-Bleaching variety.

CUCUMBERS.

About 200 cars of cucumbers are shipped from the Signal Hill district at Long Beach, and are marketed April, May and June.

CASABA MELONS.

Two hundred cars of Casaba melons are shipped from the San Joaquin Valley, San Fernando Valley and Orange county. These melons move during October, November and December.

Millions of New Plants Introduced

To test out and introduce new trees and plants from all parts of the world is the principal object of the United States Plant Introduction Field Station established near Chico in 1904. Last year, according to Superintendent R. L. Beagles, about 100,000 plants were mailed and expressed from the station to some 7000 co-operating farmers and plant experimenters, who have agreed to care for the plants and report results. Plants are grown also for pollen to send out to plant breeders. Last May the station received a shipment of nearly two tons of seeds for planting and trial, having been sent by Government agents.

They planted last spring enough seed of the alkali-resistant peach (davidiana), so they should have 150,000 seedlings. In the test orchard are 600 varieties of fruit, including pyrus usuriensis, a Chinese pear thought to be even more resistant to blight than the Japanese stocks on which nurserymen are propagating now. Pears for blight resistance are being studied especially, but other new root stocks and their congeniality, when grafted to our commercial fruits, are being tested. Twenty-five thousand grape bench grafts have been set out, testing various stocks. The permanent vineyard contains two vines each of over 400 varieties. This work is in charge of Geo. C. Husman. Walter T. Swingle is working on pistaches, citrus, figs and tropical plants. In the grain plots are some 1200 different wheats and 700 different barleys, on which four lines of work are being carried out under supervision of E. L. Adams — variety testing, classification, breeding, and introduction of worthy varieties. They are tried out first in short rows, then in plots, then by widespread co-operators, who report results under varying conditions. Corn is being tested by C. P. Hartley. Rollin McKee is testing hundreds of forage plants. Some 250 varieties of ornamentals decorate the bench along a creek among grand old oaks. About 2400 cacti, spineless and otherwise, are being tested under supervision of Dr. David Griffith. Two explorers are in foreign countries digging up new plants to test. F. N. Myers left last fall for a four-year trip in China, looking especially for jujubes, wild peaches, and persimmon stocks. F. W. Popenoe is in Guatemala for subtropical seeds, plants and scions.

There are 80 acres in the station; but a $35,000 appropriation became available July 1, 1917, with which to buy more land; for the 80 acres are crowded in every nook with millions of plants.

To get some of these or the pollen from rare flowers for plant breeding anyone who will take care of them should apply to Peter Bisset, in charge of Plant Introduction, Washington, D. C.

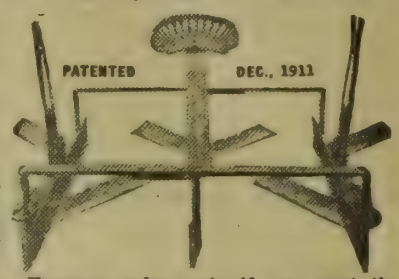
MANURING LIPPIA LAWNS.

In answer to an inquiry from a reader of the Pacific Rural Press as to the use of manure on lippia, John F. Swett of Martinez gives this advice: The best thing to do is to take manure which has rotted in a pile sufficiently to make the straw brittle, spread it out to dry in the sun, then fine it up by chopping with a hoe, and then sift it through a screen of one inch chicken wire. This makes a nice mulch for general garden use. Spread a half an inch or more over the lippia, work in with a rake, and then water well. When the lippia has hidden this layer, put it on again and repeat a few times. This should give your lawn a very great stimulus and make a fine turf.

MOVIES OF FRUIT INSECTS.

Moving pictures have been made by C. C. Laval of Fresno showing a fig wasp emerging from a Capri fig and entering a Smyrna. He has also put on a film the molting of a grape leaf hopper and the hatching of a lacewing fly larva. The pictures were taken with a microscope attachment and will show the minute insects several feet long on the screen.

GOLDEN GATE WEED CUTTER and MULCHER



Farmers, order early if you want the Golden Gate Weed Cutter and Mulcher, as the demand this year will be great, as it not only cuts weeds, but kills them, and leaves finely pulverized top soil. Cuts any depth. Prevents evaporation by working under the soil without disturbing soil on top. Write for circular.

C. G. SIGURD,
Capitol Avenue and McKee Road,
San Jose, Cal.

"There's Money in SUDAN HAY if planted right now!"

Are you going to profit by the high prices of hay this season? Are you planting Sudan Hay, the fastest-growing forage crop known? Are you going to overlook this money-making opportunity?

Plant the seed now and you can put your profits in the bank in 60 days! Hay prices are soaring sky-high on account of the light crops. Will you have hay to sell in the fall? Don't wait another day—plant Sudan now. Our big illustrated folder tells how to plant, and also everything you want to know about Sudan.

Special July Prices:

Single pounds (enough for 50x50 feet)—36 cents.
10 lb. lots—(Will plant half an acre, sown broadcast)—34 cents per lb.
25 lb. lots—32 cents per lb.
100 lb. lots—28 cents per lb.

ORDER BLANK

Enclosed find $.....for which
send me.....lbs. of Germain's Proven Sudan Seed.
Name .....
Address .....

"GROWS LIKE JACKS BEAN-STALK"

Germain Seed & Plant Co.
Established 1871
326-328-330 SOUTH MAIN STREET
LOS ANGELES CAL.

Field and Garden Suggestions

[Written for Pacific Rural Press.]

UKIAH FARMERS' CLUB PROSPEROUS.

Ukiah merchants seem to have forgotten five or six years ago that their prosperity depended somewhat on the prosperity of farmers in the surrounding country. They seemed to have a tight agreement by which the farmers were jobbed. There was a poultry boom on, but poultrymen soon found that their eggs weren't good in exchange for cash or hardware, dry goods, etc., but only for groceries. Merchants agreed not to handle any millstuffs and millers agreed not to retail flour.

The Ukiah Farmers' Club had recently been formed for social and educational purposes, with C. A. Bernhard of the High School faculty as secretary. Old Rochdale, Farmers Union, and Grange members soon proposed buying and selling co-operatively. They soon found they could buy millstuffs elsewhere and save the 50 per cent profit local millers were getting. They shipped their eggs to a Santa Rosa merchant for San Francisco quotations, saving express and almost making local merchants beg for eggs.

In July five years ago they leased a small storeroom and stocked it with supplies bought at wholesale to be sold at a reasonable profit which was returned to the members as dividends. They bought the property for $10,000 at the end of the first year when rent was more than doubled. Sixty-five members accepted the Club's note for $100 each and a local bank furnished the rest after much jockeying by Mr. Bernhard, who meanwhile had been ousted from the High School through merchants' influence and had become manager of the concern, which he is to this day. Their stock is now valued at $25,000 to $30,000 and their business averages $10,000 monthly. They have incorporated without stock so they could assume legal liability and borrow money. Mr. Bernhard is now engaged in collecting a $100 assessment on each of the 157 members as a working capital with which to discount bills and save that much in buying or in interest on borrowed money.

THE WEED "SHEPHERD'S NEEDLE."

To the Editor: The plant specimen from D. McIsaac, Tocaloma, Marin county, which has been referred to me for identification, is one of the many useless plants that have been introduced into California from Europe. It is known as shepherd's needle or Venus' comb (scandix pecten-veneris). The seeds germinate in the fall with the first rains and grow quite slowly, producing finely divided leaves not unlike that of parsley. During the winter they are quite inconspicuous, but are exceedingly abundant. Along about the first of May, you will notice small clusters of very tiny white flowers. After these fade, there arises, very suddenly, it would seem, a long capsule-like structure not unlike that of the common filaree or pin clover. It is from this long-pointed seed portion that the name shepherd's needle is derived, and presumably for the same reason, but with much imagining, the term Venus' comb. The plant is an annual and belongs with the parsnip, carrot and a host of other similar plants to the parsley family, known botanically as the Umbelliferae.

Now, as to how to get rid of it. Let the plant get a good start after the first rains, then plow it under deeply and make sure by cultivation that it does not go to seed.

So far as I know, it is not liked by stock, and there seems to be no evidence that it is poisonous.

P. B. KENNEDY,
Grass and Forage Plant Investigations, University of California, Berkeley.

GRAIN EXPERIMENTS.

With a view to making experiments of the food value and productivity of different types of wheat, the Sperry Flour Company has been leasing 600 acres of land on the Sonora Road, about 15 miles east of Stockton and two miles west of Farmington. The Farm Adviser is co-operating with the company in the investigations. A number of different varieties of wheat obtained from Australia and New Zealand at the time of the Panama-Pacific International Exposition have been carefully tried out, and by process of elimination the company is gradually forming its conclusions as to the best varieties. So far what are known as Sperry No. 1 and No. 2 are proving to be the best qualities, both being Australian wheat. These, together with one or two of the Bart and Durham types, have produced 16 sacks to the acre or better this year. The experiments have been conducted with extreme care and in a thoroughly scientific way, and the results are being tabulated with the utmost care, detail and preciseness.

At the beginning about 20 varieties were planted. Enough seed of the stipulated quality has been produced this year for a planting of about 300 acres next season, and it is anticipated that by that time the company will be able to supply farmers with better seed than they have ever had before.

LIVE SQUIRREL AND GOPHER HOLES.

To the Editor: How can we tell which squirrel and gopher holes have live animals in them so we can avoid waste in poisoning or bisulphiding them?—E. H. B., Dinuba.

Cover all squirrel holes with dirt except those that are closed by cobwebs, etc. Next day apply your vapor or poison to those that have been opened. To find live gopher holes, open some of the main runs, locating them by the mounds at the laterals. Next day a pile of fresh dirt will be found closing the "live holes."

STANDARD VARIETIES SAFEST.

Farmers interested in new varieties of sorghum are advised to test out the novelty on a small experimental acreage before they discard a standard variety. Cross-pollination takes place readily between different varieties, and as a result new strains are constantly being found. Some of these seem promising, but the average farmer can scarcely afford to conduct extensive experiments at his own risk.

A Bigger Yield From the Same Field

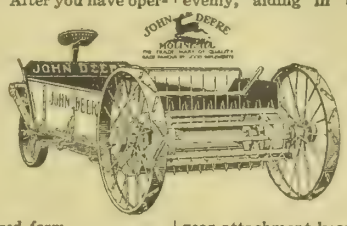
From any field that you have been manuring by the hand method you can get a bigger yield if you use the spreader method—and save much time and labor.

A good spreader tears up the manure into small particles and spreads it evenly. The manure goes farther. It can be worked well into the seed bed so that the plant roots get all of its valuable plant food. *Wasting manure is like wasting money—a good spreader makes every particle of manure count.* A Newton County, Ind., farmer testing the spreader and hand methods of applying manure on two ten-acre tracts found that the *spreader method gave 120 more bushels of corn, 140 more bushels of oats and 9 more tons of clover.*

The John Deere Spreader

The Spreader with the Beater On the Axle

has special capabilities for increasing your crop yields. Its exclusive features make it the ideal implement for the best method. Ask any owner of the John Deere Spreader about the way it increases crop yields and saves time and labor. After you have operated a John Deere Spreader of your own for a year, you will fully appreciate how much these gains really mean. *You'll find that the Spreader with the Beater on the Axle more than pays for itself in one year from the gains it gets on even a fair-sized farm.*



The beater on the axle construction *eliminates all chains, clutches and scores of other trouble-making parts. Does away with half the types of castings otherwise necessary. Does away with adjustments. Puts upkeep at minimum. Makes the John Deere Spreader exceptionally long-lived.*

Beater is all steel—practically indestructible—runs on roller bearings, aiding light draft. Beater teeth spirally arranged—tear up manure perfectly and distribute it evenly. Deliver manure close to the ground—wind does not affect spreading.

Revolving rake feeds manure to beater evenly, aiding in uniform distribution. Shock - absorbing spring relieves spreader and horses of sudden strains.

Spreader only hip-high to top—easy to load. Big drive wheels—light draft. Ball-bearing apron drive—apron travel frictionless. Simple gear attachment keeps weight of load from making apron race when spreading up hill.

Easy to operate—only two levers—one lever determines number of loads spread to the acre; the other starts and stops the spreading. It's so simple, a boy can operate it.

Wide-spread attachment for extra wide spreading.

Write for booklet on the John Deere Spreader.

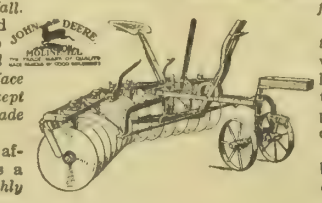
Thoroughly Disc Before and After Plowing

After the grain has been cut from your fields and before the hot August and September sun has cracked the ground, allowing the subsoil moisture to escape, use the

John Deere Model B Disc Harrow

Noted for Thorough Disking

It produces a fine dirt surface mulch that *stops evaporation* of moisture and *catches and holds rainfall.* Mixes stubble, trash and weeds thoroughly into the soil. *Checks weed growth. Pulverizes surface thoroughly—ground is kept mellow—plowing is made easier.*

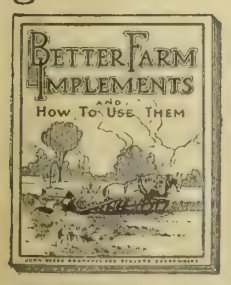


Using the Model B after plowing completes a seed bed that is *thoroughly pulverized through* and *through*—no trash bunches—no clods—no air spaces—*seed bed fits the subsoil perfectly.*

The Model B is *exceptionally flexible*—that is why it disks so thoroughly. The spring pressure third lever assures uniform penetration regardless of dead furrows or ridges.

Write now for free booklet on this profitable disc harrow.

Big Book Free



Better Farm Implements and How to Use Them

America must produce more food. Labor-saving implements will play an important part in increased crop production.

This book tells all about a full line of labor-saving farming implements. Tells how to adjust and operate many of them. A practical farm implement encyclopedia. Worth dollars. Illustrates and describes the following machines: Walking and Riding Plows, Tractor Plows, Disc Plows, Disc Harrows, Spring Tooth and Spike Tooth Harrows, Corn and Cotton Planters and Drills, Listers, Alfalfa and Beet Tools, Grain Drills and Seeders, Riding and Walking Cultivators, Lister Cultivators, Mowers, Side Rakes, Loaders, Sweep Rakes and Stackers, Hay Presses, Grain and Corn Binders, Corn Cutters, Stalk Cutters, Kaffir Headers, Manure Spreaders, Portable and Inside Cup Elevators, Corn Shellers, Wagons, Farm Trucks and Buggies. This big book will be sent *FREE* if you state the implements in which you are interested and ask for Package X—1520.

The Name "John Deere"

is implement insurance. It fixes the quality, and has done so for eighty years.

Don't forget that goods that have the reputation and are the biggest sellers on the market are the best in their line — always.

The increasing number of John Deere implements in use every year indicates the farmers' final verdict.

JOHN DEERE
MOLINE, ILL.
THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS

John Deere Implements are sold by John Deere dealers everywhere

JOHN DEERE, MOLINE, ILLINOIS

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

SHORT CUTS TO BIG CROPS.

Few things that farmers can do will add to their production of food crops faster or easier than the clearing of stump land. Such soil is rich and new, and without much tillage or feeding it will bring big returns.

The problem, however, is to get the clearing done without extra men, who are hard to obtain at reasonable wages. Old methods have to be abandoned in favor of methods which may involve the spending of more cash money, but which lessen the labor and time used.

Perhaps nothing helps so much in this work as the liberal use of powder. Land clearers should not try to save powder, but rather their own time. If ten sticks will split and loosen a stump so that the roots can be pulled with horses, while 12 or 15 sticks will take out all the pieces clean, the heavier load is the better. It takes no more time in loading, and leaves the pieces in even better shape for disposal.

If the idea of saving powder is once got rid of, a lot of clearing can be done in short order. Money to buy the powder can be secured much easier than additional men. And the high prices, sure to continue at the present level for five years at least, insure that the land will pay back the money easily.

Grain and vegetables that are grown on new ground may be grown more easily than on old ground, once the land is cleaned up. Time spent getting new ground ready for use during the coming fall and winter will add to the total of crops marketed during the next three years or so. During that time new ground can be cropped every season, without resting and without rotation or the use of cover crops.

OVERLOADED PUMP MOTOR.

[Written for Pacific Rural Press.]

A Tulare county rancher has a single-acting deep well plunger pump on which the stroke length is regulated by inserting the wrist pin into a hole on one of three spokes of the wheel which operates the plunger arms. The holes in the three strokes are at different distances from the center, so one makes a 12-inch stroke, another 16 inches, and the other 20 inches.

A three horsepower electric motor with pulley sizes regulated for about 17 strokes per minute ran the pump very nicely with the 12-inch stroke until that spoke broke out. The hole for the 16-inch stroke was cracked, and water was required for an orange grove; so temporarily the rancher put it into the 20-inch stroke. Since the cylinder is 105 feet down and seven inches in diameter, throwing six miner's inches of water with the long stroke, makes the motor whine and slow up on every lift. There is at least one-half horsepower overload; and during the hot day times the electrical resistance of the motor coils heats the motor on the same principle as an electric toaster. If the coils get hot enough to burn the insulation, the current will be "shorted" and it will cost about $35 to rewind the coil on that motor. The rancher says he could get 10 horsepower from the motor if he could keep it cool and dry, but of course it would be dangerous. He now keeps it from burning out by setting an electric fan to blow through it all day. The fan is not needed at night. A new wheel and shorter stroke are to be installed as soon as they can be obtained.

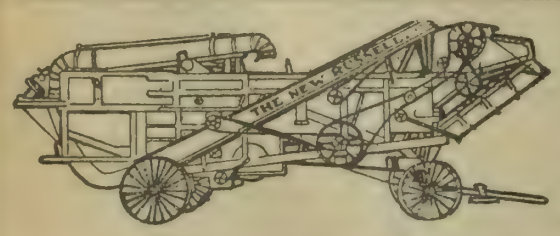
STANDARD OIL CO. ADVOCATES STRAIGHT-RUN GASOLINE.

"You hear a good deal of talk lately about the quality of gasoline being sold," says J. H. McDermott, San Francisco district sales manager of the Standard Oil Company. "Unsatisfactory results with motor-fuel are due to the great number of mixtures being offered the public in the guise of gasoline. Mixtures cannot be as good motor-fuel as straight-run gasoline because mixtures cannot have a continuous chain of boiling points. Easy starting, quick and smooth acceleration, power and mileage all depend absolutely on the boiling points of a gasoline. And straight distillation only can give gasoline the correct, unbroken, gradually rising series of boiling points. Incidentally, gravity is a worthless test for gasoline. Gravity tells nothing at all about boiling points."

AUTO SQUIRREL KILLER.

To the Editor: I see many items about how to kill squirrels. I have one way which is cheapest and surest. Use an auto or tractor: a Ford is most convenient, as it has the muffler extended out. Put a hose on your muffler. One man does the driving, one man holds the hose into the holes, and the other man closes up the holes. Turn the carbureter to a rich mixture. If the neighbors would all do this, and go over the land twice, I am sure there would be no more squirrels.—H. G. Nickel, Dinuba.

[This method of fumigating squirrels has been successfully used by many people.]



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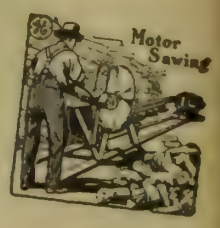
Beans and Grain
Built specially for California work
A. H. Averill Machinery Co., San Jose

A Motor for Every Need



Just a glance at these illustrations will show you a few adaptations of

G-E Motors

to various farming operations.

Whatever the service required, G-E motors will give efficient and profitable results.

Wherever the machinery is situated, the wires will reach it—after that only "throw on the switch" and the power is instantly available.

Your local power company will gladly demonstrate the advantages of electricity on the farm; or, write to our nearest sales office or G-E Motor Agency for information.

General Electric Company

Los Angeles Office: Corporation Bldg.

San Francisco Office Rialto Bldg.

An Unbiased Report On Layne & Bowler Pumps

READ WHAT THIS PROMINENT RAILROAD OFFICIAL SAYS

EL PASO & SOUTHWESTERN R. R.
EL PASO, TEXAS

September 25, 1915.

Messrs. Layne & Bowler,
900-910 Santa Fe Ave.,
Los Angeles, Cal.

Gentlemen:

Regarding the performance of your pumps, I will say that we have three Layne & Bowler pumps on our Western Division, located and running as follows:

One at Columbus, N. M., which is running at the rate of 1025 revolutions per minute, pumping 13,200 gallons of water per hour; total mean lift 92'. This pump has run ten continuous hours per day for ten months and no repairs have been made on it.

At Rodeo, N. M., we have one running at a speed of 1017 revolutions per minute, pumping 10,000 gallons of water per hour; total mean lift 110 feet. No repairs have been necessary on this pump as yet, and it is giving satisfaction in every way. This pump has been in service ten months, also.

At Douglas, Arizona, we have one which is pumping 20,000 gallons of water per hour; total mean lift 112'; pipe line between pump and tank 1700' long. This pump has run from nine to twelve hours per day continuously for eight months, and, as yet, we have spent nothing on it for repairs, and it has given no trouble.

The operation of these pumps has been entirely satisfactory.

Yours very truly,
El Paso & Southwestern R. R.
G. F. Hawks, Gen'l Mgr.

WRITE FOR CATALOG 25.

Layne & Bowler Corporation
900 Santa Fe Ave., Los Angeles

SOUTHERN TRACTOR DEMONSTRATION.

[Written for Pacific Rural Press.]

The Third Annual Tractor Demonstration of the Los Angeles Implement and Tractor Dealers' Association will be held September 18 to 22, 1917, on the Vail Ranch, seven miles east of Los Angeles. Take Seventh street car to city limits. The tract is level and good soil—an ideal place for a tractor demonstration. R. M. O'Neill, of the San Francisco and San Diego Expositions, has charge of preparations. His address until September 22 is 115 S. Los Angeles street, Los Angeles.

Those who attended the demonstration last year at Puente will not soon forget the imposing march of tractors across the fields, tearing up wide strips of plowed ground at various depths and with varied results in quality by different machines and drivers. To see such a demonstration tells more that you want to know than a week visiting various manufactures separately.

THE TRACTIONEER
20-35
YUBA
BALL TREAD TRACTORS

He's the skilled farmer who uses an engine to plow, and cultivate, and haul, and run his machinery—all more economically in time, labor and money than the old methods.

The tractioneer knows the value of ball bearings; of distillate and grease; of freedom from friction; of drawbar and belt power.

The tractioneer farms more with his head and less with his back and legs.

The tractioneer figures costs and guesses little—he's the Yuba Ball Tread Tractor owner—the satisfied farmer.

Write for catalogue.

How many acres have you?

Yuba Manufacturing Co., Dept. A-26
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Graphite Axle Grease reduces friction It's as much better for its purpose as electricity is a better light than the tallow candle.

All accommodating dealers

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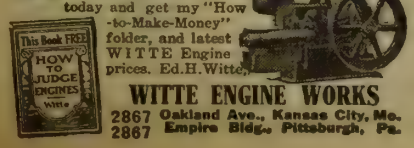
My Copyrighted Book "How to Judge Engines" tells how high-grade semi-steel engines are made, advantages over cast iron, how common coal oil in a WITTE reduces power cost 65 per cent. Write today and get my "How-to-Make-Money" folder, and latest WITTE Engine prices. Ed. H. Witte,



WITTE ENGINE WORKS
2867 Oakland Ave., Kansas City, Mo.
2867 Empire Bldg., Pittsburgh, Pa.

TRACTOR PULLS VINES.

[Written for Pacific Rural Press.]

Seven acres of grapevines are pulled per day by J. D. Cox of Sonoma county with a tractor and two men nearly as fast as the tractor travels in low gear, with the governor throttled as low as possible. Fast traveling would jerk the stumps and break them off. Two chains are hooked to the tractor, and a man operates each, pulling two rows per trip. The end of the chain is fastened to a five-foot iron rod about seven inches from its end. While the chain is still slack, the man pokes the short end of a rod around a vine and catches it over the chain while the tractor pulls out the vine. Then he has to drop the stump quick and hook onto the next one. Since arms and canes would mix with the chains these are cut off and hauled away previously.

GAS ENGINE MUFFLER THAT WORKS.

To the Editor: In your issue of July 7 you answer the inquiry of "J. L. K.", Lindsay, about a home-made gas engine muffler. I would say that the method you suggest is not of very much actual use, but will describe one that I have found does the work. Take a piece of thin galvanized pipe or tubing of sufficient size and fit it to the exhaust pipe. Before attaching it take a sharp-pointed punch of some kind and punch it full of holes, the more the better, and the longer the pipe the better. The principle of this device is to break up the force of the exhaust and distribute it. Would prefer a pipe 10 feet or more long.—C. H. Biggin, Redlands.

NOTE TRACTOR ENGINE AND GEARS.

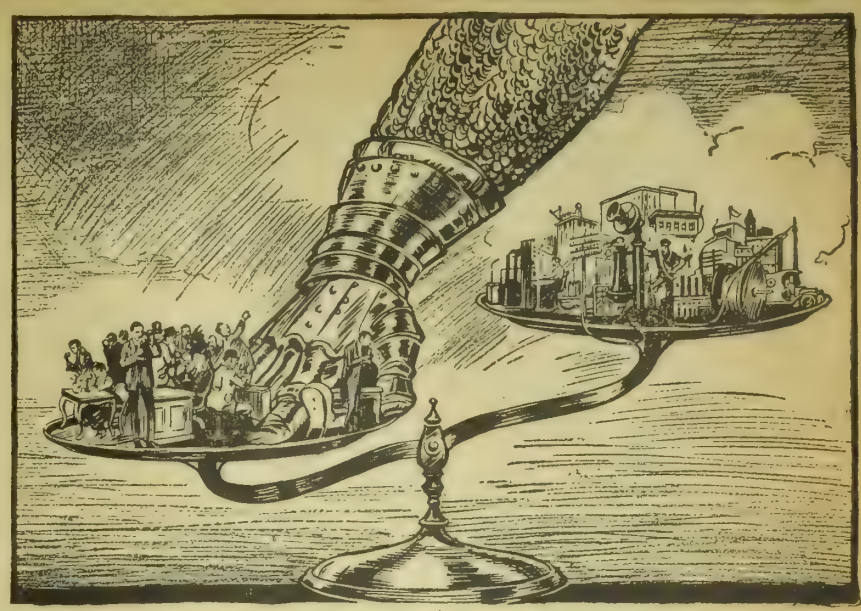
[Written for Pacific Rural Press.]

"Before buying my tractor I looked over several of different makes that had been used several years. I wanted especially to see the condition of their gears. How the gears wear is of secondary importance only to the dependability of the engine. I want a heavy engine of slow speed to avoid racking and straining and breakage. Most of the standard tractors have reliable engines." This is E. T. Nielsen's expression after using a tractor several months in his 80-acre Santa Clara Valley orchard.

INSTALLS NEW PUMP.

The Whittier Extension Co. of Puente are having a 2,000 gallon a minute booster pump installed. The pump is a Dean Triplex and takes water from a gravity line supplied by two 200-inch turbines and lifts water by the help of two similar pumps located higher up, to an elevation of some 716 feet, into several large reservoirs, the highest holding some 150,000 gallons. The pipes used on the entire pumping equipment are all steel O. D. casings.

Many tractors have been bought in Sonoma county the past year. These resulted in deeper plowing; but the users were disappointed in not seeing the results the first year. It takes a year or so for plowpan to aerate and get mellow and valuable.



The Weight of War

The heavy hand of war has disturbed the balance between supply and demand the world over. Our problem of serving the public has all at once assumed a new and weightier aspect.

Extraordinary demands on telephone service by the Government have been made and are being met. Equipment must be provided for the great training camps, the coast-defense stations must be linked together by means of communication, and the facilities perfected to put the Government in touch with the entire country at a moment's notice.

In planning for additions to the plant of the Bell System for 1917, one hundred and thirty millions of dollars were apportioned. This is by far the largest program ever undertaken.

But the cost of raw materials has doubled in a year. Adequate supplies of copper, lead, wire, steel and other essentials of new equipment are becoming harder to get at any price, for the demands of war must be met.

Under the pressure of business incident to war, the telephone-using public must co-operate in order that our new plans to meet the extraordinary growth in telephone stations and traffic may be made adequate.

The elimination of unnecessary telephone calls is a patriotic duty just as is the elimination of all waste at such a time. Your Government must have a "clear talk track."

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One Policy *One System* *Universal Service*

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KARL A. HEDBERG
ELECTRICAL ENGINEERS
104 Clay St., San Francisco, Cal.

General Agricultural Review

Field Crops.

An automatic beet topper has been invented by a Berkeley genius.

Potatoes are being shipped from Tulare county to Chicago.

The bean crop in Ventura county is said to be coming on nicely.

Promised a bumper yield and high prices, Yolo's hop growers are now optimistic.

Threshers are active in the Tulare section. Laborers for the work are difficult to get.

California's wheat crop this year will be worth $12,000,000 as against $5,000,000 for last year's crop.

Grain sorghums are a new feature of Yolo's crops. About 2,000 acres were planted in the county.

Cantaloupe shipments out of the Imperial Valley up to July 20 reached 4,945 cars, against 4,675 cars the same time last year.

The first crate of cantaloupes sent from Turlock by the Turlock Merchants and Growers, Inc., this season sold for $100 in New York.

Fifty-five sacks of beans to the acre is the claim of the R. B. Ballard place near Colusa, where beans are being raised on an extensive scale.

The Humboldt County Farm Bureau announces that it wants 1,000 tons of alfalfa hay for fall delivery. Inquire at the Farm Adviser's office.

Award of contracts for a half million cases of canned peas for the army and navy for the coming year at a price "much below the present market" is announced.

Orange county is to have a new sugar factory at Wintersberg. When completed it will make six sugar factories in the county. It is to be run on the co-operative plan.

The first carload of watermelons was shipped from Dinuba, July 4, by Wilfred Dunn. Several carloads per day are now going, according to R. R. Niemeyer of the Dinuba Sentinel.

Three tons of alfalfa to the acre will be the yield on a third cutting at the University Farm, Davis, says John Rogers, foreman. The barley crop averages thirteen sacks per acre.

The hops in Mendocino county this year are reported to be exceptionally good. The receipt of the news from Santa Rosa that 12 cents had been offered for the 1917 crop encourages Mendocino growers.

Fears that cantaloupe prices would drop as a result of an overloaded Eastern market have been dispelled by word that the Turlock product will not be affected to any appreciable extent by the Arkansas output.

Harvesting beets in Orange county has commenced. The Holly Sugar Corporation at Huntington Beach commenced slicing this week. Other factories will start later. There are 50,000 acres of beets in Orange county to be harvested.

Ralph Engelbretson, field man for the Sutter Basin Company, which has thousands of acres planted to beans, is co-operating with Commissioner Stabler in giving the experiment for the control of red spider in the bean fields a test on the crop on the company's land.

The wheat crop of three Pacific Northwest States this season will fall short of the harvest of 1916 by about 8,000,000 bushels. The farmers of Oregon, Washington and Idaho will receive for their grain about $105,000,000 as compared with $75,000,000 received for the 1916 crop.

The Janss Investment Co. of Los Angeles has just completed cutting 2,500 acres of barley on its Conejo ranch in Ventura county and got a yield of twenty-two sacks to the acre. To take care of their big grain crop and other feed they have had built four concrete silos of 10,000 sacks capacity.

Professor Adams of the division of agronomy, University of California College of Agriculture, has been assisting the State Council of Defense to solve the farm labor problem. He says much of the crops will go unharvested unless the Government comes to the rescue by conscripting men and women to work upon the farms.

The Globe Mills is now unloading at the Los Angeles harbor its first shipment of 9,373 tons of soy beans from Darien, Manchuria. These beans contain 19 per cent of oil and will be crushed at the Globe's new oil mill in Los Angeles, which is turning out oil products from cotton seed and other materials. The residue will be made into cakes for stock feed.

While in one week potatoes dropped from $4 per cental to $1.75 f. o. b., they stayed there only a few days, and not over twenty-five carloads were shipped at that price, according to General Manager E. A. Curtis of the California Vegetable Union, who notes their rebound to $2.25@2.40 in mid-July and feels confident that markets for fall potatoes will not weaken. Newspaper reports that potatoes have been rotting in the field for lack of markets are absurd.

Deciduous Fruits and Nuts.

Kings county canneries opened on peaches this week.

Walnuts around Saticoy are maturing rapidly and it is said will be very heavy.

The Arbuckle three-day Almond Festival will occur September 14 to 16, inclusive.

The Apricot Growers' Association have had little difficulty in obtaining confirmations for apricots at the opening prices.

A large tonnage of apricots is being shipped out of the Escalon section these days. Prices run as high as $60 per ton this year.

Canning of apricots has been begun by the Modesto branch of the Pratt-Low Preserving Company. Apricots and cling peaches are handled.

Indications are that between 200 and 300 tons of apricots will be handled in Kings county by the Prune and Apricot Growers' Association.

Esparto, the "birthplace of the almond," Capay, Tancred, Rumsey and Guinda districts, will produce bumper yields of almonds this year, it is reported.

F. B. McKelvy of the California Peach Growers' Association states that indications are now that the crop will go more than 5,000 tons greater than 1916.

One of the largest plants in the State for the packing of dried fruits will be erected at Sacramento by the George Frank Fruit Company. The plant will be ready to start operation on the first of September.

The president of the British prize court has decided that the 1800 tons of dried fruits from New York and San Francisco, seized on the steamships San Francisco and Pacific, should be released to the Swedish commission to which the cargoes were consigned.

Isidor Jacobs of the California Canning Company has complained to the Federal Trade Commission that the Strawberry Growers' Association fixes prices daily, and has so tied up the business that no San Francisco commission man can sell strawberries after 9 a. m., all fruit disposed of after that time going to the California Packing Corporation at 4 cents a pound.

The Pasadena cannery is busy canning apricots at the rate of 6,000 cans per day. Its president, George E. Grier, reports the apricot crop the largest in sixteen years. He expects to handle 1,000 tons. The past week was the biggest with the Pomona Valley canneries. They canned about sixty tons of apricots per day. The Government has requisitioned 720,000 of this year's pack. The Government also wants 12 per cent of all the peas and 18 per cent of all the tomatoes packed by the canneries. These canneries expect to put up 3,000 tons of tomatoes.

CALIFORNIA'S 1917 BEAN CROP 7,268,000 BAGS (ESTIMATED).

The following special bean crop report has just been received. It gives a forecast of this season's bean crop in the principal bean-growing States, together with statistics covering the past two years for purposes of comparison:

State.	Production. 1917 forecast July 1. Bushels.	1916 December estimate. Bushels.	1915 December estimate. Bushels.	Acreage, 1917. Per cent of 1916	Total acres.
New York	2,835,000	720,000	1,495,000	175	210,000
Michigan	8,281,000	3,102,000	4,250,000	136	639,000
Colorado	2,601,000	424,000	340,000	447	170,000
New Mexico	1,156,000	425,000	368,000	212	136,000
California	7,268,000*	4,175,000*	3,868,000*	156	395,000
Total above	22,141,000	8,846,000	10,321,000	184.0	1,550,000

*Bags. It is customary to compute bean measures in California by bags. A bag of beans weighs 80 pounds, whereas a bushel of beans weighs but 60 pounds. This denotes that California's predicted production of beans this season will be 9,085,000 bushels.

Rocks in the bottom of his berry box, alleged to have been put there to "weigh" the boxes, brought the arrest of K. Watanaka, Japanese fruit vender of Santa Ana. Housewives caused his arrest.

H. S. Myers of Los Angeles is back from a trip through the Little Rock district. He says the pear acreage has increased within the past year and a number of trees have come into bearing and they will make up a shortage from the old trees and an average crop is promised. The yield is estimated at from 40 to 45 cars of good shipping stock. Most of these pears will find a market in Los Angeles. The season there is opening at $95 per ton. But the market is expected to drop soon to $80 per ton.

Citrus and Semi-Tropical.

Only 18 per cent of an olive crop is reported from several large acreages inspected by C. C. Graber of San Bernardino county.

The almond crop in the vicinity of Davis was hurt by the hot weather. The crop will be below expectations, due to shrinkage.

Organization has been completed of the Tulare County Lemon and Grapefruit Association. Plans have been accepted for the construction of a packing plant 80 by 100 feet.

About 9,000 cars of undamaged Valencia oranges remained to be shipped after July 1 by the California Fruit Growers' Exchange, according to Acting Manager E. G. Dezell. This represented about three-fourths of the total remaining to be shipped.

High price of melilotus seed is stopping the plans of many citrus growers for cover crops next fall. There is a good chance that no other kind of fertilizer will be available. The high price of a few pounds of seed should not cause the orchards to suffer famine next season.

Grapes.

The grape harvest is on in the Coachella region.

First Elbertas of the season to be shipped East have started from the Dinuba - Sultana - Cutler district of Tulare county.

In the Lodi section, on a basis of 100 per cent being normal, the Tokay crop is placed at 110 per cent and all other shipping varieties at normal.

The general report in the Visalia vicinity is that the grape and raisin crop now on the vines will exceed the crop of a year ago by 15 to 20 per cent.

Green grape shipments will start from Tulare county, August 1 to 5, with Thompsons and Malagas, according to J. H. Shuldice of the Earl Fruit Co.

Miscellaneous.

One of the most unusual accidents occurred near Ventura last week, when a team of horses was stung to death by bees.

Charles M. Hatfield, "rainmaker," has agreed to settle his long-pending $10,000 claim against the city of San Diego for $1,800.

Numbers of the I. W. W. agitators have arrived at Turlock lately. The wage scale demanded is $4 per day for field work.

Fruit canners in Santa Clara county went on strike recently for higher wages, demanding $2.50 for an eight-hour day and 31 cents an hour overtime.

The short courses at the University of California Farm, Davis, are scheduled for September 24 to November 2. The two weeks' courses immediately follow.

Word comes from Merced that the unprecedented snowfall in the high Sierras last winter is expected to lengthen the irrigation season in Merced by a month or more.

A new co-operative produce shipping concern has been organized in Turlock, similar to the Turlock Merchants and Growers Inc. It will be known as the United Growers' Association and is composed of growers of fruits, vegetables and other agricultural products.

PEAR GROWERS ORGANIZING.

The California Pear Growers' Association met in San Francisco last week and discussed the offers of buyers to contract future crops of pears for five or ten years. The prices offered, however, seem to be more satisfactory to canners than to growers. President Frank T. Swett has issued this statement to pear growers, urging them to "Stop, Look and Listen":

Before signing away his crops for a term of years every grower should most carefully consider new conditions due to war and shortage of labor. Costs of production of fruit are rapidly rising. The man who signs away his crops at less than it may cost to produce those crops may be selling himself into economic slavery. Labor is almost double the price of former years. What will the labor cost after a great army is drafted? Farm implements have nearly doubled in cost. Spray materials are rising in prices. Everything the grower uses, as well as taxes and cost of living, is mounting amazingly. The prices which would have returned a fair profit a few years ago would now entail an annual loss.

While the British embargo is curtailing one market, to the extent variously estimated of from 2500 to 5000 tons of pears in a canned form, that is only a small proportion of the total crop of the 17,000 acres of pears in California. It should be made up by concerted effort in broadening our home markets in the United States for fresh, canned and dried pears. When the war ends there should be a wonderful demand from hungry Europe for all foods, including pears—canned, fresh and dried.

Should the pear grower deliberately place himself in a position where he will be unable to participate in the rewards of a broadened market? The California Pear Growers' Association should place the grower in as secure a position to secure living prices as the prune, apricot, peach and raisin growers, who find in organization their only safety.

FRANK T. SWETT, President,
California Pear Growers' Association.
Martinez.

POTATO GROWERS ORGANIZE.

There was a meeting in Los Angeles last week of the County Council of Defense and others looking towards the organization of potato growers into a co-operative association for the marketing of the potato crop of Southern California. Over 100 growers attended the meeting, which was addressed by H. A. Miller of Covina, Judge Finlayson, Vice-Chairman Hamilton of the Council of Defense, A. W. Frye, Luther Brown and A. J. Young and others. W. S. Rosecrans, chairman of the meeting, who had called the people together, urged potato growers to take immediate steps toward organization. Responses from seventy potato growers revealed that these men have on hand 5700 sacks of potatoes, or about eighteen cars, ready for market, but for the lack of inspectors, transportation facilities and other requirements have no means of disposing of them. Mr. Rosecrans said that members of the Foodstuffs Committee of the Council of Defense had interviewed a number of shipping agents, and one company had consented to handle the present crop at the rate of 15 cents per cwt. and do the loading and furnish an inspector, whose judgment should be subject to the final decision of the State Market Inspector. The men selected to head the local committees in their respective districts are: For Arcadia, Azusa, Monrovia, Glendora and San Dimas, C. B. Reas of the First National Bank of Sierra Madre; for Buena Park, Artesia, Norwalk and Belleflower, W. B. Couts, 1617 Southwestern avenue, Los Angeles; for Downey, Compton, Huntington Park, Bell, Rivera and Long Beach, A. Winquist, 1825 East Sixty-ninth street, Los Angeles, and for Ontario and Chino, E. Meredith of Chino.

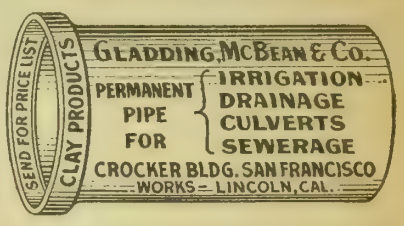
UP-TO-DATE PRUNE DRYING IN TULARE COUNTY.

(Continued from first page.)

the fruit often being dipped two or three times and the outside ones thus partly cooked. Mr. Fleming has a rotary prune dip in which the prunes are augered through the dip in not over three seconds, in a continuous stream. Vats need to be cleaned out at noon and night, so fresh solution may replace weak and dirty dip. Where oil burners are used and vats not cleaned regularly, a crust of mud cakes on the bottom and sometimes results in burning out the vats in a hurry-up season. Oil burners which spray a mixture of steam and fuel oil under 40 pounds pressure may now be obtained. They are easy to light and care for and make hot fire.

DRYING.

Five or six days in the sun is usually enough for Robes, according to Mr. Swall, after which they are stacked a day or two and either delivered to the packing shed or stored in clean bins. French require a little longer, being tougher and later in the season.



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PACIFIC RURAL PRESS, Publisher, 525 MARKET STREET, SAN FRANCISCO, CALIF.

State Dairy Cow Competition

[Written for Pacific Rural Press.]

The series of State dairy cow competitions now being held under the auspices of the University of California and immediately supervised by Prof. F. W. Woll, takes on an added importance at this time in view of the high price of feedstuffs, the scarcity and cost of necessary labor, and also the ruling high prices of butterfat obtainable at the creameries. It would seem that under these conditions the dairyman is justified in keeping only the highest grade of milk-producing stock, and the object of the projectors of this competition was precisely this thing—the careful and intelligent grading up of the dairy animals on our California ranches and the resultant elimination of all inferior and even ordinary stock.

In announcing the result of the State Dairy Cow Competition for June it is shown that the average production of cows entered in the competition was 1175.8 pounds of milk and 48.357 pounds butterfat. This is a very creditable showing. The number of cows entered was 271, 113 days in milk on the average, showing a commendable interest in this effort to bring up the standard of our dairy stock. The winner of the Pacific Rural Press prize, as announced last week in our columns, was J. W. Coppini of Ferndale, Humboldt county, whose average production of butterfat by five grade Jerseys was 67.297 pounds. The winner of McAlister & Sons' prize, offered for the highest production of butterfat by one grade cow, was G. E. Trigg, also of Ferndale, with a record of 80.460 pounds. Looking over the June record of butterfat production as a whole, a wide range between the two extremes is noticed, running from 19.40 pounds to 93.76 pounds, the latter being the output of the grade Holstein N. S. H. Monte, a 6-year-old belonging to the Napa State Hospital. Following are the names of the entrants, with the highest producing cow entered:

Owner and Name of Cow.	Age y.	Age mo.	Days in milk.	Milk lbs.	Butterfat per cent.	Butterfat lbs.
K. W. Abbott, Milpitas—Pearl, Gr H.	..	..	35	1639.8	3.61	59.197
Floyd L. Beebe, Woodland—Ruth, Gr. H.	12	..	5	1683.0	4.00	67.320
Anita M. Baldwin, Santa Anita—Rhedon of Bloom, H.	2	4	125	1407.5	4.54	63.901
A. M. Bibens, Modesto—Abbie De Kol of Eastbank 2nd, H.	5	[illegible]	196	1757.2	3.32	58.339
Bohnett Bros., Campbell—Nancy, Gr. J.	5	..	40	1413.7	4.13	58.386
J. W. Coppini, Ferndale—Lady Mac., Gr. J.	12	10	85	1527.0	4.80	73.296
Elliott-Brant Rancho, Owensmouth—Butternut Queen, G.	[illegible]	1	184	1132.4	5.0	56.620
Dr. H. G. Gross, Eureka—Kings Lady Maggie, J.	7	3	73	951.8	4.21	40.071
N. J. Guise, Davis—Guise Beauty, Gr. G.	5	..	128	819.0	5.25	42.998
Dr. J. W. Henderson, Berkeley—Clementine Mabel, G.	11	11	129	1109.1	4.51	50.020
Leonard Hess, Tudor—Dollarspot, Gr. H.	8	..	52	1386.0	3.41	47.263
Hollow Hill Farm, Colton—No. 458, Gr. G.	5	2	65	1061.9	6.4	67.962
Iver Iverson, Arcata—Roan, Gr. G.	7	..	72	1506.0	5.09	76.655
E. B. McFarland, San Mateo—Willowmoor Vesta 4th, Ayr.	4	5	106	1143.1	4.96	56.698
Guy H. Miller, Modesto—Gladys of Venadera, J.	4	7	65	889.1	6.07	53.968
A. W. Morris & Sons Corp., Woodland—Aralia De Kol Mead, H.	5	[illegible]	36	2218.5	3.77	83.637
Napa State Hospital, Napa—N. S. H. Monte, Gr. H.	6	..	77	2292.4	4.09	93.759
Palo Alto Stock Farm, Palo Alto—Jennie Terzool Hicks 4th, H.	7	9	131	2291.7	3.83	87.772
Rexholm Farms, San Mateo—Edith of Redwood, Gr. H.	5	..	41	1975.0	2.37	46.808
F. Stenzel, San Lorenzo—Alice, Gr. H.	5	..	81	2398.4	3.62	86.822
Southern California State Hospital, Patton—Cora, Gr. H.	10	..	91	1567.4	3.45	54.075
G. E. Trigg, Ferndale—Brindle, Gr. J.	..	..	66	1788.0	4.5	80.460
University Farm, Davis—Langwater York Rose, G.	9	6	15	1990.8	4.09	81.424
F. H. Van Derpoel, El Centro—Fern's Silver Ray, J.	7	11	136	1349.5	5.00	67.475
A. J. Welch, Redwood City—Imp. Acadia of Linwood, G.	4	2	113	794.2	6.73	53.450

Vetch and Oats for Silage

[Written for Pacific Rural Press.]

"Two seasons I put vetch and oats into the silo too green," says John Hansen of Humboldt county, who feeds silage to his 120 exceptionally high-grade Jerseys from August 1 to March 1, when other green feed is scarce. "Let the oats get about the same ripeness as for hay, with the grain in the dough and the straw pretty dry; then run a quarter-inch stream of water into the blower with it. The vetch and oats I put into the silo too green got messy and the cows didn't seem to like it."

Mr. Hansen drills about 140 to 150 pounds per acre of vetch and oats, mixed at the rate of one to two. Make the proportion of vetch greater if the ground is strong.

P. H. Christensen of the same county has siloed vetch and oats two years, having learned from his predecessor on the ranch that if put in too green it gets sour. He cuts it when not quite so dry as it should be for grain. The vetch, being greener, furnishes plenty of moisture. It is immediately hauled to the cutter without allowing any time to wilt, and no water is added. The finer it is chopped the better it packs, notes Mr. Christensen, and the better it keeps. His land is low and wet, so late seeding is possible. He had finished seeding some oats alone late in May and thought that if the summer is not too dry it could be planted for successful growth until July 1. On higher ground it is mostly sowed in the fall. He mixes the oats and vetch well before putting it into the drill, using a larger proportion of oats for use as silage than for green cattle feed. For the silo he likes about 150 pounds, half and half. Oats seeded late in May will be ready for the silo late in August.

PONTIAC CLOTHILDE DE KOL 2d 69991.

The first cow to produce 37 lbs. butter in 7 days, 145 lbs. in 30 days, and 1271 lbs. in a year. Also the first cow to make over 30 lbs. butter in a week in three successive lactation periods. She sold for $2,600 (at 13½ years of age) and a ten-months-old son sold for $6,100. She is owned by the Fred F. Field Holstein Co. of Brockton, Mass.

SUPPLYING SALT TO STOCK.

Salting cattle once a week or once every two weeks is not the most commendable practice. It is just as unhygienic for cattle to take on a two weeks' supply of salt at one feeding as for the human animal to do so. Stockmen should provide a plentiful supply of salt all the time, preferably placed under shelter, where cattle may have access to it as their physiological instincts prompt.

GOOD HORSES FIND READY SALE.

The last five years have seen a gradually increasing difference between the price of good and of inferior horses. During the last year those horses and mules which were good enough to do some job well have found ready sale, while others have been a drug on the market

Introducing Our Young Sire

Toyon Valdessa Hengerveld 184353,
Son of King Valdessa out of a 30-lb. 4-year-old. His dam and sire's dam averaged 36.16 lbs. in 7 days.
If you want good Holsteins, write us.
J. H. HARLAN CO.
WOODLAND CALIFORNIA

Do You Want Long Distance Backing?

We have a son of the California State Champion three-year-old for sale. Born October, 1915; sired by PRINCE ALCARTRA KORNDYKE, whose dam is TILLY ALCARTRA.

The Dam of this young bull is not a fifty-pound cow, but she has to her credit 21,208 pounds milk and 860 pounds butter in one year, which is the largest record ever made in California by a Junior three-year-old.

If you are in the market for a bull, it will pay you to visit our ranch and see what we have to offer—at prices that will surprise you

J. S. GIBSON CO., Box 97, Williams, Cal.

"THE NAME GIBSON INSURES QUALITY."

FIDESSA HELENA 152737
Milk 606.9, Butter 31.68, Test 4.2

PACKWOOD HOLSTEINS
AND
POLAND CHINA HOGS

All cows have A. R. O. records
Sire, Pontiac Wayne De Kol, 15979,
Son of Riverside Sadie De Kol Burke.
Write or call and see our stock.
WALTER F. MITCHELL,
Visalia, - - - - California

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
GEO. P. ROBINSON CO.
426 J Street,
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LIVESTOCK BROKERS.

REDWOOD TANKS.
35 years in this business. I sell direct to the consumer. You act as your own agent and save 20%. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.
R. F. WILSON, Stockton, Cal.

Acme Herd Jerseys
QUALITY COUNTS
STOCK FOR SALE
Chas. M. McLouth, Orland, Cal.

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Livestock Conserves Soil Fertility

Year after year many of the farms in California, as elsewhere in the country where unscientific farming methods are followed, are showing lessened productivity, and thoughtful observers interested in raising the standard of American agriculture have been urging upon farmers methods of farm management that make for the maintenance and improvement of soil fertility. Assistant Secretary Carl Vrooman, who recently visited California on behalf of his department, turns his attention to this subject in a late publication and urges an effort to save more largely the great amount of manure fertilizer that often goes to waste on stock and grain ranches, the former particularly. He says it is not a wild guess, but a very shrewd and conservative estimate, that each horse or mule produces annually $27 worth of manure (compared with commercial fertilizers), each head of cattle $20 worth, each hog $8 worth. Calculating from the 1910 census figures for number of animals on farms 62,000,000 cattle, 24,000,000 horses and mules, 58,000,000 swine, and 54,500,000 sheep and goats, the total value of manure produced is found to be about $2,461,000,000. Half of this great wealth of fertilizing material, he says, is sheer waste. In the most intensive dairy regions, where cows are largely stall fed and comparatively great care taken with the manure, the loss seems to be approximately 25 per cent. Even this percentage of waste should not be. To save these tons of dung and litter means the construction of concrete manure pits, of paved feeding pens or sheds, and increased care in the conservation and use of bedding materials. The cheapest and best way to handle manure is to haul it to the field and spread it daily, or at least every two or three days. In this way, if plenty of bedding be used, practically all the valuable constituents of the manure are saved, since leaching after the manure is on arable land merely serves to put the fertilizing materials where they ought to be. Heating, or "fire-fanging," too, is thus avoided.

A way to save manure, in the case of hogs or of beef cattle, is to have a concrete paved feed lot, preferably under a shed roof. Where a paved floor cannot be afforded, a cheap open feeding shed may be made to serve the purpose very well, if abundant bedding is used to absorb the valuable liquid manure. In such a feeding lot or shed the manure is allowed to gather under the feet of the animals, each day's bedding being strewn over the well-tramped accumulation below. This shed serves the purpose of giving the beef cattle farm something of an advantage in the matter of manure saving held by the intensive dairy farm.

SWEET BUTTERMILK FOR CALVES.

[Written for Pacific Rural Press.]

Sweet cream from whole milk, delivered by patrons at the co-operative Valley Flower Creamery, near Ferndale, Humboldt county, is churned into Government butter. The skim milk is made into casein at a price that prohibits feeding it to calves or hogs of the ordinary kind. The sweet buttermilk that remains is not so valuable for casein, and is much used by patrons instead of skim milk, and in the same way. It is really a much better feed for calves or food for man than skim milk, for it contains more of the butterfat and tastes smoother and richer. R. H. Flowers, who milks forty cows and raises six or seven heifers per year to replenish the herd, is one who has been feeding sweet buttermilk for two years. No trouble has been experienced, and it has the advantage over much of skim milk used in California of being pasteurized and free from tuberculosis. The milk being delivered mostly twice per day, makes the buttermilk absolutely fresh and sanitary, and agreeable in flavor.

Dutchland Sir Pietertje Creamelle's

Ten First Daughters in Milk have average records of 20 lbs. as two-year olds or younger

Two of These are California Champion Two-Year Olds

PAULINE INKA DE KOL CREAMELLE
Senior yearling record: Milk 423.4, Butter 24.43 lbs., Test 4.62 per cent.

MARIE CLOTHILDE PONTIAC CREAMELLE
Junior 2-year-old record: Milk 391, Butter 22.52, Test 4.6 per cent.

This wonderful record is convincing proof that this young herd sire transmits his big production and high test breeding.

You Need Some of His Blood in Your Herd

To bring up your butter fat production and increase your profits.

I am offering a few young bulls sired by him, out of big producing dams, and just ready for service, at reasonable prices.

WRITE OR CALL AND SEE THEM.

F. STENZEL

SAN LORENZO, CALIFORNIA

Breeder of High-Test Holsteins

Here's the Silo You've Been Waiting For

The "IOWA" SILO

Designed and introduced by the Iowa State Agricultural College at Ames, Iowa, under the supervision of Prof. J. B. Davidson, who is now on the faculty of the University Farm at Davis, California. Over 1500 of these *Clay Block Silos* built each year in Iowa.

Reference—University Farm, Davis, Cal.

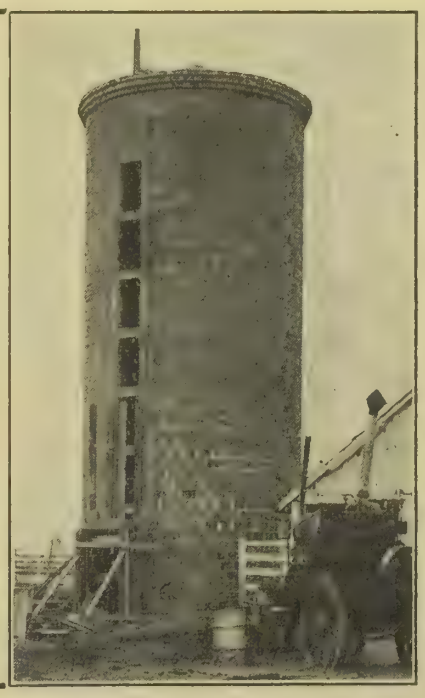
Construction: Hollow clay blocks, 4x8x12 in., of the same quality clay as the famous Denison Interlocking Tile, burned to extreme hardness. Reinforced with heavy steel wire laid in the mortar joints and tied to the vertical reinforcing steel rods in the reinforced concrete door jambs.

It is a permanent silo.

It is everlastingly proof against time, storm, decay, fire and vermin.

It makes the best silage — protects against air, moisture and temperature.

It cannot crack, collapse or blow over.



Distinctive in appearance, it will add to the value of your farm.

Requires no painting, adjusting or repairs.

Costs but little more than the temporary kind, and the first cost is the only cost.

Can be extended at top for water tank of same construction.

Clay Block Silo 16x40 ft.
Just being completed for Lewis Moreing Ranch near Lathrop.

We have been manufacturing clay blocks for years and have furnished them for many of the largest buildings in California. Have just installed the necessary machinery for making silo blocks.

Our capacity for this season is very limited, so if you want a silo this year write us at once or come in to the office for full particulars.

We also furnish drain tile and clay blocks for all kinds of farm buildings.

Cannon-Phillips Co.

Successors to Denison Block Co.

920 FORUM BLDG., SACRAMENTO, CAL.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

The three creameries of Tulare paid out $130,000 for cream delivered during the month of June.

G. F. McCarty of Esparto is reported to be making arrangements for opening the Hopeton cheese factory at Hopeton on the Merced river. The factory will be ready for operation in August.

A. G. Lane began work, July 9, on the first unit of the cow testing department of the Merced Farm Bureau. This work is on the 850 cows signed up before the Farm Bureau took over the work.

The Los Angeles Creamery Co. handles 55 to 65 tons of milk daily the year around. In May 94 per cent of their incoming shipments had less than 25,000 bacteria per c.c., a remarkably fine test.

C. S. Rasmussen of Loleta is this June and July breeding his 30 or 40 purebred Guernsey cows to the bull he bought from Walter H. Dupee of Santee. This bull is out of Itchen Daisy, the dam of May King.

R. M. Gow, secretary of the American Jersey Cattle Club, and Wallace MacMonnies, chief of the extension department, accompanied by field agent Chas. M. McLouth of Orland, will make a tour of California, beginning at El Centro, August 14. Jersey men will be glad to see them.

A summary of the results of the work of the Ferndale Cow Testing Association for the year 1916-17 shows that the average production for the 2213 cows whose records are available is 289.6 pounds butterfat per cow. The herd of G. E. Trigg showed the highest production, with a record of 439.5 pounds butterfat.

K. W. Abbott of Milpitas reports that his Holstein heifer, Moorland Johanna Haskins, has just made a 7-day record of 32.87 pounds butter as a junior three-year-old. This gives her second position for her age in the State. Had she freshened one day later she would be a senior three-year-old with a State record in that class.

The Von Heim Farm of Kent, Wash., report that one of their young Holstein cows, Von Heim Winnifred Colantha, has just made the following records: Butter, 7 days, 29.62; milk, 444.5 pounds; average fat, 5.33. For 30 days she produced in butter 117.806 and milk 1925.3; average fat, 4.89. Best day's milk, 66.9.

The Holstein-Friesian heifer Von Heim Mary Hartog 284404 has broken the record for fat production in the senior two-year class of the thirty-day division by producing in thirty consecutive days 2056.9 pounds milk, containing 96.183 pounds fat. She was bred and is now owned by J. von Herberg of Kent, Wash.

Swine and Swinemen.

Secretary Chas. W. Paine of the State Board of Agriculture has been notified that that Poland-China Futurity, which offers $600 in cash prizes to breeders in the Sacramento division of the Swine Department, has been jointly guaranteed by the American Poland-China Record Association and the Standard Poland-China Record Association.

Haden Smith, the Duroc-Jersey breeder of Woodland, in a letter says: "I sold my champion and first prize junior yearling boar, weighing 430 pounds at 13 months, a line bred Colonel; also a half sister of the junior and reserve grand champion at the P.-P. I. E., bred to the champion Uneeda Wonder, to W. O. Pearson of Woodland for $300. My spring pigs are by far the best I have ever had and are by Uneeda Wonder, who now weighs close to 800 pounds at 27 months and is coming along in great shape for the fall fair."

Beef Cattle.

Warning to owners of cattle has been sounded by the Lovelock (Nevada) Merchants' Association, following an investigation which shows that many thefts of cattle are occurring in that part of Nevada.

The Janss Investment Co. of Los Angeles has 800 grade Hereford steers on feed on their Conejo ranch in Ventura county. They are said to be doing well. After this year the Jansses expect to go more largely into the purebred business.

The Federal Trade Commission's investigation into high food prices can find no explanation of the sudden jump of the price of veal chops from 30 to 40 cents a pound two months ago. They couldn't discover who got the extra ten cents.

The total stocks of frozen beef reported by 243 firms on July 1, 1917, amounted to 105,174,204 pounds, while the total stocks reported by 280 firms on June 1, 1917, amounted to 101,853,821 pounds. The reports of 171 firms show stocks of 88,078,061 pounds on July 1, 1917, as compared with 55,109,049 pounds on July 1, 1916, an increase of 59.8 per cent. The reports of 221 firms show that the stocks increased 4.6 per cent during June, 1917.

Sheep.

R. F. Fiddyment of Wheatland sold a carload of spring lambs recently for $9.35 per head. This is the best price this season for lambs in that section.

C. E. Barnhart of Suisun writes that he is selling a good many rams to breeders in Los Angeles county. These rams are to be crossed on Mexican ewes, securing a matured lamb for early spring market.

Lee Taylor, representative of a San Francisco commission house, recently purchased the entire clip of wool of Ed and Henry Singley, Wm. Wallach and Wm. Lambert in Mendocino county, aggregating 36,000 pounds, the purchase price being 62 cents per pound.

Livestock Miscellany.

About sixty new silos have either been built or contracted for in Glenn county this year.

San Francisco exported in May, 1917, 55,557 pounds of canned beef, 22,252 pounds of cured hams and shoulders, 22,204 pounds of lard, 117,976 pounds of butter, and 41,751 pounds of cheese, according to the Bureau of Foreign and Domestic Commerce.

CO-OPERATIVE MARKETING.

Under the auspices of the San Joaquin County Farm Bureau the farmers at Escalon, in the South San Joaquin Irrigation District, are organizing the first co-operative marketing association in the county. The attention of the farmers of the county was called to the merits of a co-operative marketing association by Farm Adviser Ralph D. Robertson, who had been in touch with the success of similar movements in Wasco, Kern county. Three auction sales of livestock have been conducted by the Kern County Farm Bureau since last February. Hogs have been the principal item of sale, but cattle, horses, sheep and poultry have been dealt in. Fat stock is all grouped in carload lots and prospective buyers bid. A commission of 2 per cent is charged by the Farm Bureau on all stock sold and 5 per cent on other articles, thus creating a fund to meet the expenses of the sale—auctioneer's fees, advertising and labor.

FARM ADVISER MOVEMENT IN FULL SWING.

Professor Rubel of the University of California addressed a very enthusiastic meeting in Walnut Creek last Saturday evening, having for his subject the Farm Bureau and its relation to the Farm Adviser, showing the steps preliminary to applying for an adviser and describing their work in other counties. I. P. Tikio occupied the chair and Theo. Hook acted as secretary. Locations of the different centers were decided upon as follows: Danville, Moraga, Lafayette, Walnut Creek, Saranap, San Pablo, Concord, Martinez, Byron, Oakley, Antioch, Brentwood, Knightsen. There will be local meetings held in each of the above places within the next two weeks to complete the organization of the county.

USE

Remco Machine-Banded Redwood Pipe

BEST FOR IRRIGATION PURPOSES

MADE FROM CLEAR AIR-DRIED REDWOOD, WOUND WITH HIGHEST QUALITY PIPE WINDING WIRE, AND GUARANTEED BY THE MAKERS.

THIS PIPE WILL OUTLAST ANY OTHER PIPE ON THE MARKET WITH THE POSSIBLE EXCEPTION OF CAST-IRON.

IT IS LESS EXPENSIVE THAN CAST-IRON AND LIGHTER TO TRANSPORT. NOT LIABLE TO BREAKAGE IN HAULING.

REMCO REDWOOD SILOS

BEST SILO ON THE MARKET TODAY. WILL OUTLAST THE SO-CALLED "CHEAPER" SILO AND WILL MATURE THE SILAGE IN A MANNER FAR SUPERIOR TO THAT PUT UP IN A CONCRETE SILO.

REMCO REDWOOD TANKS

FOR WATER AND OIL STORAGE WILL NOT WARP AND SHRINK.

Write today for illustrated catalogs.

Redwood Manufacturers Company

In business over a quarter of a century.

OFFICE: 1608 Hobart Building, San Francisco, Cal.

FACTORY: Pittsburg, Contra Costa County, Cal.

Building Material

New and Second-Hand

The largest yards, the greatest assortment of stock, more quality and more service for your money.

LUMBER
3,000,000 feet rough dimensions.

PLUMBING
15 carloads in latest design modern plumbing.

Electric Fixtures, Pipe, Nails, Cement, Roofing, Poultry Netting, Barb Wire, Corrugated Iron, Boilers, Radiators, Hose, Fittings, Shingles, Shakes, Posts, Doors, Sash, Windows, Screens, Wall Board, Medicine Chests, Closets.

Special—A-Grade Guaranteed 5-ft. Bath Tub $25.00.

Whatever you need we have at dollar saving prices. Every shipment, large or small, Guaranteed. Insure Satisfaction.

Consider Quality and Service as well as Prices.

See Our Stock. Get Our Estimate.

Symon Bros., Wreckers

1501-1527 Market St., San Francisco

Don't Forget the First

Public Sale of Grapewild Berkshires

AT

Escalon, Cal., Aug. 2, 1917

42 Sows and Gilts

There will be gilts by GRAND LEADER 2ND and sows bred to ROYAL SUPERBUS.

If you haven't got your catalog, write for it at once.

GRAPEWILD FARMS

A. B. HUMPHREY, Prop.

MAYHEWS, CALIFORNIA

ATTEND THE BERKSHIRE SALES.

This is the last reminder to those of our readers who are interested of the two important Berkshire sales—the Carruthers sale at Mayfield, August 1, and the Humphrey sale at Escalon, the day following.

Supposedly sentiment is pretty well crystalized toward these events already, but we cannot refrain from again urging all among our readers who are at all interested in good Berkshires—or who expect to be—to attend both of these events. It will be well worth while.

Somehow the conviction seems to prevail in California that we are not "up" in the breeding business—that we are destined always to follow the East. In some lines we are not up to conditions as they prevail in older breeding territory, but that does not hold good when applied to Berkshires.

Our Berkshire breeders have met all that is good in the East in the show ring and have come off the winners in many major events. Further, it is getting to be quite the thing for the leading Berkshire breeders of the East to come to California for animals with which to strengthen their own herds. And at the two sales now discussed there will be Eastern breeders and no doubt several of the entries will find Eastern homes.

All of which means that those who attend these sales may know, and should know, that they are buying as good individuals and breeding as money can secure anywhere. This is "some" statement, we know, but we are making it advisedly. And we are making it, too, somehow with the feeling that these offerings and the work of the breeders putting them up might receive the maximum of home support, without any probability of getting anything more than is due them from the livestock industry of California.

A NEW SILO FOR CALIFORNIA.

A clay block silo has just been completed on the Lewis Moreing ranch, near Lathrop. It is 16 ft. in diameter and 40 ft. high and is built of vitrified hollow blocks 4x8x 12 inches, reinforced by heavy steel hoops laid in the mortar joints.

The Cannon-Phillips Co., successor to Denison Block Company at Sacramento, furnished the material. They have been manufacturing blocks for buildings for a number of years, but have just recently equipped their factory for making blocks suitable for silos.

This is probably the first silo of this type for California. In the State of Iowa 1500 were put up the first two years after its introduction there. In fact, it is so popular there it is called the Iowa silo. Prof. J. B. Davidson of the University Farm at Davis has had a number of years' experience with Iowa silos and while connected with the Ames College published a bulletin on its construction, advantages, etc. He says that if built right, this silo has much merit.

CARRUTHERS BUYS BARCO SHORTHORNS.

Mr. Colomb of the Barco ranch, Hollister, tells us that he has sold all of the purebred Shorthorns on the ranch, numbering 62 head, to W. M. Carruthers of Mayfield. This makes a notable sale, as in the Barco herd were a number of fine individuals, particularly a great bull of Villager strain. Mr. Carruthers now has the great Scotch Shorthorn herd of the Coast.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

SWINE.

Poland-Chinas.

SPECIAL SALE of weaned boar pigs of the famous Whitten Ranch Poland-Chinas. Get one and grow him out. He will put money-making qualities into your herd. Prices very low; satisfaction guaranteed. Send for free booklet, "Hogs for Profit." Packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, 610A Security building, Los Angeles.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

POLAND-CHINA HOGS—Large type. 200 lbs. in 6 months. I guarantee to please you. O. L. Linn, Linview, Modesto, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REGISTERED POLAND-CHINAS and Duroc-Jerseys. Cholera immune for life. T. H. Beckman, Lodi, Cal.

POLAND-CHINAS—Three extra fine boars, one large and two medium type. W. Bernstein, Hanford, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS—A few gilts left at $15 each. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of Champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

REGISTERED BERKSHIRES — Progeny of Improver B. Young stock now ready for sale. Start your herd with breed and strain of established reputation for California conditions. Geo. G. Meckfessel, Berlin, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

BERKSHIRES—Young stock from prolific stock now ready. Can furnish trios or more if desired. Write for prices. W. G. Thompson, Napa, Cal.

IMMUNIZED NORMANDY BERKSHIRES—Good type. Breeding stock, any age, for sale at all times. Cast iron guarantee. Arlington Smith, Visalia, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Second annual sale August 1st, 1917. Mayfield, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

REGISTERED BERKSHIRES—Geo. M. York, Modesto, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 Third. Prices $20 and up. Haden Smith, Woodland.

RANCHO RUBIO DUROCS—Only a few September gilts left. One corking good fall boar by Orion Model, son of the last International Grand Champion. Place your orders now for weaned boar pigs. Best I ever raised. Elmer Lamb, Ceres, Cal.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 631-637 Brannan street, San Francisco.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

REGISTERED DUROC-JERSEYS — Service boars from prize-winning stock are money-makers. They grow faster. New England California Corporation, Ripon, Cal.

DUROC-JERSEYS — Herd boars. E. N.'s Colonel and Tulare Boy. Sweepstakes winner at Fresno, 1915. Choice breeding stock. J. P. Walker, Visalia.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROCS — Crimson Wonder stock. Young stock, both sexes. L. D. Collins, Denair, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

STEVENS CREEK STOCK FARM—Registered cholera-immune O. I. C. and Chester White swine. Pigs of either sex. Box 107, Cupertino, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

HOLSTEIN HERD FOR SALE—Herd consists of seven females and five bulls; including a splendid cow, her four daughters and a granddaughter; all registered stock of good breeding, priced for quick sale. P. A. Hogaboom, Route A, Fair Oaks, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

SPECIAL SALE DURING JULY — Registered Holstein bulls, three weeks to thirty months of age. Sunnybrook Ranch, Willits, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

PACKWOOD FARM HOLSTEINS — Fine young bulls of serviceable age out of tested A. R. O. cows. W. F. Mitchell, Visalia.

TWO SERVICEABLE SONS of Colantha Sir Pontiac Aaggie for sale. Moorland Farm, R. W. Abbott, Milpitas, Cal.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN-FRIESIAN CATTLE—J. M. Campbell, Escalon, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

A. R. O. HERD OF HOLSTEINS—Alex. Whaley, Tulare, Calif.

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FOR 30 DAYS—JERSEYS—Pedigreed bull calves, not registered, $25; registered, $50. Service bulls, $100, from producers. Tested registered cows, $150, with yearly records. Horses. N. H. Locke, Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

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ELEVEN HEAD—Unregistered Jerseys for sale—a bargain. For particulars and terms address Box 284, Red Bluff, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

Guernseys.

PUREBRED GUERNSEY BULL—Aged one year and four months, for sale at sacrifice, owing to lack of accommodations; his dam sired by imported and advanced registry stock. Fern Ridge Farm, Yuba City, Cal.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

REGISTERED GUERNSEY BULL — No. 24342 from A. R. and imported stock. Write for prices and pedigree. A. G. Lane, Amsterdam, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

Ayrshires.

PLEASANT VALLEY AYRSHIRE FARM—Registered bulls for sale. Write for prices. Sullivan Investment Co., 1942 Folsom street, San Francisco.

NORABEL FARM AYRSHIRES—Pure bred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

FOR SALE—400 head of 2-year-old Durham heifers for sale at Dutton Station, Solano county, on Oakland, Antioch and Eastern Railway. F. N. Chaplin, Dutton's Landing, Solano county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM — Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder registered Herefords. Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of Hampshire Ram Lambs, sired by Walnut Hall and Butterfield; rams purchased at Salt Lake, August, 1916; lambs ready for delivery after July 15, 1917. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

FOR SALE—Two Swiss Toggenburg milk goats, one and three years old. Not bred. Box 232, Colfax, Cal.

J. R. BLOOM—Breeder of Shropshires. Yearling rams for sale. J. R. Bloom, Dixon, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

WANTED—500 breeding ewes; fall or immediate delivery; name herd. Box 303, Napa, Cal.

HORSES AND MULES.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

WISH TO PURCHASE—3 to 5 grade Guernsey cows or heifers to freshen between now and December. Give best cash price and location in first letter. R. L. Gibbs, Route 1, Box 48, Fairmead, Cal.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal—the best California calf raiser. Geo. H. Croley Co., Inc., 631-637 Brannan st., San Francisco.

Pointers on Pork Production

[Written for Pacific Rural Press.]

CASEIN WHEY FOR HOGS.

Few hogs are raised on Humboldt county ranches. Most of them are grown in the mountains. J. J. Hansen is one who buys such hogs to feed. He buys whole barley at threshing time and rolls it in the local mill. He would prefer it ground, but a grinder is not available. The rolled barley is soaked about 12 hours in whey from the casein plant nearby. Whey is cheap, but would not pay for a long haul, thinks Mr. Hansen.

Pigs up to a year old, too, are likely to be injured by the whey on account of sulphuric acid used in making the casein. Pigs sucking sows fed whey do very well until two or three weeks old, then die off. Older pigs seem less affected if turned on grass; but Mr. Hansen has lost some that were six months old when he got them, and knows no other reason for their death. In any event the whey should be used before it sours.

SWEET BUTTERMILK FOR HOGS.

Seven registered Chester White sows and their pigs, along with other stock, are fed sweet buttermilk by J. N. Fulmor of Ferndale. "But you have to feed barley, too, in order to benefit from the buttermilk," says he. And he buys the barley for this purpose.

In Humboldt county much of the cream is churned sweet to get Government butter, and the skim milk is dried or made into casein. The sweet buttermilk tastes richer than skim milk and is fed in the same way. It is held until needed in cans in which the milk is hauled to the creamery. It seems to keep sweet better than skim milk in hot weather, says Mr. Fulmor. About 20 pounds per day is the usual ration, though some sows drink up to 50 pounds plus their grain. Big pigs get about three pounds of grain per day, while fattening hogs get all they will eat. Sows are turned to pasture until about three weeks before farrowing, when they are put up and gradually worked into the butter-milk-grain ration, which lasts at least until weaning time.

OLD HOG HOUSES AND LOTS.

Lots of hog houses have board floors 14 to 24 inches off the ground. Years of filth and urine, with no sunshine and little air, must make disease-breeding conditions under such a floor. Usually with such a hog house are small lots in which the droppings of years are tramped in and rooted about. The lots are too small to plow.

The houses should be separate and movable, and the pens should contain at least a half acre so they can be plowed. This is the conviction of John F. Myers, who cites a well-known breeding establishment where the pigs had been unthrifty for a long time. Half of them were sold to a man who put them on new ground. At weaning, these were twice as big as those on the original farm, which had small lots on a hillside. Since these lots were plowed and limed the pigs have been thrifty.

INDIVIDUAL FARROWING HOUSES.

When a sow is farrowing in the same building with several other sows and their pigs, if some big pig squeals earnestly she gets excited and stirs around. If feeding time comes while she is farrowing, she may quit and get up to eat. There is danger to the little ones in either case, that is avoided by having each sow in her own cheap little farrowing house in a half-acre pasture. It is easily kept sanitary and the pigs don't have an up-hill fight with germs.

OBSERVE UDDERS OF SOWS.

A gilt does not naturally make so much milk as an older sow, and therefore may be fed more heavily just previous to farrowing. But it is always well to watch and feel for caked udder, which might be followed by milk fever. The handling a sow gets previous to farrowing makes her quiet when you have to be around when she is farrowing.

Green Feed the Year Round

[Written for Pacific Rural Press.]

Green feed the year around is provided for livestock by many dairymen along the coast counties of Northern California. Pasture from early spring to July is followed by carrots and mangels and other succulent feed through the fall. Silage fills the gap in winter. The silage used is various; but it all makes very fine feed if put up right. Sometimes oats alone are siloed; sometimes oats and vetch, or ryegrass and red, white and alsike clover mixed. The finer these feeds are chopped the better they pack and keep. It is important not to silo them too green. Ryegrass and clover should be about ready for hay, with the clover headed out. Grains should have the kernels well developed.

SEEDING.

Vetch and oats are seeded late in some cases, where the ground is low and wet. Some oats alone are seeded about the latter part of May for siloing in August, and could be seeded into June, with some risk if the summer should prove hot. For siloing, 75 pounds each of vetch and oats are commonly drilled as a mixture in spring. For green cattle feed, a larger proportion of vetch is used.

Sometimes 50 pounds each of vetch and oats are planted, then 20 pounds clover and 15 pounds ryegrass broadcasted on top of it and harrowed in. Ryegrass and clover alone are generally planted in the fall even on low land. This makes pasture and supplies some hay. On good land such pasture lasts many years, but on light sandy soil or on heavy marsh, which is watersoaked in winter and dried hard in summer, reseeding is necessary every three or four years. The general practice of maintaining green pastures throughout the year well repays the trouble.

A1 Ranch Berkshires

Herd headed by Winona Royal Champion 5th, Junior Champion Berkshire Boar, Western Berkshire Congress Show, Champion California State Fair, 1916.

Two A1 Herd Headers

No. 1 Premier Leaders Duke 4th

Farrowed October 17, 1916; Sire Premier Leader, 215,000, an outstanding son of Grand Leader 2nd, Grand Champion Boar of the World.

No. 2 Winona Laurel Masterpiece 3rd

Farrowed November 8, 1916, Sire Big Four, 180,400, Grand Champion of Oregon, 1915, he from a long line of champions. Dam Silberfa Duchess 15th, 194,915, Grand Champion of Oregon, 1914.

Two Show Boars that would look good anywhere. FIRST CHECK FOR $75 takes either one of these.

FOUNDATION HERDS, GILTS AND YOUNG BOARS.

Write for information, pedigrees and prices.

ARLINGTON M. SMITH, Proprietor
VISALIA, CAL.

SCOTCH SHORTHORNS

We have just purchased the entire herd of shorthorn cattle from the Bareo Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

CARRUTHERS FARMS, == MAYFIELD, CAL.
City Address: Hearst Building, San Francisco, Telephone Sutter 1311

BULLS - Shorthorns - HEIFERS
REGISTERED AND TUBERCULIN TESTED.
Animals of either sex ready to deliver in car lots or singly.
H. L. & E. H. MURPHY, Perkins, Cal

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED.
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE
DUROC-JERSEY SWINE
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ASK YOUR DEALER FOR
El Dorado Cocoanut Oil Cake
for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address
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DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
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Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
Hauser Packing Co. Los Angeles

Handling of the Pig Litter

The expansion of the pork industry depends upon the number and quality of the pigs that are raised. Many pigs are lost and many more are developed below their capacity because of improper handling during their first weeks of life. Late-summer and fall-farrowing sows are usually in better health and more vigorous than those that gave birth to spring litters, consequently little trouble is experienced. The run of alfalfa, grass pastures and stubble fields, and the exercise obtained by foraging, contribute to an easy farrowing and a healthy litter. Some danger lies in the possibility that the sow may crush her pigs. This is not wholly preventable. The following conditions, however, will reduce this trouble to a minimum:

Have the sow in good physical condition at parturition. Give the sow a small feed of shorts and skim milk slop for two days before parturition. In the farrowing pen place a 2x4-inch scantling 8 inches from the floor and 6 or 8 inches from the wall to prevent the sow from lying too close to the wall. Provide the sow with a small amount of clean bedding. Be on hand during the act of "pigging" to lend assistance in case of abnormal presentations. Remove the mucus from each pig's nose as soon as it is born, so as to allow breathing. If the sow is feverish, restless and consequently irritable, place the newborn pigs in a basket warmed by a hot-water bottle until the sows all have finished farrowing, when the youngsters can be placed to the teats without having been injured. Remove the after-birth and soiled bedding from the pen and bury it. Do not disturb the sow by offering her feed for twelve hours after farrowing, but provide water to quench her thirst.

After twelve hours give the sow a thin slop of shorts and skim milk. A 250 to 300 pound sow should receive two pounds of shorts mixed with one-half gallon of milk for the first meal. Then, as each day passes, add two pounds of shorts and two pounds of milk for each pound of shorts until the sow is receiving from ten to twelve pounds of shorts plus the milk in the proper proportion. Then begin to reduce the shorts at the rate of one pound daily, replacing it with ground barley or cornmeal, until the ration consists of one-half shorts and one-half barley or corn plus the milk. In 14 to 16 days the sow will be again on full feed.

When the pigs are able to move about they should be placed on pasture, as it is indispensable to economical growth. The pigs should be induced to eat as quickly as possible. This can be done by feeding the sow in a low, flat trough, into which the pigs will soon learn to go. Then provide a separate trough, enclosed within a creep, so as to exclude the sow, and give the pigs a feed of shorts and ground oats mixed with skim milk. Keep all the troughs clean.

The care during "pighood" determines the kind of hog that will be produced in the end. The milk-fat must never be lost, nor the pig's capacity to consume and assimilate food weakened.

HANFORD BREEDERS AT STATE FAIR.

[Written for Pacific Rural Press.]

M. Bassett will show his customary carload of Poland Chinas at the State Fair, and will also take a stallion and two or three mares.

W. Bernstein hopes to beat M. Bassett at his own game at the State Fair this fall. He did not show last season, but this year will have about 30 head, including the 1914 champion Poland China sow, Candy Kid, and the yearling boar, Great Westerner, which has been growing since he weighed 465 pounds at a year old. He has pigs in the futurity and will consign the limit to the Poland China sale to be held during the fair at Sacramento.

John Bernstein, who has never shown at the State Fair, will show some futurity pigs; also the three-year boar, President, which is looked on as a winner.

Dimmick Brothers are entered in the futurities.

Dr. J. A. Crawshaw will show a boar and two sows and six or eight Poland China pigs.

F. D. Ross will show the Holstein calf herd that cleaned up most everything in their classes at the Fresno fair last year. Also a young calf herd and a bunch of Poland-Chinas.

BERKSHIRES

A few fine fall pigs, strong in Bandmaster, Masterpiece and Rival's Champion blood. They are strong and active, with good top lines, heart girth and moderate heads. Glad to show them or send full particulars and prices.

MAPLEWOODE RANCH

E. M. HOLGE, Owner — HOMER HEWINS, Jr. Manager

CALISTOGA, CAL.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

2nd Annual Sale
BERKSHIRES

CARRUTHERS FARMS
MAYFIELD, CALIFORNIA

WEDNESDAY,
AUGUST 1st
1917

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Princess Leader, out of World's Grand Champion Sow by World's Grand Champion Boar.

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CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

Is This on Us or on the Bankers?

To the Editor: In your reply to my query in the June 23 issue, I think you have, with typical editorial adroitness, avoided the pith and import of the question. There is always something lying deeper which suggests a question. Kindly let me quote the very first sentence of your reply: "In the first place, there will probably never be enough in the postal savings banks to meet the demands for farm loans." No; not in the present nature of things. But how is it that the Government can call billions of dollars to its command at 3½ per cent for war and so few millions to the farmer at 5 per cent who must feed that war?

Quoting again: "The fact is, Uncle Sam has to have other people's money for long term loans for farming purposes just as he has to fight the Germans, and in arranging for farm loans he has to offer more interest than he needs to pay for what are more clearly recognized as patriotic purposes."

Has not the Government loaned millions upon millions to the allies, and who knows for how long a term? I ask you, a farm journal editor, who makes it possible for an army to exist at all? The rancher, raising food while being robbed and paying 5 per cent for working capital? What could be "more clearly recognized as patriotic purposes"? I served three years in the Spanish-American war and Philippine insurrection and it's a frozen cinch we could not get by without the farmer's beans, bacon and flour. I am ranching now and think I am qualified to speak on both subjects.

You say that "bankers as a rule do not handle their own money." Every cent they handle is their own money. Every depositor ceases to own money he places in any bank. The banker will pay it back to him or not, as he (the banker) chooses. This is incorporated in the decision of the Attorney General for the State of New York during the panic of 1907. The depositor does not have as much assurance of getting his money back from the bank as Uncle Sam has of getting a loan back from the rancher whose land is the security.

Your closing "simile" is rather farfetched. To quote: "It is as unreasonable to place weight of blame on bankers as such, for general financial conditions as it is to swear at the station agent for an extortionate freight rate."

Listen, Mr. Editor: The bankers of this country own their own business and their own jobs. The station agent is only a railroad hireling. How do you reconcile that "parallel"?

I assure you it is not my intention to argue. I simply repeat that the capitalists of this country will do anything for the farmer but get off his back. You are the editor of a farm journal now in its forty-seventh year. Surely there should be space in it for the farmer's economic welfare from his own viewpoint, if not from the editor's.—Subscriber, Lone Pine.

Beef Prices Analyzed.

To the Editor: I note your beef quotations recently are: Steers, 8½c to 8¾c; cows, 6¾c to 7c. You also report a weak market. These prices are for stock delivered and weighed in San Francisco. I thought you would be interested in knowing that a leading butcher from San Francisco purchased and shipped fourteen cars of cattle in Yolo, Solano and Napa counties last week, paying 8½c for steers and from 6¼c to 7c for cows, all grass cattle, delivered and weighed at point of shipment. About half of these cattle were choice, but as a lot they were far from it. It looked to me like they were very keen to take most anything offered, and I formed the opinion that the market was very strong. The cattle sold for less than 7c and 8½c did not sell for a smaller price on account of condition, but in most cases because the owners offered them for less, not knowing their actual value.—F. L. Gordon, Suisun.

An Important Section of the Hide and Brand Law.

To the Editor: In your issue of July 14 you give a short article on the "Hide and Brand Bill," but omit a very important part. Section 8, lines 41 to 48, says: "Nothing in this act shall be so construed as to prohibit an owner of property or a ranchman located on a definite property from slaughtering cattle in small numbers on said premises, etc., and nothing herein shall be construed as to prevent such ranchman from selling or giving away a portion thereof." Also, that such person shall not be required to take out a license.—H. Overacker, St. Helena.

One of the most striking features of the State Fair this year will be the exhibit of the noted Hollow Hill Farm, near Colton. This famous Southern California establishment will have exhibits in the dairy cattle, swine, poultry and dairy products departments.

USE OF IMMATURE RAMS A QUESTIONABLE PRACTICE.

To the Editor: Kindly inform me through the next issue of the Press whether or not a ram dropped last December will do to put with twenty old ewes, or will it be necessary to get an older ram?—R. S., Ripon.

The use of immature sires is always a questionable though common practice. If it is intended to turn this ram lamb into pasture or fold to run with these ewes, we would consider it very questionable, and should prefer to use an older ram. But if a more mature sire is not easily available the young ram can be used. We know nothing of the breeding, value and general character of the flock in question and nothing more about the young ram, so are compelled to assume much that should not be guessed at. We assume therefore that the flock is an average one of good grade ewes, and that the ram is worthy of a place at the head of it; that he has been well taken care of; that he is strong and vigorous and that he will be kept in the right condition up to and through the breeding season. This does not mean that he should be pampered or kept in show shape, but he should be kept "coming" all the time.

When breeding season arrives resort to what is known as pen or "hand" breeding, a practice understood by every shepherd and flock master, and hence does not need elaboration at this time.

It is stated that 250 cows have died on various islands of the Hawaiian group from anthrax and that no doubt exists in the minds of the Territorial Government authorities that the deadly cattle disease is being systematically scattered throughout the territory.

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PRINCE GELSCHE WALKER

Sire of a number of state record heifers, including MISS VALLEY MEAD DE KOL WALKER, 36.75 pounds in 7 days as junior three-year-old; LADY HISKE WALKER, 34.25 pounds in 7 days as junior four-year-old.

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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

FEEDING BARLEY FOR EGGS.

Mr. I. N. Foss, in Petaluma Poultry Journal, tells about the success of several of the members of the Tulare Poultry Association feeding sprouted barley. He says, "If you can get thirty cents' worth of eggs from fifteen cents' worth of feed, in place of just getting even, you would like to do it, wouldn't you? Well, here's how some of them are doing it: Samuel Eyer keeps a daily record of his production and his outlay for feeds. He feeds barley, bran, fish meal, beef scraps and Surelay. He thinks bran is the finest ever for egg production and barley the best of all grains. Since prices went up he has not fed any high-priced wheat or corn, nor has he any milk, and yet he has averaged 60 per cent of eggs, and besides his eggs have been well sold and brought him in good returns. Mr. Eyer has figures to prove that he has made more money from his hens this year than he ever did before."

The Irwins, Fred and Alex, are members of the Tulare Association and are persistent feeders of barley. Besides this they have about forty cows, and sprouted barley, curded milk and alfalfa have been their ration. They have bought very little beef scrap or fish meal for either hens or young stock; no high-priced corn or wheat. And with this feed the egg production in May from 1000 White Leghorn hens was 1460 eggs. The cost of feeding was far under fifteen cents per hen, and the egg production one and a half dozen for the month. But Mr. Foss says, allowing the cost to be fifteen cents to feed the hen, it is clear that the Irwins are producing eggs at ten cents a dozen.

Here is another—Mr. Wattenburg. He gets eggs and he gets them cheap. His plan is to soak whole barley in milk. The mixture gets thick and sour, and he watched closely at first thinking they would have bowel trouble, but none were affected. The watery whey is drained out and into the rather solid mass of thick milk and swollen barley. Mr. Wattenburg mixes Surelay mash until it forms a crumbly mass. This mixture is the morning feed for his layers. At night they get whole grain of some kind and his ranch pays well. His net income for February was $117.01. His feed cost him $40. March his net income was $136.26; in April it was $171.78, and in May $164.82. His feed bill runs the same every month, and of course there will be a period of non-production, or nearly so, but it is very evident that these men have solved the problem of cheaper eggs, and that without being professors.

Mr. Foss is manager of the Tulare Poultry Association.

NO GRIT IN THE CROP.

To the Editor: My chickens seemed droopy, and on examining them I find their crops very hard. The skin is blue. I feed them wheat only and they get lots of green grass. They have no lice. At times they have their mouths open as if they could not breathe.—Mrs. A. T., Franktown, Nevada.

If the hens are shut up in yards some good sharp grit and a little fast of, say, a couple of meals, will end the trouble. The wheat has swollen after a very hearty meal, and as there is no grit in the gizzard the hens cannot grind the wheat and pass it along. A dose of castor oil would be fine, but in that case you would have to catch each hen and treat individually. Sometimes the crop has to be operated on, and it is a very simple operation. Make a slit with a sharp knife, empty the contents, and wash the crop out; then take a few stitches with a fine needle and thin silk.

MITES, PERHAPS.

To the Editor: My chickens, White Leghorns, two months old, are sick. I have lost three. They droop around and then lie down for days as if dead. They last from seven to ten days like that. I feed cracked corn, rolled barley, gyp corn, dry bran, buttermilk. They have plenty of clean water and shade; they run on alfalfa, sleep in the open. Have put bluestone in drinking water.—Mrs. W. C. R., Orland.

I can't think there is anything wrong with these chicks inwardly. You say they sleep in the open, but you don't say how. Now, mites infest chicks that sleep in open boxes, trees or any other place, if once they get a start. Examine the chicks very early in a morning and you will find a few that have not left the feathers yet.

Chicks that are being harried with mites last about that long and act in that manner. You must get up very early to catch them; first break of day finds them toting home full of the chicks' blood and just that color, so you will know directly you see them—little bits of things, blood red. Go after them with a good spray. If you have nothing else, use coal oil and spray three days in succession early in the morning. Any good insecticide will do the work if you use it strong enough and get up early enough.

THE HOGAN SYSTEM.

To the Editor: I would like for you to explain in your paper the system of Hoganizing hens.—H. R., King City.

The Hogan system consists in simple measurements of the anatomy of the hen, to determine the ability of the hen to lay eggs, and is so valuable that every poultry keeper should follow it. The information is to be had only from the book, "Call of the Hen," by Walter Hogan, which is copyrighted and for sale at $2 per copy.

CHLOROFORMS CHICKENS.

Several farmers around the Puente and Covina districts have been relieved of their chickens by the dope method. Mr. John Edmondson of Puente tells of coming out one morning and finding all his chickens gone and smelling chloroform, and two or three stray chickens that happened to get left behind died the next day from the effects of drugs used by the thieves. It is supposed they used the drug to keep the chickens quiet while catching them.

CHICKENS EAT EGGS.

To the Editor: My chickens eat their eggs. Please give preventive.—C. L. M., Puente.

One way is to have well made, soft nests. Another way is to darken the nest. Still another is, file the under portion of the upper beak near the tip.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

FEEDS AND FEEDING.

(Continued.)

DANGER OF OVERFEEDING.

Overfeeding of a balanced ration produces indigestion and reduces egg production. The comb turns black and lops over. Lessen the food and give the fowls salts, one pound to 175 hens, or 40 to 50 grains per hen—a small teaspoonful.

RATIO OF GRAIN TO MASH.

Every balanced ration should contain some grain and some mash. Taken together they constitute the feeding ration. The grain ratio should be about 1:7, the mash 1:3 or thereabouts, and each should be maintained at those ratios in the normal ration.

WHY USE BULKY FEEDS?

To obtain the best results a certain amount of bulky feed should be used, as the digestive organism must be crowded in order that the glands secrete readily. Food, therefore, should not be too highly concentrated. Green foods are bulky and naturally have a tonic effect. Linseed oil meal likewise has the same effect, stimulating the blood, keeping the digestive system in good condition and helping the fowls to moult rapidly

On the other hand, a ration which is too bulky places a lot of work on the digestive organs, they being compelled to work too hard to secure the digestible elements necessary. Thus bran, rolled barley, rolled oats and alfalfa hay should not be fed together, except in small quantities.

DRY VS. WET MASH.

Other things being equal, there seems to be little difference whether a dry or wet mash is fed, the hens becoming used to either so long as one is fed continuously. The Missouri experiment station found, however, that a wet mash produced a few more eggs per year.

When a dry mash is fed to fowls accustomed to a wet mash, the egg yield will decrease until they learn to like the dry mash, whereas if wet mash is fed to fowls accustomed to the dry mash the egg yield will increase for a short time. During the fall and winter, when eggs are high, a warm wet mash fed in addition to the dry mash will probably be profitable. A wet mash for hens must be crumbly.

REQUIREMENTS OF GROWING FOWLS.

Growing stock require more protein than older birds and bone meal should be added to their ration to supply material for bony growth. This is not necessary, however, where milk is fed. The minerals in the various grains are very essential, as they are required by the fowls. In the various grains and millstuffs, particularly bran, there is usually sufficient mineral matter present. It is stored in the coating of the grain. Iron is necessary for the blood, and where the mineral elements are lacking it must be supplied from other sources. Oyster shells furnish calcium carbonate or lime.

SUITABLE FEEDS REQUIRED.

Feeds must be suitable for the fowl's system. Beet pulp, for instance, is not good because it is too laxative. Some other foods have the same effect. Should the flock show signs of diarrhoea the trouble can almost always be traced to the feed.

(To be continued.)

HOW ABOUT THOSE WORTHLESS ROOSTERS?

On every hand we hear the cry of "conserve the foodstuffs," and on almost all our farms there are a lot of worthless male birds that are eating their heads off. Farmers and poultrymen, did you ever stop to consider how much it costs to feed a fowl in a year? With present prices, roughly estimating, we would say the minimum would be $2.25 per year. A male bird would eat more than that, so you see you are not helping to "feed America" by having a lot of roosters running around. It is not necessary to egg production to have a male bird in the flock—far from it. Hens will lay more eggs without them, the eggs will be better and keep longer. If a hen should set on a batch it would not spoil the eggs. Therefore, we cannot urge you too strongly to "swat the rooster," or, if he be valuable, keep him in a separate pen during the summer months.

Two consignments of promising insects have been brought back by explorers of the California State Horticultural Commission, who have been in foreign lands hunting parasites of destructive pests which devastate crops in California. One is a parasite of the beet leaf hopper, which has caused much trouble in California beet fields, and another is a parasite of the citrus mealy bug and the black scale.

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, box 396, Los Gatos, Cal.

DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

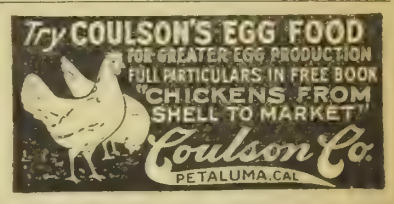
INCUBATORS—For Essex Model Incubators at factory prices, write Geo. H. Croley Co., Inc., Poultry Supplies, 631-637 Brannan st., San Francisco.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks. Fairmead Poultry Farm, Fairmead, Cal.

BRONZE TURKEYS — Albert M. Hart, Clements, Cal.



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MARTINEZ, CAL.

Mrs. Best's Letter.

FALL FASHIONS FOR GIRLS.

My Dear Friends: All of you mothers who have daughters to outfit for early fall schools will be glad to know that all the shops are showing fall goods, and although the stocks may not be as full as later, there are enough different styles to suit us all. There is a style and originality about the early suits and hats that is not always true later in the season.

Hats especially seem to be more attractive when one does not see dozens of exactly the same style, the only variation being in the trimmings. The shapes of the new hats are not extreme; the large ones are like modified sailors and the small ones rather high crowned with narrow brims. Breast feathers, both in white and colors, are very good. Sometimes the whole crown is covered closely with them, and again you will see it as a band trimming. The velvet shapes are sailors or smartly turned up on the side or in the ever popular three cornered.

In suits the tendency seems to be toward the strictly tailored, although as the season advances there may be a semi-tailored style appear.

The suits in Oxford gray bound with black silk braid are most attractive. The coats are three-quarter in length with just enough fullness to be graceful, and the sleeves are snug and plain. The skirt is a gored model and swings well off the ground.

The fashion for long skirts has not taken well out here, even though the East has supposedly accepted it; but the extremely short skirt of last year is not seen any more.

The new fall dresses are wonderfully pretty. The tunics are with us again, many of them heavily braided in either wool or metal braids. The sleeves are long and usually snug, and a number of the waists are made in a surplice fashion. The colors are blue, black and tan, and the materials are gabardines and the soft-finished serges.

For the girl who is going away to school, or the boy who is going to war, or for anyone who is a member of a large family, the tapes to be sewed in clothing with either the name or initials of the individual, are a great comfort. These can be purchased at any of the good stores, and can also be made in a facsimile of one's own handwriting.

Another thing that adds to the comfort when away from home are the traveling cases, which are made of cretonne lined with rubber, or of leather lined with either silk or a light-weight leather.

These cases are fitted up with toilet articles and range in price from a couple of dollars for the simple ones to quite high prices for the ones that contain every necessary thing. ROSABELLA BEST.

ROLLED OATS BREAD.

One cake Fleischman's yeast, ½ cup lukewarm milk, 2 cups boiling water, 2 cups rolled oats, 1 teaspoon salt, 2 tablespoons brown sugar or molasses, 2 tablespoons melted lard or butter, 3 cups sifted flour. Pour 2 cups boiling water over oatmeal, cover and let stand over night. Dissolve yeast and sugar in ½ cup lukewarm milk, add shortening and add this to the oatmeal and water. Add 1 cup flour, or enough to make an ordinary sponge. Beat well. Cover and set aside to rise until light. Add enough flour to make a dough (about 3 cups), then salt and knead well. Place in greased bowl, cover and let rise in moderately warm place until double in bulk. Mold into loaves, fill well-greased cans half full, cover and let rise again about one hour. Bake 45 minutes in a hot oven.

THE HOME CIRCLE

MEAT AND PASTRY ROLLS.

Cold ham, chicken or other meat left over in quantities too small to use alone, makes a delicious article by chopping the meat fine and seasoning well. Then mix in enough butter or other fat to make it shape well. Form into rolls about the size of the finger and wrap around each a thin piece of dough made from a pint of flour, 2 tablespoons baking powder, salt and milk enough to mix. Bake the rolls in a hot oven until brown and serve hot.

Grape Juice—Its Household Manufacture

[Written for Pacific Rural Press by W. V. Cruess.]

Very attractive grape juice may be made with the ordinary equipment found in any kitchen, and this juice may be preserved in bottles indefinitely. The grape juice should have both an agreeable flavor and attractive color. Of the California varieties of grapes, the Muscat is about the only one possessing a very strong and distinctive flavor. It does not, however, possess the red color desirable in grape juice. By mixing the Muscat grape with any of the ordinary wine grapes, a blended juice containing flavor and color will be obtained.

1. Select ripe Muscat grapes of sound condition and good flavor. Mix these with an equal quantity of any variety of red wine grape, such as the Zinfandel, Petit Sirah, Alicante Bouschet, etc. The red wine grape chosen should not be very ripe but should be rather tart in taste so that the blended juice will have an agreeable acid taste. A good grape juice should not be too sweet.

2. Remove the grapes from the stems and crush with the hands or with a tomato crusher in a large aluminum or agateware pot. Equal quantities of the Muscat and the red wine grape should be used.

3. Place a pot over a slow fire and insert a dairy or other form of thermometer into the crushed grapes. Heat them very slowly with constant stirring until the dairy thermometer will register between 125 and 140 degrees Fahrenheit. Cover the pot and set aside for 24 hours. A dairy thermometer may be obtained through any drug store. The cost of the thermometer is not very great and one instrument will serve for several families.

4. After 24 hours' standing, press out the juice through a clean muslin bag or cheesecloth and strain the juice several times through a cloth to remove the coarse particles of pulp.

5. Place the juice in clean bottles and cork the bottles with corks which have been sterilized in boiling water for ten minutes. Tie the corks down with a string. If it is desirable to close the bottles with crown caps, such as are used for soda water bottles, a capping machine may be obtained through a drug store for about five or ten dollars.

6. Place the bottles on a false bottom in a wash boiler or in a large pot, the false bottom consisting of a wire screen or wooden grating, or simply a towel placed in the bottom of the pot. Cover the bottles completely with cold water. Heat the water over a slow fire to 175 or 180 degrees Fahrenheit. A thermometer can be inserted in the water to watch this temperature. As soon as the temperature is reached, set the pot on the back of the stove and keep the water at the above temperature for twenty minutes. Remove the bottles and dip the corks in melted sealing wax or paraffine to seal them.

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Good Health.

[By H. E. Pastor, M. D.]

Eat Berries in Season.

Of the seasonable berries, strawberries, perhaps, stand highest in popular favor. They are easy of digestion if in a proper state of ripeness, and where the gastro-intestinal tract is in a healthy condition. If there is intestinal disturbance of any kind, however, it is best to let them alone. Strawberries are particularly valuable for people suffering with gout. Indeed, the "strawberry cure" has had quite a vogue at different times at different places. (The berries contain a small amount of salicylic acid.) They are also indicated in diabetes and what is popularly known as hardening of the arteries, as they contain little sugar. Raspberries are a trifle less digestible than strawberries, due to the larger seeds, and for the same reason blackberries in their turn are even less digestible than raspberries. Both are astringent in their action on the bowels. All these berries have the common property of stimulating the appetite and contain valuable mineral salts.

Snake Bites and Kerosene.

Last year about this time we published in this column several remedies for venomous snake bites. Recently we ran across this paragraph in a medical publication, and it is reproduced for what it is worth, as we have no personal experience with the remedy recommended:

Dr. J. A. Davis of Dockery, Miss., says: "For ten years I did a country practice in the hills of this State where poisonous snakes abound in profusion. I was never called upon to treat a case, however, for the native had a sovereign remedy in his can of kerosene oil. Submerge the wound in the oil for two hours and he suffers very little inconvenience from his bite."

Dont's for Those with Heart Troubles.

The following good advice on this subject we take from the Medical Review of Reviews:

Don't take cold baths.
Don't lift heavy weights.
Don't hurry for a car.
Don't race up stairs.
Don't strain at stool.
Don't strain at attempting to empty the bladder completely.
Don't wear light clothing in cold weather.
Don't neglect bowel disturbances.
Don't neglect a cold or a cough.
Don't take strenuous exercise.

Coughing Controlled with Hot Water.

There are certain forms of coughing which need prompt attention, especially among consumptives and others chronically ailing. A simple and effective relief in these cases is hot water sipped slowly. It is better than many medicinal remedies which might impair the appetite and upset the stomach. Try this hot water, which should be almost boiling, when the paroxysms of coughing come on.

Feeding Baby in Summer.

The baby's dietary calls for more watchfulness in warm weather than in cool. He will not digest as much food during summer season as in the winter months. Feed him less. It is a pretty good rule to keep him a trifle hungry, for in this way you avoid much regurgitation of food, dyspepsia, diarrhoea and various forms of rash.

"TWILIGHT."

Soft and slow, soft and slow,
Fades the lingering light of day,
In the West the sunset glow
From the heavens dies away.
Little stars begin to gleam
As the light of day departs,
And we lie down in sleep to dream,
While peace fills all our troubled hearts.
—U. S. Alexander, Savannah, Ga.

CANNED VEGETABLES.

Canned corn, peas, beans and asparagus may show no signs of spoiling, and still when opened have a sour taste and a disagreeable odor. This trouble can be avoided if the canner will use fresh vegetables that have not been gathered more than five or six hours and will blanch, cold dip and pack one jar of product at a time and place each jar in the canner as it is packed. The first jars will not be affected by the extra cooking. Rapid cooling of these products prevents over-cooking, clarifies the liquid and preserves the shape and texture.

When peas are keeping well, but the liquid shows a cloudy or hazy appearance, it shows that the product was roughly handled in blanching and cold dipping or that split or broken peas were not removed before packing. When peas are too old and blanching is not carefully done, the skin becomes cracked and the liquid cloudy.

Corn seems the most difficult of all vegetables to can satisfactorily at home, although it can be done well if care is used in selecting the ear just between the milk and dough stage. Blanch not longer than five minutes, plunge into cold water, cut the corn from the cob with a sharp knife and pack at once in sterilized jars. Best results are obtained when two people cut and one fills. If one person must work alone, cut corn for one jar, pour on boiling water, add salt, place rubber and cap in position, and put the jar at once in the canner. Corn expands in cooking, so the jar should be scant full. Do not let corn remain in the cold dip and handle it rapidly after it has been dipped.

CARE OF THE SKIN.

No woman who has a good complexion or who dislikes to make a bad one worse should go on outing trips by machine or water without using a good face cream and then applying a coating of powder. In most cases this will prevent sunburn and thus add largely to the pleasure of the trip.

At the close of the day, when the skin feels feverish, beware of the use of water, but use instead a soothing, cleansing cream to remove dust and dirt.

CANNING EQUIPMENT.

Many people believe that in order to succeed by the cold-pack method of canning, it is necessary to have expensive outfits. This is not true. Wash boilers, lard cans, or other vessels with a tight cover and which can be fitted with a false bottom, can be successfully used in the canning of fruit, vegetables, soups and meat. The only advantage of the commercial devices is the saving of labor and time.

STRAWBERRY SUN PRESERVES.

Select firm, ripe berries; pick and preserve the same day. Hull and rinse. Place in a shallow platter in a single layer; sprinkle sugar over them; pour over them a very heavy syrup. Cover them with a glass pane and place in the hot sun 8 or 12 hours. Pack in glass jars or cups and seal with paraffine. Keep in a cool, dry place.

VISITS THE METROPOLIS.

"Dear Dad, t'day I went an' et
In city-bummer style—
An' say! That rag-time cabaret
Would make a fence-rail smile.

"Th' primy-donner's lofty fight
Made rural memories reel;
She had a form o' Chester-White,
With Poland-China squeal."
—J. H. Mackley.

COMBINED VEGETABLES.

Corn, tomato and string beans: Use one part of corn, 1 part of string beans and 3 parts tomatoes. Blanch fresh corn on the cob for 6 minutes and cold dip. Cut the corn from the cob, cutting from tip to butt. Prepare the string beans and cut into convenient lengths. Blanch them 4 minutes and cold dip. Blanch the tomatoes 1 to 3 minutes and cold dip. Remove the skin, core and cut into medium sized pieces. Mix the 3 vegetables thoroughly, adding 1 teaspoon of salt per quart, pack in jars, place rubber and cap in position and sterilize for 90 minutes in water bath outfit.

There are persons so radiant, so genial, so kind, so pleasure-bearing, that you instinctively feel in their presence that they do you good, whose coming into a room is like the bringing of a lamp there.—Henry Ward Beecher.

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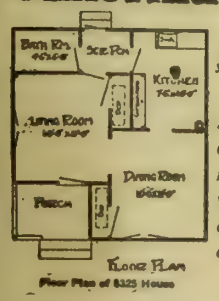

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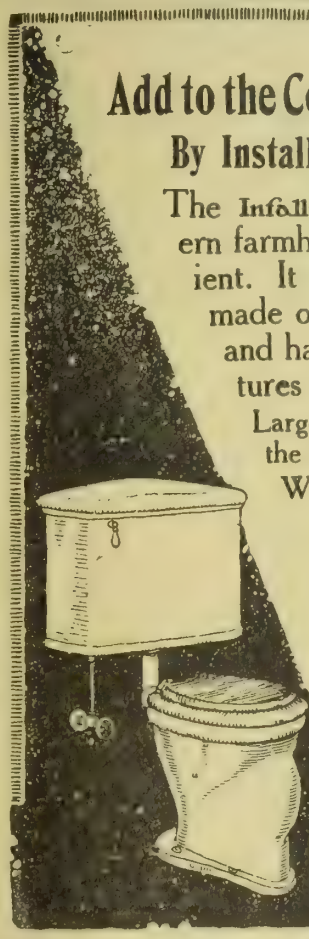

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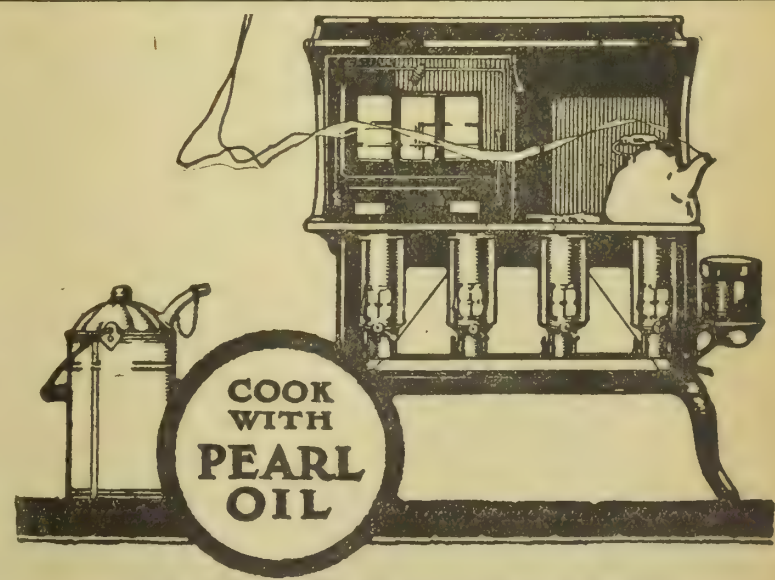

ECONOMY

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STANDARD OIL COMPANY
(California)

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, July 25, 1917.

WHEAT.

The market generally is firmer, but receipts continue light. Holders decline to ship except on orders. Some Sonora is offering, but little inquiry for it. The Eastern inflation of prices following the action of the United States Senate in fixing a minimum price of wheat has had but little influence in this market.

Sonora wheat .....$3.60@3.70
Northern Club .....None offered
California Club, per ctl.....None offered
Northern Bluestem .....$4.00@4.20
Northern Red ..... 3.75@4.20
Russian Red ..... 3.65@3.70

BARLEY.

Prices of futures have stiffened perceptibly, which has had an effect on the spot market. More inquiry has developed during the week and choice feed has advanced. The area in barley in the State was larger this season than usual and crop reports show heavy yield, in spite of adverse conditions. In the Sacramento Valley the yield is estimated to reach a total of 28,000,000 bushels.

Shipping, per ctl.....Nominal
Brewing .....Nominal
Choice Feed, per ctl.....$2.10@2.15

OATS.

No further declines have occurred, but values show considerable weakness at old quotations. Offerings few in number and stocks arriving do not show up well in quality. Most inquiries are for good, clean grain for seed purposes and it is hard to satisfy them.

White Feed, per ctl.....$2.25@2.35
Red Feed, per ctl..... 2.10@2.15

BEANS.

While, in the opinion of some dealers, the market is steadying down after declines of earlier part of the week, to others indications do not seem of a cheerful nature. No doubt the suspense caused by delay in final action at Washington on the food bill has completely disrupted the bean market, which is not likely to develop stability until after final passage of the bill. Excepting cranberries, horse, limas and red kidneys, all lines show lower quotations.

Bayos, per ctl.....$ 9.50@ 9.75
Blackeyes ..... 8.00@ 8.25
Cranberry beans ..... 11.50@12.00
Horse beans ..... 4.00@ 4.50
Small whites (south) ..... 14.00@14.75
Large whites ..... 14.00@14.75
Pinks ..... 9.50@ 9.75
Limas (south, recleaned) ..... 11.75@12.00
Red kidney ..... 13.50@14.50
Mexican reds ..... 10.00@10.25
Tepary beans .....None offered
Garbanzos ..... 6.00@6.25

CORN.

Better corn conditions, with needed rains, in the Middle West have stimulated the Eastern market again. Very little Eastern yellow is arriving. Holders of stocks have hardened in their views and a sharp advance in Eastern yellow has taken place. Some Australian has arrived, but no samples have been submitted on 'change. It is stated that the cargo of corn was consigned to one dealer, who absorbed it.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, per ctl., bulk...$3.80@3.90
California, sacked .....Nominal
Milo Maize .....None offered
Egyptian .....None offered

HAY.

Receipts of hay at San Francisco during the past week were 2291 tons, or a little less than receipts for week previous. This was far below expectations and below corresponding receipts last year. This is undoubtedly due in large part to a shortage of cars; even gondola cars are not procurable at all hay shipping points. Then, too, buying has been light in the country, as buyers and holders seem to have arrived at a permanent difference of opinion as to prices. Dealers claim that farmers are asking more in the country than hay can be sold for here. As a result a good deal of hay is being held in the country. Local trade reported light both in San Francisco and Oakland.

Wheat, No. 1.....$17.00@19.00
No. 2..... 15.00@17.00
Tame oats ..... 18.00@19.00
Wild oats ..... 13.00@16.00
Barley ..... 13.00@16.00
Alfalfa, new, first cut..... 13.00@16.00
Stock hay, new ..... 10.00@12.00
Straw, per bale.....Nominal

FEEDSTUFFS.

Cracked corn advanced $10 a ton, in sympathy with enhanced prices of whole grain, caused by shortage in available stocks. Transactions taking place are of such small caliber that they have little bearing on quotations. Rolled barley also gained in strength because the barley market stiffened. More interest is shown by buyers in meals than any other line of millstuffs.

(Per ton, San Francisco.)

Beet Pulp, per ton .....$38.00@40.00
Alfalfa meal, per ton..... 30.00@32.00
Bran, per ton ..... 36.00@38.00
Oilcake ..... 50.00@55.00
Coconut cake or meal..... 38.00@39.00
Cracked corn ..... 82.00@83.00
Middlings ..... 49.00@50.00
Rolled barley ..... 45.00@46.00
Tankage .....None offered
Rolled oats .....$53.00@54.00
Rice middlings .....None offered
Rice bran .....$30.00@33.00
Shorts ..... 43.00@45.00

POTATOES, ONIONS, ETC.

Asparagus has been very scarce during the week. Hubbard squash now in market, commanding good prices. River tomatoes have climbed in price since last week and are active. Potatoes coming in quite plentifully, and quotations are by no means rigid. A good deal of shipping to Eastern points is being done from the valley. Very little shipping of onions taking place. They are a drug on the market.

Asparagus, per box.....$1.50@2.00
Peas, per lb.....5@7c
String beans, per lb.....2@4c
Wax beans, per lb.....2@5c
Hubbard squash, per dozen.....40@65c
Summer squash, per box.....75c@$1.00
Cucumbers, per box.....50@75c
Celery, per lug.....Nominal
Tomatoes, per lug box.....75c@$1.00
Sacramento river .....$1.75@2.25
Potatoes, Salinas.....Cleaned up
Oregon .....None
New, per ctl.....$2.00@2.50
Sweets, per lb.....None offered
Onions, yellow, per sack.....75@90c
Reds .....75c@$1.00
Garlic, per lb.....2½@3½c

POULTRY.

Turkeys coming to market in better supply. Poultry is moving slower and lack of interest shown by buyers is quite noticeable. Hens in fair demand, but all other lines have developed weakness and unable to hold up to last week's values. No Eastern stocks have arrived to affect prices and the market will probably revive after vacations are over. Not much inquiry for Belgian hares.

Turkeys, live, per lb.....20@22c
do, dressed, large, per lb.....20@25c
Broilers, 1½ to 2 lbs.....24c
do, under 1 lb.....23c
do, 1¼ lbs.....25c
Fryers 26c
Hens, extra, per lb., colored.....20c
Small leghorn .....15@16c
Smooth young roosters, per lb. (3 lbs. and over) 28c
Old roosters, per lb.....12@13c
Geese, per lb.....12½c
Squabs, per doz.....$2.50@3.00
Ducks .....15@18c
Old 12½c
Belgian Hares (live) .....10@12c
do (dressed) .....12@14c

BUTTER.

Heavy Government buying is having a strong effect on butter market and prices are firm at advances. At the present there does not appear to be any valid reason why today's quotations should depreciate. The dairy produce member of the Food Control Board recently sent out letters to creameries of Northern California relating to present production of butter and out of 110 inquiries 88 replies were received showing production in that part of the State to be, for two weeks since the first day of July, 1,959,876 pounds, as against a production for the same period of 1916 of 1,970,782 pounds, thus indicating about the same production this year as last.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	39½	40	40	41	40½	40½
Prime firsts ...	38½	39½	39½	40½	40	40

EGGS.

Almost phenomenal advances took place during the week. Receipts have fallen off materially, as egg production has been seriously affected by prolonged intense heat of egg-producing districts. The weather also has been trying on shipments. Dealers here are of the opinion that present prices are entirely justified by the situation, accentuated by abnormal high prices of feed.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	33	34	35	35	37½	37
Extra 1sts.....	32	32	34½	34½	36½	36½
Extra pullets..	31	32½	34	34½	36	35½
Ex. 1sts pul...	30	31	31	34	34	34

CHEESE.

Some export demand is reported by dealers, but in small volume, not enough to account for better showing made by Young Americas on Wednesday. Flats hold their own, but are by no means in a strong position. Jacks continue downward and are being sold on the street in small lots at catch prices.

Y. A.'s 23½c
Fancy Calif. Flats, per lb.....20c
Monterey cheese .....8@18c

DECIDUOUS FRUITS.

Cantaloupes firmed up a little owing to the difficulty growers are having in getting them to market. Laborers are scarce in the fields; in some parts hardly responding to offers of $4 a day. In the Imperial Valley it is reported that even $8 a day has been offered, with few takers. Gravensteins are coming in fairly good quality, also Alexanders. Currants arriving are of such varied condition and quality that a surprising range of quotations is found. On all lines there is a good demand.

Apples, Gravenstein, per box.....$1.40@1.50
Pears, per box.....75c@$1.50
Cantaloupes, per crate .....$1.50@2.50
Currants, per chest ..... 5.00@8.00
Cherries, bulk, per lb.....4@7c
Royal Anne, per lb.....6@8c
Apricots, per box .....75c@$1.50
Peaches, per box .....50@75c
Figs, per box .....50c@$1.00
Plums, crates .....50c@$1.00
Watermelons, per crate $3.50
Grapes, Malaga .....$1.00@1.25

CITRUS FRUITS.

Valencias declined in interest and cheaper. It is not likely they will revive until the zenith of fresh fruits has passed. On the other hand, lemons have topped the peak of high prices held for several weeks, a tremendous demand coming from all hot districts.

Oranges:
Valencias, fancy $3.50
Valencias, choice 3.25
Lemons:
Fancy, per box $7.00
Choice $6.25
Standard .....$3.75@4.00
Lemonettes ..... 3.25@3.50
Grapefruit, fancy ..... 3.50@3.75

DRIED FRUITS.

Prices of all lines are in abeyance until it can be seen what portends for the future in way of export. The most important happening in the dried fruit market has been yesterday's establishment by the Association of base prices for peaches. See full details elsewhere.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop .....9@9½c
Apricots, per lb.....13@16c
Figs, black, 1916.....None
do, 1917.....5¾@ 6¼c
do, white, 1917.....6½@ 6¾c
Calimyrna, 1917 .....10 @11 c
Prunes, 4-size basis, 1917.....6 @ 6½c
Prunes, 1916 .....None
Pears .....8 @10 c
Peaches, 1917 .....8 @ 8½c

BERRIES.

Second crop of strawberries very late this year; it will be a couple of weeks before it comes into market in quantity. A fairly good demand exists for all varieties of berries and values remain steady.

Strawberries, Banners, chest....$9.00@10.00
Longworths ..... 8.00@ 9.00
Blackberries, per chest ..... 5.00@ 6.00
Raspberries, per chest ..... 7.00@ 9.00
Loganberries, per chest ..... 5.00@ 6.00
Gooseberries, per lb.....6@7c

HONEY.

Prices very firm on extracted and there is no comb honey in the market, as season is late. There will be a light crop of comb this year, as many apiarists have taken to extracting on account of economic reasons.

Comb—
White honey .....Nominal
Light amber .....Nominal
Amber .....Nominal
Extract—
White, per lb.....10@12c
Light amber, per lb.....9@10c
Amber .....8@10c

HOPS.

Excitement caused by favorable legislation at Washington forced a decided strengthening of market and quoted prices are firmly held. Figures given are for spot stocks, as there will be no new crop arriving before September. Many growers early in the season plowed up their vines and planted other crops, consequently the volume of new crop is hard to estimate.

Choice, baled, per lb.....12½@13c
Prime, baled, per lb.....10c

LOS ANGELES.

Los Angeles, July 24, 1917.

BUTTER.

Receipts of week ending July 24...343,310
Receipts of same week last year....296,550

There has been a sharp advance in this market the past week. A dropping off in receipts and holding up in the demand caused dealers on 'change to bid prices up in order to draw butter this way. The constant selling of cows the past six months on account of the high price of feed and the going out of business of a number of dairymen cut down the production, while the consumption holds up. Prices here are 15c higher than this time last year and higher than in New York.

We quote:

California extra creamery.....41½c
Prime first 40½c
First 39½c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	39½	40	40	40	41½	41½
1916—						
Extra	26	26	26	26	26	26

EGGS.

Receipts (railroads) for week ending July 24, 1917, 1673 cases.

Receipts (railroads) for week ending July 24, 1916, 2387 cases.

The market on 'change showed more life the past week than for some time. There was a marked falling off in the receipts. Prices here are now 10c higher than this time last year and higher than in New York.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	33½	34	36	36	38	38
Case count	33	33	35	35	37	37
Pullets	31	31½	33	33	34½	35
1916—						
Case count	28	28	28	28	28	28

POULTRY.

There was less doing in this market the past week. Receipts of young stuff were liberal, demand lighter and broilers lower. Fryers steady and in fair demand and hens continue to move very well at old prices.

We quote from growers:

Broilers, 1¼ to 2 lbs.....20@22c
Fryers, 2½ to 3 lbs.....22c
Hens over 4 lbs.....20c
Hens under 4 lbs.....13@14c
Ducks 15c
Geese 12c
Roosters, 3 lbs. up (soft bone).....25c
Turkeys, heavy, 12 lbs. and up.....29@30c
Turkeys, light .....24@25c
Squabs, live, per doz.....$4.50@5.00
Dressed ..... 4.50@5.50

FRUITS.

Receipts of all stone fruits were liberal during the past week and good stock met with fair demand. The tone of the market was weak under free offerings, still fair prices are being paid for such fruit as is acceptable. Apples coming more freely and lower; sales slow. Grapes in fair demand and steady. Peaches remain much the same as a week ago and best in fair demand. Plums of all kind in liberal supply and demand fair, aside from Satsuma and Burbank plums, which sold lower. Pears coming in freely and lower.

We quote from growers:

Apples, White Astrachan, per box....$1.50
do, Red Astrachan, per lug....$1.00@1.25
Peaches—
Freestone, local, per lug.....60c@$1.00
Fancy clings, per lug.....$1.00
Northern, per lb.....2½@3c
Figs—Black, 2-layer .....$1.75@2.00
Grapes—Malaga, per lb.....5@6c
Plums—
Burbank, per lug.....40@60c
Tragedy, per lug.....$1.00@1.25
Satsuma, per lug.....85@65c
Pears, per lb.....3@4c
Prunes, per lug.....$1.00@1.10

BERRIES.

Not many coming in and not many wanted. Fair demand at old prices.

We quote from growers:

Strawberries—
Fancy, per 30-basket crate....$1.10@1.20
Poor to choice, per 30-basket crate ..... .90@1.00
Blackberries, per 30-basket crate. 1.25@1.35
Raspberries, per 30-basket crate. 1.35@1.50
Loganberries, per 30-basket crate 1.20@1.30

MELONS.

There was but little doing in this market the past week. Not many shipped-in cantaloupes in and they generally overripe. Watermelons arrived less freely and sold higher. A few casabas arriving but selling slowly. Honeydew melons slow sale.

We quote from growers:

Cantaloupes—
Shipped-in, standard crates....$1.25@1.50
Honeydew melons, per box of 9 to 10 ..... 1.25@1.30
Casabas, per lb.....2½@3c
Watermelons, per cwt.....$1.50@1.75

VEGETABLES.

Not many changes in this market and they of minor importance. The most conspicuous was an advance in potatoes.

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., July 24, 1917.

Eastern sales this past week on all varieties of California fruits were especially good and demand unusually active, though shipments were as heavy as is usual during height of the deciduous season.

Competition from Georgia is considerably lessened and will be practically eliminated by end of the week, but we are liable to feel some competition from Texas, New Jersey, Delaware and Maryland. This will probably last for two weeks. The termination of these shipments will be closely followed by arrivals from Oklahoma, Ohio and New York State, where it is reported crops are fairly heavy. We anticipate a good market on all varieties of fruit for next thirty days, though it is not unlikely that a depression will appear in Bartlett pears commencing the latter part of this week, when heavy shipments from California will reach the East.

Bartlett pear shipments from California have increased daily from 19 to 100 cars and this heavy movement will continue for at least ten days, as extreme hot weather has forced Suisun and Placer County Bartletts to a degree that they are now moving with those from Sacramento River districts. The attitude of the canners has also forced growers to ship heavier than was their original intention, but the movement will be very heavy during the next few days in order to take care of the enormous load that is to move as the hot weather has unquestionably affected quality of the fruit, which in some districts is already beginning to show color.

There continues to be an active demand on plums, shipment of which will be somewhat lighter from now on and we anticipate a strong market throughout the season.

Malagas and Thompson Seedless are moving from the Imperial and Coachella Valleys and though the heat has affected the quality and in some cases has withered the grapes, there is little evidence of mildew, and the demand seems to be strong, judging from prices paid. A few Thompsons are moving from Fresno district, but it is not likely that Malagas will be ready before the 3rd of August. The extreme heat has affected the Tokays and Malagas but to very little degree, and if nothing occurs to cut down the crop, shipments will be heavier than ever known in the history of the state, but prices may be affected later, as Michigan and New York report prospects for a large crop.

One thing favorable to California sales is the fact that the Northwest is reported late on all varieties. Though there is a heavy crop of prunes in the Idaho district, this will not be ready to move before the 20th or 25th of August, and close to the first of September before peaches will move from Colorado.

The following prices have ruled for the week:

New York.—Tragedy plums, average, $1.20; Climax, $1.20; Burbank, $1.25; Santa Rosa, $1.45; Wickson, $1.90; Cal. Blue, $1.25; Bartlett pears, average, $3.55; Thompson grapes, $2.75; Malaga, $3.10; Hale peaches, 60c; Triumph, 60c; St. John, 90c.

Chicago.—Bartlett pears, average, $2.88; Hale peaches, 65c; St. John, 87c; Triumph, 65c; Thompson Seedless grapes, $2.30; Tragedy plums, average, $1.47; Wickson, $1.74; Burbank, $1.37; Cal. Blue, $1.30; Malaga grapes, $2.25.

Total shipments to July 24th, 3290 cars.

Total shipments same date, 1916, 4914 cars.

EGGS ADVANCE FIVE CENTS PER DOZEN IN WEEK.

Tuesday morning of this week eggs advanced in this market 2½c per dozen, making a 5c gain for the week, putting the fresh extra grade at 37½c a dozen, as compared with 28c on the same day a year ago. The advance was caused by a scarcity due to heavy shipments to northern markets and heavy local storage. As Los Angeles is paying 38c for eggs and New York quotes them at 43c and 44c for the same quality, the advance here seems necessary and may be maintained.

We quote from growers:

New potatoes, per cwt	$2.00@2.25
Peas, per lb	5@6c
Onions, Northern, per cwt	$1.10@1.20
String beans, wax, per lb	1½@2c
do, Kentucky Wonders, per lb	2c
Tomatoes, No. 1, local, per lug	75@90c
Summer squash, per lug	15@20c
Cucumbers, per box of 2½ to 3 dozen	15@20c
Green corn, per lug	30@45c
Cabbage, per 100 lbs	40@50c
Lima beans, per lb	6@8c
Okra, per lb	6@8c
Bell peppers, per lb	14@15c
Chile peppers, per lb	10@12c

BEANS.

The market brightened up a little the past week. Stocks are light and a fair demand was had for white and pink, but limas and blackeyes were dull.

We quote from growers:

Limas, per cwt	$11.00
Large white, per cwt	14.00
Small white, per cwt	14.00
Pinks, per cwt	9.50
Blackeyes, per cwt	8.00

HAY.

The market has brightened up a little since our last review. Receipts were somewhat better and so was the demand. The country was a very fair buyer of really choice hay, both grain and alfalfa. City buyers also inclined to take hold more willingly and prices were steady.

We quote f. o. b. Los Angeles:

Barley hay, ton	$19.00@21.00
Oat hay, ton	20.00@22.00
Alfalfa, northern, per ton	16.00@17.00
Alfalfa, local, ton	18.00@19.00
Straw, ton	9.00@10.00

HONEY AND BEESWAX.

Market continues quiet. Eastern buyers still holding back on account of high prices. Reports from San Diego and Riverside counties are that the crop of sage honey is very light. This would tend to keep prices up, but with the East out of the market dealers are buying cautiously.

We quote from growers:

Orange-water white	12@12½c
White sage	12@12½c
Light amber sage	10@10½c
Light amber alfalfa	9@10c
Beeswax	31c

Special Livestock Market Report

San Francisco, July 25, 1917.

CATTLE.—Cattle are in very plentiful supply and the market is weak, though not a great many well-finished cattle are arriving. Low-grade stock is hard to move. We quote as follows:

Grass Steers—	
No. 1 weighing 900@1200 lbs	8¾@9c
No. 1 weighing 1200@1400 lbs	8¾@9c
Second quality	8@8¼c
Thin undesirable	6½@7½c
Grass Cows and Heifers—	
No. 1	6¾c
Second quality	6¼@6½c
Undesirable	4@5½c
Hay-fed cattle ½c to ¾c higher.	
Bulls and Stags—	
Good	5¾c
Fair	5¼c
Thin	4@5c
Calves—	
Lightweight	9¼@9½c
Medium	8¼@8½c
Heavy	7¼@7½c

HOGS.—The receipts of hogs are light and getting scarcer. The supply nearly meets demands, however, as warm weather restricts consumption. There is little deviation from our prices of last week. We quote:

Hard, grain-fed, 100@150	13@13¼c
Hard, grain-fed, 150@300	14¼c
Hard, grain-fed, 300@400	13½@13¾c

SHEEP.—Shipments of sheep are light—indeed, the scarcity is more notable than last week. Lambs, however, are in very good supply. There is a slight shading down in prices. Quotations follow:

Lambs—	
Yearling	11½@12c
Milk	11½@12c
Sheep—	
Unshorn wethers	10@10½c
Unshorn ewes	8@8½c

WOOL.—There is little activity in the California wool market. Some sales of lambs' wool were made the past week around Bakersfield at 40@41c. In the northern part of the State some scattered business is done in lambs' wool on about a 50c basis. For California spring wool, 1917, prices ruling are:

Southern San Joaquin	40@45c
Middle Counties	50@52c
Red Bluff	50@52c
Northern	50@55c
Mendocino and Humboldt	55@60c

Los Angeles, July 24, 1917.

CATTLE.—More offering and the tone of the market the past week showed weakness. The high price of feed makes many feeders more anxious to sell and while prices are not quotably lower, killers are having less trouble in getting what they want at quotations. California continues to furnish most of the supply.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt.	8.00@9.00

HOGS.—Receipts the past week were fair in numbers but mostly made up of half fat and half grown hogs, choice well finished hogs being scarce. While prices were not quotably lower during the week, the tendency of the market was downward. The light demand for pork caused packers to kill but few hogs.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs	$12.00@12.50
Mixed, 200@250 lbs	13.50@14.50
Light, 175@200 lbs	13.50@14.50

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP.—This market continues as firm as ever. Killers, while not wanting many, are having trouble in getting what few needed. California and Arizona furnishing what few coming in. Feeders encouraged by high price of wool are persuaded to let go only a few at a time.

Prime wethers	$9.00@10.50
Prime ewes	9.50@10.00
Yearlings	10.50@11.00
Lambs	13.00@14.00

North Portland, Ore., July 23, 1917.

Market opened with liberal supply of beef steers, light on cows and heifers and prices generally lower. Sheep were lower and hogs higher.

CATTLE.—While several loads of prime quality steers notched the 9 cent mark and another load at $8.65, it took a very good grade of steers to get better than an 8c bid. Medium and off-grade steers were in for the biggest declines again, which amounted to 50 and 75 cents. A number of loads of good cows brought $6.50, with fairly good grades going around $6.00. Medium half-fat dairy cows brought from $5.00 to $5.50. Common stuff is moving from $3.00 to $4.50. Heifers brought from $4.00 to $6.75; bulls and stags ranged from $5.00 to $6.50. Prices steady.

SHEEP.—After last week steadily declining market in both the sheep and lamb divisions, which amounted to about $1.00 per cwt., it got off bad again today. Yearlings sold from $8.00 to $8.50, while good wethers brought from $7.50 to $8.00. Good light ewes are bringing around 7 cents, with no sale for heavy stuff at hardly any price.

HOGS.—With a small supply of hogs in the pens this morning and buyers numerous, sellers had an easy time of it. Prices were forced 15 to 25 cents higher than a week ago. One load of good hogs brought $15.60 with the bulk of the fairly good ones going at $15.40 and $15.60. Pigs sold from $13.00 to $13.50 in small bunches to killers.

Special Citrus Market Report

Los Angeles, July 24, 1917.

The market the past week was without feature. The receipts on the eastern markets were hardly so heavy as the week before and prices generally ruled much the same as last week. Demand fair for all good highly colored oranges of popular sizes. Locally the market remains as quiet as ever. Oranges 1½@2c per pound in the grove for Valencias. Grapefruit very draggy. What moving bringing 1½@2c per pound in the grove, picked. Lemons as well as oranges dull. Fancy stock meeting with fair demand, but all other hard to move. Packers paying 2@3c per pound in the grove, picked for the best fruit.

AUCTION SALES.

New York, July 23.—Thirty-five cars of oranges and four cars of lemons sold. Market strong on oranges, but unchanged on lemons. Valencias averaged $1.80@$4.90. Lemons averaged $3.15@$4.25.

Boston, July 23.—Eighteen cars sold. Market doing better on oranges. Unchanged on lemons. Valencias averaged $1.75@$3.80. Lemons averaged, $3.35@$5.80.

Philadelphia, July 23.—Twelve cars sold. Market unchanged on good color and quality Valencias. Lower on off-color, poor stock. Lemon market strong. Valencias averaged $1.60@$3.85. Lemons averaged $2.35@$4.10.

STATE TO MARKET CROPS THIS YEAR.

The announcement is made from Sacramento that the State Market Commission is preparing to help market the surplus crops this year. A central marketing organization is to be established in each county, to be supervised by the County Defense Council. Farmers will be instructed to ship products to these agencies and distributing companies will sell them. Potatoes are mentioned as one of the principal crops to be handled.

California Peach Growers' Price List No. 10

The California Peach Growers' organization issued from its head office at Fresno, July 23d, the 1917 opening price list, for this year's dried peach crop. The prices quoted are subject to advance without notice, and are f. o. b. factories, California common shipping points, and shipments at their option during August, September and first half of October. All orders subject to approval of variety, assortment and quantity and confirmation. In the price list the Association says:

"We will not supply Fancy Muirs to exceed 10 per cent of any order hereafter specified.

	Yellows.	Muirs.
Standard Unpeeled Peaches	7¾c	7⅞c
Choice " "	8⅛c	8½c
Fancy " "	8¾c	9½c
Ex. Fancy " "	9 c	9¾c
Slabs " "	7¼c	7¼c

For Recleaned Peaches, add ⅝c to above prices.
Blue Ribbon Peaches (practically peeled), 11¼c.
The above prices are bulk basis.

For 50-lb. Bxs., unfaced, add	¾c per lb.
" 50 " " faced, "	⅞c per lb.
" 25 " " unfaced, "	⅞c per lb.
" 25 " " faced, "	1 c per lb.
" 10 " " unfaced, "	1⅜c per lb.
" 10 " " faced, "	1⅝c per lb.
" 5 " " unfaced, "	2¾c per lb.
" 5 " " faced, "	3 c per lb.

For Graded Peaches, original, bags, add 1⅛c to the bulk basis prices.

Blue Ribbon (practically peeled), No. 12 pkg., 50 to cs	$4.75 per Cs.
" " " " 2 lb. cartons, 20 to cs	$5.30 per Cs.
" " " " 5 lb. cartons, 10 to cs	$6.50 per Cs.
Choice Recleaned Peaches, 2 lb. cartons, 20 to cs	$4.35 per Cs.
" " " 5 lb. cartons, 10 to cs	$5.30 per Cs.
Choice Unpeeled Peaches, 2 lb. cartons, 20 to cs	$4.10 per Cs.
" " " 5 lb. cartons, 10 to cs	$5.00 per Cs.

We guarantee the above prices, to the domestic trade, against our own decline to December 31st, 1917.

Following the policy of this company to eliminate speculation in dried peaches, we will confirm orders only to the established and recognized jobbing trade."

On the next day, July 24, an advance was made in bulk prices as follows: Standards (Yellows and Muirs), ¼c; and ⅛c in Yellows and Muirs for choice, fancy and extra fancy. Slabs remain as before. An advance of 15c per case was made in Blue Ribbon packages, and 5c per case on choice recleaned and unpeeled packages.

Publisher's Department.

Our editor, Prof. Wickson, has plenty of work to do these days. Not only has he the regular work on the Rural Press to accomplish, but also the great task of revising and enlarging the fourth edition of "California Vegetables." This book we hope to have ready early in September.

For lack of space this department was omitted last week. However, the new subscribers were added to our list at the usual rate, and this week we have made another big gain. Last week we added 314 and this week 330 new paid subscriptions to the list. The Rural Press circulation is now in excess of 27,000 copies and the 28,000 mark will be passed before September 1st.

Farm Concrete.—By K. J. T. Ekblaw, published by the Macmillan Co., 66 Fifth Ave., New York, price $1.60. This new book tells what cement is, how manufactured and the best ways of using. Most of the 300 pages of the book are taken up in telling how cement may be used to advantage on the farm, discussing foundations and walls, use in buildings and roads, fence posts, tanks, troughs and cisterns. Its use in bridges, silos, drain tile, etc. To one who expects to handle cement the book is well worth the price. It is well illustrated and bound in cloth.

Classified Advertisements

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

MISCELLANEOUS.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero st., San Francisco.

SECOND-HAND WATER PIPE and Screw Casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. Shecter Pipe Works, 306-8 Howard st., San Francisco.

TO FRUIT GROWERS.—New simple process for crystallizing figs and all other fruits. Instructions, terms, on application. Correspondence with fruit growers solicited. Monteith & Company, Santa Rosa, Cal.

AT LAST THE PERFECT SILO — THE Star Round; no hoops; no bolts; no experiments. Anyone can erect. Close price. Address D. O. Lively, 215 Hobart Bld., San Francisco.

FOR SALE—Milking machine;; two-cow unit; automatic vacuum and natural air pressure type; in first-class condition. Address G. D. Dougherty, 33 S. Stone ave., La Grange, Ill.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smith's Cash Store, 106 Clay st., San Francisco.

FOR SALE—17x22 Steel Beauty Hay Press, with self-feed attachment; splendid condition. A. G. Hazzard, R. F. D. 1, Denair.

WANTED—Second-hand farm tractor engine, capable of doing heavy work. Address P. O. Box 101, Atascadero, Cal.

WANTED TO BUY—CANARIES—1 Coolidge Place, off Jackson, San Francisco.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

WANTED—Position as manager, or foreman with opportunity of advancement. Horticulturist, deciduous fruits, pears specialty; also nursery practices. Experienced from clearing of land to the marketing of fruit. Exceptional references as to progressiveness and ability. Box 700, Rural Press.

WANTED—Practical farmer to act as working foreman for Coast ranch, about 450 acres, 120 acres tillable—balance range. Married man preferred. Write, stating experience and wages required. Box 710, Pacific Rural Press.

FIRST-CLASS DAIRYMAN and general agriculturist wishes to take ranch (with stock and implements) on half shares. Box 690, Pacific Rural Press.

WANTED—Young American to milk Holsteins on yearly test; good wages and accommodation. Toyon Farm Association. Harry Lilly, Los Altos.

COUNTRY LANDS.

HUMBOLDT STOCK RANCHES—Dairy land. C. E. Robertson, 105 Montgomery street, San Francisco, or Fortuna, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

80 ACRES FOR SALE—Dairy or truck. A postal will bring you full information. O. H. Greene, Fallon, Nevada.

WANTED—To rent, a grain and stock ranch. Box 182, Vina, Cal.

SEEDS, PLANTS AND TREES.

FOR SALE—Seed potatoes, White Rose and American Wonder, grown at Yucaipa; not affected by heat and ready to grow; perfectly clean, fumigated and sprayed. Address E. E. Chinn, Yucaipa, Cal.

WE BUY WEED SEEDS—Mustard, rape, anise, bitter clover, etc.; send samples; write us stating quantity and price. Globe Mills, Los Angeles.

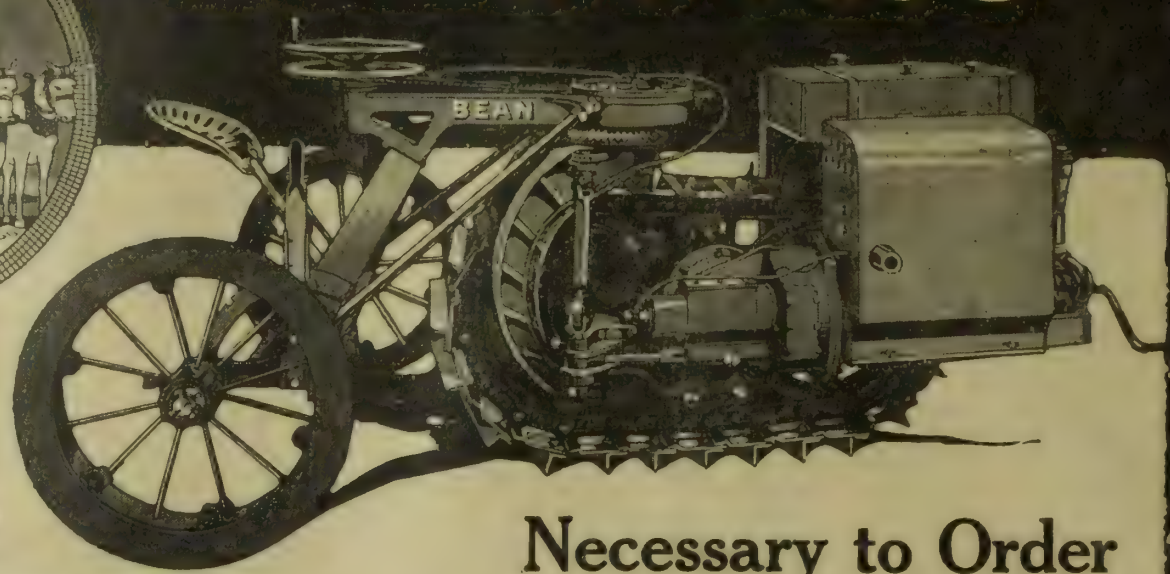
SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar Sts., Oakland, Cal.

AVOCADO SEEDLINGS in flats; write for prices. Newberry-Sherlock, R. D. 2, Pasadena, Cal.

ALFALFA LAND
20 Acres and up planted in Alfalfa for dairying; also first-class Orchard Land.
Brentwood Irrigated Farms
In Contra Costa County—63 Miles from San Francisco
Easy terms of payment. For prices, etc., address
BALFOUR, GUTHRIE & CO., Land Department, 350 California St., San Francisco

HIDES SHEEP SKINS GOAT SKINS FURS
ARE WORTH MONEY NOWADAYS.
Get best results by shipping to the long-established, reliable house of
W. B. SUMNER & CO., 220 Townsend St., San Francisco

—Tractors Save



$1150
F.O.B. San Jose
Now

Necessary to Order Tractor Now—Don't Wait

Steel and other materials are hard to get and are costing more all the time. No matter when you need your tractor you should order now for future delivery at present prices; $1150 now buys the lowest-priced tractor of tracklaying type, suitable for orchard and vineyard work. Big crops count today and quick plowing or cultivation at just the right time brings big crops. You want to be ready.

Note These Features

1. Pulls instead of pushes itself over the ground.
2. Can be "gee-ed" and "haw-ed" out of holes and soft places like a team.
3. Has full-power pull on turns as well as on the straight-away.
4. Turns clear around in a 10-foot circle (5-foot radius).
5. Plows or harrows as close up in the corners of fields as a team.
6. Plows as close to vines and trees as a team.
7. Makes little difference how far off center you hitch.
8. Goes under branches of trees no team can get under.
9. Runs stationary machinery up to 10-h.p. when not plowing.
10. Weighs less and costs less to run than wheel-type tractors of same power.
11. Pays for itself in what it saves.
12. Light weight on long track surface.
13. Cultivates 10 to 15 acres in 10 hours.
14. Plows from 4 to 7 acres in 10 hours.
15. Little power required to pull tractor—power all goes to pull.

Bean TrackPULL Tractor

Patented Front Drive Principle

There is a great advantage in the front-drive principle of the Bean TrackPULL Tractor. The Tractor steers with the track that pulls. It gets good traction and yet is so light in weight that little power is required to move it—the power goes into the pull. When you steer it you swing the entire front end around just as you swing a team. If you are of average strength you can swing the entire front end either to left or right at right angles with one hand. If you hit a soft spot you just swing her over a little to right or left and keep on going.

Weighs 3100 Pounds

Its light weight distributed over long traction puts the Bean TrackPULL in a class by itself as a cultivating tractor. It packs the soil less than a man's shoe when he walks. Farmers and growers have come to recognize the folly of rolling down their land with a large, cumbersome outfit which works with difficulty over newly-plowed land and packs the soil unduly.

Why Try to Get Along Without This Great Little Producer?

It will save you money by saving you the cost of man labor. It will not eat up one-third of what it helps to produce as horses do. It will not be affected by heat or insects. It will cultivate deep in hot weather. It will cost nothing to maintain when it is idle. You can use its belt power to run your stationary machinery. When the opportunity comes to rent an extra piece of land and by quick work put in an extra crop or two, you can work your tractor night and day, if necessary, and turn a handsome profit.

Remember that the Bean TrackPULL Tractor is owned and made by the manufacturers of the famous Bean Sprayers which have proved through years of service to be the staunchest machines of this kind ever built. You can depend on the Bean Spray Pump Co.'s Tractor the same as you can depend on its sprayer.

Mail Coupon for Book

Don't take chances if you want to be sure of getting a tractor this year. A lack of materials later may cut down the supply of these tractors or cause an advance in prices. Send the coupon today for full information about the remarkable Bean TrackPULL Tractor. Then decide if you want one and put in your order for delivery now or later. Price NOW $1150. Get the fully descriptive, illustrated book.

Great for Orchards and Vineyards

Bean Spray Pump Co.
211 W. Julian St.
San Jose, Cal.

In the Orchard

The Bean TrackPULL is at home in the orchard. It is built very low, never damages branches or knocks off the fruit—turns accurately and short and pulls the same load on turns as on straightaway. It makes very little difference how far off center you hitch on the drawbar and for this reason it is easy to plow or cultivate close to the trees. Trees do not have to be pruned at a greater height than 4 feet when you work with a TrackPULL Tractor. Fruit can be grown closer to the ground and therefore the yield will be greater.

In the Vineyard

There never has been another tractor that will work like the Bean TrackPULL Tractor in vineyards. It will work right up to vines without breaking off the young shoots. It can be turned as accurately and in as small a space as a two-horse team. Vineyardists appreciate this close work and this short turning ability.

Bean Spray Pump Co.
211 W. Julian St.,
San Jose, California.

Please send me your Tractor Book with full information about the Bean TrackPULL Tractor.

Name .....

Street .....

City .....

County ..... State .....

Vol. XCIV—No. 5 Forty-seventh Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO AUGUST 4, 1917 LOS ANGELES

State Library

Rice Growing: Water's Highest Patriotic Service

[Written for Pacific Rural Press.]

IN OUR last issue this writer alluded to water as the greatest of all the plant-foods, both because it gave its own substance to form the chief part of the plant and because it is only through the action of water that any of the materials usually called "fertilizers" or "plant-foods" can gain access to plant tissues. There is nothing new about the fact or such thought of it. They perhaps arose in the mind of Adam when he carried the first irrigation water out from the Tigris river and poured it upon the thirsty plains of Mesopotamia. They were surely scientifically demonstrated by the first man who dreamed of plant chemistry and physiology. And from those early times until now mankind has grown in the conviction, and in the practical application of it to human sustenance, because he could so clearly see that without some form of water there could be no plant. And this is true everywhere. It is true in the middle of a desert and in the middle of the ocean. It is probably true also in the middle of heaven—for did not the great Revelator thereof behold "a river of water of life clear as crystal * * * and on either side of the river was there the tree of life which bore twelve manner of fruits and yielded her fruit every month"? Surely man's highest conception of beneficence has always been the duty of water to mankind, for from time immemorial in his thought the reward for the man who has been god-like and righteous on earth will be to dwell forever with the God of Righteousness in an irrigated heaven — evergreen and continuous in production. It has always been man's way of declaring that water is the greatest thing on earth!

RICE HARVESTING IN THE SACRAMENTO VALLEY.
Upper view represents the grain in the shock: the lower the steam thresher and separator with blower attachment for handling the straw, etc.

The Rice Plant Secures the Greatest Duty from Water.

Of course, different people could argue endlessly of the claims of various plants to pre-eminence in embodying for mankind the greatest beneficence of water, and it is a common fact that mankind has always fought most fiercely over conflicting claims of greatest goodness for the race. We are quite content that for the present that conflict should remain in Europe. But claims for different plants are still individually interesting and important. We have data for such a claim in some notes kindly furnished us by M. E. Layne of Los Angeles, who, in connection with learning the field of public service for his system of drawing irrigating water from wells, as outfitted by the Layne & Bowler Corporation, has been making a special investigation of the relation of the rice-plant to human welfare. Mr. Layne's studies, from which we shall draw freely for this statement, have led him to a greater appreciation of rice than he conceived before, though he has long contributed to the upbuilding of the great new rice regions of this country by his system of development and utilization of great quantities of subterranean water. He believes that in such development and use of natural underflows lies the greatest undeveloped work confronting the engineering and agricultural world.

Why is rice man's most dependable source of food supply? Because it is adapted to wet and warm climates. While those portions of California in which it is produced could never be called wet climates, the water for its growth is supplied by the streams and deep wells. Rice is correctly called "water wheat," for when it is two or three inches high water must be applied, and the fields kept flooded or very wet until the crop is matured. To illustrate the importance and volume of rice irrigation water, the city of Memphis is about nineteen square miles in area, with an estimated population of 175,000, and consumes 12,000,000 gallons of water daily; the same area planted in rice would require 121,600,000 gallons daily—approximately ten times the present city demand. Thus it is clear that efficient hydraulic engineering is a more important factor in rice production than in city water supplies, and must figure in solving Californias' rice problem.

Rice is the most dependable and hardiest cereal (except against frost) and can be produced where other cereals die. It will make money for more inexperienced growers, and is handled more easily, than any other California crop. It will grow on marshy land, but does better on rich, well-drained land, properly irrigated, with the rice grower in control of the water supply and drainage. Hot sun and rain nourish the rice plant, but it will exist without rain in its early stages longer, as well as stand more grief in storm periods, than any other food product; also, its production is more nearly under man's control. With a good seed-bed, fertile seed, and water properly applied, a heavy yield is assured.

California in American Rice Growing.

The history of American rice culture dates back to 1694, when a vessel bound for Liverpool from Madagascar, blown out of her course and in need of repairs, put into Charleston. The captain gave Landgrave Thomas Smith a small quantity of rice, which was used for seed. From this beginning enough was soon grown to provide the needs of the colony. Early in the following century production gradually increased until, in 1770, the harvest amounted to 1,672,500 bushels. The Civil War practically destroyed the industry, but it gradually revived. As time went on, States farther West and South took up rice culture, with the result that the Carolinas were soon left behind, due to the fact that these new States imported and propagated a new seed, used better methods of cultivation, more dependable irrigation, and improved machinery. California tackled rice production in her usual enthusiastic manner, and results have been remarkable. From an experimental stage in 1912, production in 1913 was 293,000 bushels, in 1915 2,268,000 bushels, and in 1916 4,543,000 bushels. Area under cultivation grew from a small beginning in 1912 to 6,000 acres in 1913, 34,000 in 1915, and 67,758 in 1916. This year it is around 100,000 acres, situated in Butte, Colusa, Yuba, Merced, Kern and adjoining counties in the Sacramento and San Joaquin Valleys.

Government reports give the yield per acre as follows: South Caro-

(Continued on page 107.)

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D. L. SCHRADER - - Subscription Manager
R. E. HODGES - - - Assistant Editor
L. H. STORGAARD - - - - Livestock

EDITORIALS

WHAT SHOULD FARMERS DO ABOUT LABOR?

WE REMARKED incidentally last week that it is now just the time for the farmers to set the public right about their absolute need for an adequate supply of competent and dependable farm labor if they are to discharge their patriotic duty toward the winning of a war for human freedom—the end of which is continually being pushed farther into indefinitude. Our readers seem to share this conviction of ours, for by letters and personal calls they are pressing us to make a declaration of what they should do. It is a rational demand and fortunately in this matter we do not have to resort to the common doctorial recourse of prescribing bread pills and rest cures because we are baffled in diagnosis. We know what the trouble is and we are perfectly sure about the first step in satisfactory treatment. Uncle Sam has an acute attack of farmlaboritis and is seriously incapacitated from putting on producing-weight enough to qualify him for service in the international law and liberty army into which he has been drafted. He has been prayed over by a lot of healers and heelers who try to make us believe there is nothing the matter with him: he has been shot full of socialistic antitoxins by a lot of humanitarian quacks and he needs first to have his system thoroughly cleared of all the fallacies about farm production which have been administered during the last three months and needs then to be placed upon a generous diet of sound reason and facts as they are. In this way alone can Uncle Sam be brought up to the fighting-weight in food production which his allies have declared to be his fitness.

A WELTER OF IRRELEVANCE.

WHEN UNCLE SAM raised his arm to strike for a vast increase in food production, which all his allies declared was his first duty, he had a pain in his shoulder and could swing neither free nor far, as such patriotic duty required. Then it was that false diagnosis and wrong treatments began, and they were due in the main to a misconception of the situation by academic and political doctors. They failed to appreciate the true character of a war emergency. When the producers of great special products declared that they had no adequate supply of the right kind of help to multiply trainloads and shiploads of war munitions in the food line, there arose a hue and cry that there was a great potential labor supply and that the time had come to win it back from city to country, if the farmers would make rural conditions for it wholesome and attractive. It was a true cry in its way and worth hearing for a few decades to come, just as it has been for a few decades which have passed, but it had no more relation to the war emergency than speculation about the latter end of a man has to do with getting his motor out of a mudhole. However, there arose in the public ear a great, sweet noise about the renovation of the farmer and about uplifting him until he should reach the social level of the unemployed. It was a lofty, beneficent idea and the common people flew to it like flies to a jam pot; so hovering the situation that, beneath the shimmer and sparkle of their irridescent wings, few could discern that the war demand for more food was an emergency to be wrestled with and not an opportunity to be fondled. There was the opportunity for politicians to fondle organized voters: for the academicians to fondle sociological ideals: for the malcontents to fondle all their pampered wrongs. And thus the situation fell into a welter of irrelevance, for none of their conceptions of advantage to the public and to themselves had any but the most remote and theoretical relation to the national emergency and the farmers' duty—which was to increase this country's food munitions of war with such land as they had and what money and machinery they could get and with labor, experienced, competent and qualified, physically and technically, that they required to come through with foodstuffs to full capacity. And thus, instead of a national rallying behind the farmer to help him with his burden, we have had during the last three months a riot of irrelevance, with just such outcome as any reasonable man might have foreseen—to wit: a demonstration that all projected substitutes for real farm labor are incompetent and immaterial to the attainment of the result which was clearly in view at the beginning.

THE FARMER ALONE KNOWS HIS OWN NEEDS.

IT IS PITIFULLY demonstrative of the farmers' failure in their duty to themselves, as citizens and chief producers of the nation's wealth, that they alone of all population-groups are popularly held to be lacking in knowledge and judgment of their own rights and requirements. Every other group under a contemplated public service demand is respectfully invited to state its attitude thereto before the demand is finally formulated. If there should be an apparent need that restaurant breakfasts be served at six-thirty instead of seven, the Arcanum of Amalgamated Dish Washers is requested to state whether it can conveniently pry its eyes open at that hour. If the public finds it impossible to load or unload a box-car in a day, the Interstate Commerce Commission summons the Affiliated Railway Presidents to state what effect a change in the loading rules for freight cars would probably have upon the price of a beefsteak on an overland dining car. The farmer is the only man not worth consulting about his own business requirements, and if he volunteers an opinion it is promptly scouted. He is the only industrial man who is not consulted in a diagnosis of his public duty: he is the only one who is kicked in the back and given a prescription!

And yet it is perfectly clear that in such a complicated business as crop production, dealing as it does with the forces of nature and several branches of the science of economics, can only be even partially understood in its practical operations by a man who has had experience therein and only such a one can intelligently prescribe the conditions which are essential to an undertaking of increased acreage in cropping, sustenance of multiplied animals, etc. No matter how important are the suggestions of the scientist for employing natural forces or of the economist for handling financial and commercial factors, there always is, and always will be, the indispensable service of the actual land-handler—without which larger things cannot come through. And it clearly devolves upon the farmer to make known what are the requirements of the service because he alone can definitely understand what those requirements are.

WHAT THEN SHOULD THE FARMERS DO?

IN VIEW of the demonstration of the inadequacy and incompetence of the several sources or agencies which have been so noisily urged as substitutes for capable and qualified farm labor, we believe it is now time for the employers of such labor to make known their needs and desires. There is a chance that they may now be heard more respectfully and with more effect than two or three months ago. The main offensive of the politicians, laborites and sympathetic sociological theorists has broken down: it is the moment for a counter-attack. The substitutes which they have offered for qualified and experienced farm labor have shown physical and metaphysical incompetence and the promoters thereof have shown that they cannot deliver any estimable quantity even of a supply proven to be incompetent. The situation is right for a rout of all who have woven entanglements in the pathway toward the increased production which the country needs for war purposes. The question is: does the country really need vastly increased production of foods? If not—if it is only an academic view of a need—then an academic view of supplying the need has served its purpose and its failure is a great success—from a research viewpoint. Let the theorists write the solution in their books. But if the country is really to win the war with great surplus food production and if such volumes will be more needed next year than this, as we are freely told by patriotic prophets, then it is now the time to proceed seriously to find out how much competent labor the farmers will need to score in such production and where it can be best brought from. As it is the farmer's duty to make such production, it is also his duty to make publicly clear without delay what he needs to do it with.

Such evidence as seems to us calculated to command interest and support will consist of definite statements by farmers of their recent experience with the labor supply, including definitions of the kinds of men they need and the kinds they do not desire: descriptions and estimates of what they have actually lost because they had no help or improper help: estimates of the numbers of workers they need and what they can afford to expend for wages and maintenance of laborers of specified qualifications when the products secured through them are of recent average yield and price: estimates of what increased number of such qualified laborers they must have if they undertake to farm such additional acreage as they have available. They should state definitely what they can furnish for the housing and board of such laborers and should not hesitate to state that laborers must take the farm as they find it and that they cannot employ men who are not ready to do this or to provide their own improvements if they desire them. If there is a clear understanding along this line, it will help both employers and employed to decide whether they can get in or stay out of this proposition to largely increase products. For it should be remembered that this is an emergency proposition and must be worked out largely under emergency conditions. This is one fact which has not been sufficiently realized. The dear people who have had so much to say about helping the farmers to increase production have never seemed to realize that they were running a crusade for farm improvement which would be a grand thing under ordinary conditions but which was altogether out of place in meeting an emergency, because instead of coping with the emergency it created another—which doubled the difficulty.

HOW CAN THE FARMERS DO IT?

FARMERS can do what now seems essential to enable them to roll up an unprecedented production in 1918, and they alone can do it. They can do it by rallying to the support of their own organizations of every kind and name and they can urge and inspire such organizations to undertake investigation and declaration of the facts about the labor demand and supply in every line of agricultural production and in every district where any such is being pursued. In this State we have local branches of at least two national farming societies. We have State associations or affiliations in at least a dozen lines of field, fruit and animal industry. We have scores of local branches of each of these State associations. Probably we have not less than ten thousand individual producers who are in some business way connected with some deliberative and legislative body of California farmers. They have power enough to make their voices heard and they have megaphones of organization which will make something of a roar in the public ear if individuals who have conviction on this matter will turn on the wind. Have they the initiative to do it? That is the only question we see in the whole matter which is of importance. If that gets an affirmative answer, the way seems open

to some accomplishment. But of course roaring in the public ear is not an end in itself: it is merely an intimation to the public to sit up and take notice that the farming industry can speak for itself and, of course, it must have something to say—and before it can say anything it must have the facts to make known. What these facts are, or at least the kind of them, is indicated in the preceding paragraph. No one can supply them but the farmers themselves, and no one can set them forth authoritatively and influentially but they.

OFF AGAIN: ON AGAIN: GONE AGAIN.

ANOTHER week has flown and left the food administration bill still incubating in the nest of the Senate-House conference committee. As we write on Tuesday, it seems likely that the no-whiskey and the two-dollar-wheat eggs will hatch, but the practical-farmer-associate-for-Mr.-Hoover egg has been flopped out. It was a close squeak for that paragraph we printed last week. It only illustrates the fact that if anything about farm work is to live overnight in political contemplation it has to be born early. The thought of it gave several Senators and ourselves a chance to make remarks which will read well in rural communities and the doing of it will bother nobody, if today's telegraphic forecast speaks truly. And this is the way it will always be until the great agricultural interest has a forceful representative with a great constituency behind him. This is, of course, no reflection on the able men who are in the governmental service for agriculture. There needs to be a great man who will line up the industry in support of them and of every other real farming proposition that arises. It must be a man who is strong in his backing, diplomatic in his manner, soft in voice and footfall and able to fire a 70-centimeter shell out of a popgun. He must be near the Government and yet not of it. And that reminds that our admirable friend Samuel Gompers has found that slot again. For do we not read at this moment that the President, wearying of the personal conflicts among his great war boards, has appointed a war council of five who will settle this kaiser business with no one else looking in? And we read also that one of them is a great general and another a great admiral and the third a great federated laboring man and two others whose greatness is not described to us, but neither of them is suspected of being the "practical farmer" who fell out of the proposed Hoover connection. And thus it will probably ever be until agriculture has a man in Washington smart enough to cut a slot on the other side of the White House door!

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Close Figuring on a Pig Proposition.

To the Editor: I have a three-acre piece of ground that I have been using for hay ground and for a horse and cow to roam on. What would be the best thing to plant it to—alfalfa for hogs or put it into vines for wine grapes? I have been here nearly three years and have not made a dollar off the place. I started in with chickens, but feed got so high that I am only keeping a few. About how many brood sows could I keep on that amount of ground along with the young until they are marketable? Would it be best to cut the alfalfa and feed it to them in pens along with beets and skim milk, or let the sows run on the alfalfa? I am very anxious to get the place on a basis that I can make a living. How often would the alfalfa have to be flooded? I have a good well, but it might require too much water.—Subscriber, Livermore.

You can keep a lot of hogs on three acres if you have feed from other acreage for them, but it might be doubtful if you could keep one sow and two litters on three acres if they are to feed all the year on what you can grow on three acres? That would depend on what the land would produce, and it would produce in pig feed, if fairly good land, in proportion to the amount of water you could economically pump for it. You would get much more feed from the same area by cutting and carrying to the hogs, but it would cost you considerable time or money for the labor. You are in doubt whether you have water for irrigation. You cannot get full growing service from alfalfa unless you can put on at least 20 acre-inches of water—say 3½ inches depth of water after every cutting, of which you might get six. With the rainfall of your section you would get perhaps about two. You have a very close proposition unless you have a good deal of skim milk to make use of. One cow's distillate and rainfall will not keep one sow and two litters on what you can grow on three acres of land, unless the land is mighty good and you are a very intensive sort of a chap. If you have what is counted good wine grape land in your section, you will not find much rainfall pork on it. As for the outlook for wine grapes, we cannot see over the threshold of it.

Sulphuring and Suckering Vines.

To the Editor: I believe that sulphuring for mildew ought to have been done in the spring, but I only succeeded in finding a man to do it for me last week and he says it is now too late. I finished suckering my best grapes just before these very hot days and my man says I have done more harm than good, as the hot sun will burn the vines because by taking off the suckers I have left the grapes too much exposed. He also tells me to sulphur in August. There is no mildew as yet. Some vines have a very heavy crop of grapes, but a great many vines have not a single grape on them. Some of these latter I stripped of their leafage. Did I do right and shall I sulphur in August?—Beginner, Santa Cruz.

As you see no mildew yet, you have not lost anything this year by not sulphuring last spring. You have saved your labor and sulphur. Whether that is always safe in your district you must learn by ascertaining the experience of older growers. The time to sulphur in all places is just before the mildew is to be expected, and that is determined by local observation. If you are liable to a late attack of mildew, August sulphuring is proper. Your man therefore may have given you good advice, but you should consult others to determine that fact. He is right that you may have uncovered your grapes too much. Suckering should be done early in the season while the suckers are still soft—removing later suckers as soon as seen. Did you defoliate the non-bearing vines as a punishment or to weaken them and thus induce fruiting? It is not a good way because of the danger of burning the canes. It is better to prune such vines longer and leave more shoots on which to turn their too great vigor to account.

Killing Morning Glory.

To the Editor: I have been trying to kill out some small patches of wild morning glory in my orchard by removing a few inches of soil and covering with building paper that has been treated with asphaltum and replacing the soil on the paper. I find, after irrigating, the paper softens and allows the shoots to come through. Is this method practicable where paper is used that will not permit it to pass through? Will it die out if a weed-cutter is passed over it, say, once a week? Does it do much injury to an orchard where allowed to grow?—J. S. D., Exeter.

A number of experiments have been made with such paper as you describe and the trouble seems to be to keep the paper working long enough to do its job. Even where the land is not irrigated and the paper softened as you describe, it is practically impossible to keep the cover so perfect that the shoots will not find apertures in or between the edges of the paper as laid down. If you can really break the connection between the roots and the light for sufficient time, the roots will die. No one has yet succeeded in doing that with paper, so far as we have heard. Running a weed-cutter a few inches under the surface so frequently that a shoot never gets to the light will kill the plant in one or two seasons. Morning glory is a positive detriment to the success of any other crop. It is undesirable everywhere except, perhaps, in a permanent pig pasture. It uses up moisture and probably prevents free root extension and action of other plants.

Apricot Bearing Habit and Root Demands.

To the Editor: Here in my orchard stand side by side Royal apricots and Alameda Hemskirke, both on Myrobalan root and both getting good care, but no irrigation. The former always bears well, though not making much new growth; the latter bears only a few cots but making wood. Everybody claims here that the Alameda Hemskirke is always a shy bearer, but on a neighboring place stands an Alameda Hemskirke between the bluegrass lawn and a driveway, without cultivation but pruned, that has every year a big crop of fine fruit. Some French prunes on Myrobalan, right in the solid yard, also look fine and thrifty, with plentiful crops, but in the orchard they are inclined to wilt in July. The subsoil two feet down is a stiff clay. What do you think is the reason?—A. Mos, San Jose.

In the first place, the Hemskirke is a shy bearer as compared with the Royal, which bears better under all conditions. Second, the former seems to be better fitted for bearing by the moisture it gets by under-running the lawn and therefore does better in that hard place than it does in the softer and drier soil in the orchard. Third, it accepts the harder place gratefully because the myrobalan root likes a tight place if it can get moisture enough. Fourth, in the orchard it needs more rainfall or a good winter irrigation, and perhaps it needs one summer irrigation to postpone distress and keep good growth to the end of the summer.

Cutting Pears for Drying.

To the Editor: I wish to know the right way to dry Bartlett pears. Do they quarter them or halve them, and should they be quite ripe? Also, do they sulphur them same as peaches?—E. J. N., Cloverdale.

They are cut in halves lengthwise. Possibly some extra large pears are quartered lengthwise, but halving makes the top commercial product. The fruit should be ripe but not overripe. There are probably no better dried Bartletts than those made in your contiguous county of Lake. Their best product is made from fruit picked at proper maturity and ripened for about ten days in boxes stacked in the shade or carefully placed in strawed bins for the same purpose. The cut fruit is sulphured as peaches are but with a longer exposure; some remain for 48 hours in a sulphur hood under which four or five pounds of sulphur to 22 trays is burned; a second charge of sulphur being burned at the end of 24 hours. This is heavier sulphuring than is commonly done, but the product is passing beautiful.

Peach or Plum.

To the Editor: Can peaches be grafted or budded on plum root? If so, is there any particular variety, or can they be grafted on any kind of plum? The soil is gravelly.—J. C. S., Ontario.

Peaches can be both budded and grafted on plum root and this is done to considerable extent in Europe, but long experience in California shows that it is not desirable under our conditions because both the peach and almond seedling keep pace better with the free growth of the peach in this State, and our commercial peach orchards are not on plum root. Perhaps you could do very well on a dooryard tree, if that is your proposition, but the plum is not the root for a gravelly soil. The plum prefers something finer and tighter. But even where the plum is used as a root for the peach, one of the free-growing plums supports the tree longer. If you have a brittle-wooded plum like a Damson, it will take the peach better than a hardwood plum like the French prune or the myrobalan.

A Debilitated Plum Tree.

To the Editor: I send leaves from a plum tree in my yard. Nearly half of the leaves are curled up like these I send. What is the matter with the tree? It has no fruit on it this year. What can I use and how can I spray it—if that is what is needed?—E. M. H., East Oakland.

The leaves carry no pest nor disease. They are simply curling for lack of sap supply. This may be due to extreme dryness of the soil or to girdling or loss of roots by a gopher. The only medicine the tree needs is manure and water.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., July 31, 1917:

Stations—	Rainfall Data. Past Week.	Seasonal To Date.	Normal To Date.	Temperature. Max'm.	Min'm.
Eureka	...	....	.11	68	18
Red Bluff	...	....	..	104	60
Sacramento	...	....	..	98	54
San Francisco	...	....	.01	72	50
San Jose	...	....	..	86	48
Fresno	...	....	..	102	62
San Luis Obispo	.01	.01	.01	84	52
Los Angeles	...	....	..	86	61
San Diego	...	....	..	78	64

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

NAVEL OFF-BLOOM DANGEROUS.

Blooming of navels now or any time this season would be little short of disastrous, is the opinion of Director H. J. Webber of the Citrus Experiment Station at Riverside. He would discourage all efforts to produce a late bloom. It would set so late that the crop would interfere with the normal setting and growth of the 1919 crop. Such late fruit is almost invariably unsalable. Dr. Webber believes growers will be better off with no late bloom, but if such should come he would let the fruit grow normally all winter. Unless due to lack of this season's regular crop or other conditions, the fruit should appear in spring to be of high quality, he would pick it off late in January before it could interfere with the normal spring bloom. Whether such interference would damage the trees and the following crop enough to offset the possible high prices even for inferior fruit due to the scarcity, is a question for each to decide.

LATE PEACH IRRIGATION.

"I think everybody ought to irrigate peaches after the crop is off unless the ground is already moist near the surface," says J. C. Rorden of Fresno county. Ditch water here generally gives out in July, so Mr. Rorden put in a pumping plant last year for fall irrigation. As everybody has a good crop this year, due partly, perhaps, to early fall rains last year, the benefit of his pumping plant was not great. But there is a chance of using too much water. We found several growers who pointed to the decline of an orchard formerly famous for heavy bearing, remarking that the pump was kept going too much and the cultivator too little.

RIPENING THE STANDARD PRUNE.

To the Editor: As the time will soon be around again when the new Burbank standard prune will be coloring its fruits, I wish to say that, according to my observation, this variety colors the fruit very early and quick to a deep blue all over, but it is not ripe then and not fit to be tasted. It takes some three weeks more time (more or less) to arrive at full maturity. I dried mine last year without dipping and they were very satisfactory.—Wm. Pfeffer, San Jose.

[This is a very suggestive observation.—Editor.]

$154.10 FROM ONE-QUARTER ACRE.

It might be interesting to friends and readers of the Pacific Rural Press to know what we can do near Riverbank, Cal., in raising strawberries. With the famous Magoon strawberry on one-quarter of an acre, and with one-year-old plants, I raised and marketed 114 crates, 20 baskets to the crate, 15 pounds to the crate, gross weight 1,710 pounds. The total receipts were $154.10. They were raised on sandy loam soil.—John Wellerton, Oakdale.

DANGEROUS CITRUS FERTILIZERS.

People should be careful about picking up cull oranges and lemons with their bare hands in places where commercial fertilizers have been applied. Several extremely bad cases of poisoning and eczema have occurred in San Bernardino county lately, caused by working in soil recently fertilized with prepared fertilizers. One man put his hands into the soil to examine the moisture. It took seven or eight weeks for his hands to heal up.

Most Citrus Scale Killed by Heat

[Written for Pacific Rural Press.]

This season is an unprecedented opportunity to kill the highest percentage of scale in Southern California citrus orchards, according to Dr. H. J. Quayle of the Citrus Experiment Station at Riverside. On account of the hot wave in June, which killed most of the eggs young and even adults in Riverside and San Bernardino counties, the next generation will be more evenly developed than usual and can be fumigated at the right time to kill a very large per cent of them. Since there is also plenty of cyanide it seems far cheaper to clean out the scale this year than it will be again.

HEAT EFFECTS BY DISTRICTS.

There was a great difference in the percentage of kill due to the heat in different localities. Around Rialto, according to Horticultural Inspector S. J. Bolser, all scale eggs under the shells and all young scale were killed. Only where foliage was thick and the insects inside the trees were any survivors. These were in or just out of the rubbery stage and will reinfest the orchards unless properly fumigated. As there has been no hatch since the hot spell, the next generation will be evenly developed for fumigation six or eight weeks later than usual.

The kill around Rialto was most complete where the hot wind blew through the northern mountain passes on two of the three days of the hot spell.

In the Riverside, Corona, Redlands and Highlands districts some orchards will not need fumigation, believes Prof. Quayle; though occasional individuals of all stages are alive in many orchards and should be treated. From Ontario and Upland westward fumigation will be needed, while near the coast not enough were killed to make any difference in treatment. Dryness in connection with the heat seems to have been the killing agent. The slaughter was greatest on neglected trees and all others of thin foliage. Grape fruit protected the insects most, lemons least, other conditions being equal.

VARIETIES OF SCALE MOST HURT.

Black scale is universal except in the Tulare district. This breed is least resistant to heat, and three-fourths of the fumigation is ordinarily directed against it. Those in the adult stage are most resistant, according to Prof. Quayle, but some of them have escaped the heat in most districts. One Rialto grower had a heavy infestation of yellow scale last spring on one-third of a 20-acre piece, but Mr. Bolser has been unable to find a live one since the hot spell. The citricola and black scale also were very plentiful in that district. Red, yellow and citricola varieties in the other districts fared about equally. Cottony cushion scale seem to thrive on heat, but they are scarce any way.

Packs Her Own Raisins

[Written for Pacific Rural Press.]

By packing only such raisins as she would herself eat, Mrs. Lillian Powers of San Diego county has built up a demand for her brand that every year quickly cleans up the 20 tons she usually gets from 18 acres of muscats 12 years and older.

She and Mr. Powers began a dozen years ago to pack their own crop. She didn't face them much, but put a uniform pack all through. She visited a commission man in Los Angeles, showed him what she was doing, and convinced him that people would come back for more. He introduced the brand and has had no trouble disposing of the raisins. Not only this, but for a good many years Mrs. Powers has bought up grapes to pack under her own brand. It is the honest pack that counts with consumers, along with the lack of irrigation and the sunny climate, which make them heavy and sweet. No ribbons are needed to make them attractive.

While quality depends first on the care given the vineyard, which in this case is all of the approved sort, it finally depends on the picking and packing.

CAREFUL PICKING.

Pickers are paid by the day; for they would get too careless if paid by piece work. A lot of grapes would be stripped off where the bunches cluster tightly; bunches would be thrown to the trays; green grapes would be picked. None of this careless work is allowed. Grapes are real yellow, semi-transparent when picked, and contain over 21 per cent of sugar. The bunches are cut off with knives and laid on trays whose ends rest on vines so they slope steeply toward the sun. Where they slide down too much they are replaced after wilting. When nearly dry the large, compact bunches are laid aside to dry more. Often to save trays, when raisins are nearly dry, those on one are dumped onto those on another tray by lifting the trayful quickly and jerking the tray out from under so the raisins look as if laid there by hand.

NO SWEAT BOXES.

All packing is done from the trays; no sweat boxes are used. They are put up in 50-pound boxes, which seems to indicate that sweating is not entirely necessary. Dumping them into sweat boxes makes one more handling, shatters some, and they are pulled to pieces more or less in packing from the sweat boxes.

Last year was a hard one to dry raisins, but Mrs. Powers lost but little. They were in the stacks when rain came, and remained there during the three weeks of cloudy weather that followed. Meanwhile the big bunches were picked out and stacked by themselves. When the sun came out the big bunches were dried some more, but the rest were ready to pack.

Smudged 100 Acres of Almonds

[Written for Pacific Rural Press.]

It is none too soon to be investigating the possibilities of preventing loss of almond, apricot and other deciduous fruit crops by frost. After deciding, it will be necessary to build oil storage and order oil and pots early.

"I smudged my almonds last spring during bud and bloom, but never again until the nuts are set," says J. C. Burdon. "It is a great cost without corresponding benefit. It has a great tendency to prevent pollenization by bees or otherwise; and I believe we never lose our crop in the bud from frost. Ninety per cent of the ordinary blossoms could be frosted and still have a crop if the rest were well pollenized."

Mr. Burdon has 300 acres of bearing almonds in Butte county. Last spring he smudged in 100 acres, having equipped that much after studying the proposition from all angles the previous summer.

He tested various sized frost pots and found that big ones raised the temperature at considerable cost in oil, whereas he only wanted to hold the temperature at or just above freezing point. So he put in a 5-quart smudge pot for every tree on the hundred acres and will equip the other two hundred acres before frost may harm again.

He spent some time last summer in a laboratory with chemists, testing various oils. He chose a "gas oil" of 28 degrees gravity and containing only 5 per cent asphaltum. Other people used oil with about 14 per cent asphaltum, but they soon saw that the less asphaltum in the oil the less soot was made and the cleaner it burned out of the pots. Mr. Burdon lit his pots 14 times last spring and they were reasonably clean at the end. The oil he used was handled much easier, too, which is important in storing it at the end of the season.

It was easy to hold the temperature with this equipment, as Mr. Burdon held it with one-third of the pots lighted, while temperature outside the orchard dropped seven or eight degrees. The amount of oil burned with his pots was regulated only by their size and the proportion lit. He noted that the total cost of smudging one 20-acre piece three hours was $30.00. No direct effect of the smudging on leaves or flowers was noticed—no oily deposit nor leaf tips burned.

The oil was stored in a concrete underground tank at the edge of one of the orchards. It was pumped into a 300-gallon tank wagon to be distributed. After frosts were over the pots were emptied into this tank wagon and set on boards along its side and in a box behind, so pots and oil were hauled in at the same time. Two men with a team gathered and stored the oil and cans from 20 acres in a day.

Trees in BLASTED soil bear better

Fruit growers have proved—by planting some trees in blasted beds and others in ordinary ground—that trees planted after the use of explosives root deeper, grow faster and better—that they are thriftier in every way, bear earlier, and yield larger crops.

They have proved also that when the soil of established orchards is properly blasted the trees immediately take on new vigor and bear better fruit thereafter. Orchardists know that this condition is due to the increased moisture-storage capacity induced by blasting and to the consequent release of plant food from the subsoil.

Fruit growers in every Pacific Coast State have used tons of

GIANT FARM POWDERS
STUMPING — AGRICULTURAL

for planting trees and deep-tilling their orchards. These powders are made in two brands, Eureka Stumping Powder and Giant Stumping Powder, and are prepared especially for farm work. prepared especially for farm and orchard work. They are more effective and do their

Eureka Stumping Powder pulverizes the soil instead of caking and packing or throwing it high in the air. This is the action that is wanted in stump and soil work, and the action that the so-called "high strength" dynamites will not give. When you use Eureka Stumping Powder the finished job costs you less money.

Giant Stumping Powder, which is also used for subsoil blasting, is the most efficient explosive for many other kinds of farm work, including blasting dead trees or stumps in wet soil.

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By *using* the Giant Farm Powders you can demonstrate their superiority for tree planting and orchard tillage. Fill out the trial order blank in the coupon to the right. We will have our nearest distributor supply you—at lowest market price—with a 25- or 50-pound case of either of the Giant Farm Powders. Test this in comparison with any dynamite. The results will show you why fruit growers in every section insist upon having the Giant Farm Powders for orchard tillage work.

Giant Farm Powders and other Giant blasting supplies are sold by distributors everywhere. Your own dealer has them or can get them for you. If he offers you a substitute, write us and we will see that you are supplied with the genuine. Giant Powder is the trade name of explosives manufactured by The Giant Powder Co., Con. Because Giant Powders are best known everywhere, many have assumed that all high explosives are Giant Powders. Insist upon having the genuine.

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"Trees planted in blasted holes, even in fertile soil, do far better and are hardier than those planted in dug holes. The powder sent us by the Giant Powder Company is the most satisfactory I have had."
JOHN ZURR, Santa Rosa.

"If I were planting trees even in light soil I should prepare all the holes with powder. Trees so planted make extraordinary growth."
FRANK FEMMONS, Oakhurst.

"We advocate the use of explosives for loosening up compact soils and hardpan in tree planting, knowing the value of such work."
FANCHER CREEK NURSERIES, Fresno.

"Trees should have a deep soil. Even where there are continuous depths of dense strata, and not shallow hardpan underlaid by free soils, trees can often be successfully grown by the use of high explosives."
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"Where labor is high priced blasting proves the cheapest as well as the best way to prepare ground for tree planting. If properly proportioned the charge will throw out sufficient earth to plant the tree without further digging. It has often been found that the loosening begun by the powder has extended through the mass of land so as to permit the roots to utilize it fully and even to permit of the planting of field crops where formerly they would not succeed."
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A Decade of Onion and Potato Prices

[Written for the Pacific Rural Press by Dean T. Forsyth Hunt of the University of California.]

Prices are much like the weather. Even the oldest inhabitant is likely to forget what they have been. Enclosed are two tables showing the price of potatoes and ripe onions at the beginning of each month during the previous ten years, together with the prices for the present year by way of comparison. These tables were prepared for my own information, but having obtained them they seemed to me so interesting that you might like to publish them, since they were derived from the Pacific Rural Press. I do not desire to draw conclusions. The tables will have different lessons, depending largely upon the pre-conceived notions and habits of mind of the individual reader.

It is, however, important to understand how these figures were obtained. They are the quotations found in the first issue of the Pacific Rural Press for each month of each year. Both the high price and the low price are given. This does not prove that some time during the month higher or lower prices may not have been paid, but that these were the quotations during the first week of each month.

During the ten years preceding the present year potatoes have sold at least as low as 65 cents per cental every month in at least some one year.

In December, January and April prices in San Francisco have reached as low as 30 cents per hundred at some time during the past ten years.

In like manner potatoes have been as high as $2.00 per hundred in every month in some year.

Likewise onions have been at least as low as 60 cents per cental in every month at least once and have been as high as $2.00 in every month in some year during that period.

The outstanding fact with regard to these two vegetables is the wide fluctuation in the same market at any particular date, due doubtless in large part to the quality of the commodity offered for sale.

ONIONS.
Average San Francisco Market Prices First Week of Each Month, 1907-1916.

Month	Average Low Per Ctl.	Average High Per Ctl.	Actual Low Per Ctl.	Actual High Per Ctl.
January	$1.14	$1.37	$0.40	$2.60
February	1.64	1.93	.50	3.50
March	1.73	2.02	.50	3.40
April	2.03	2.80	.50	4.00
May	2.00	2.83	.50	5.00
June	1.22	1.90	.60	3.75
July	1.24	1.65	.25	4.25
August	.98	1.14	.35	2.60
September	.84	.97	.40	2.50
October	.84	.98	.40	2.00
November	1.08	1.19	.40	3.00
December	1.19	1.42	.25	3.25

POTATOES.
Average San Francisco Market Prices First Week of Each Month, 1907-1916.

Month	Average Low Per Ctl.	Average High Per Ctl.	Actual Low Per Ctl.	Actual High Per Ctl.
January	$0.84	$1.64	$0.30	$2.00
February	1.08	1.82	.40	2.35
March	1.01	1.84	.35	2.35
April	1.12	1.85	.30	2.75
May	1.20	3.15	.50	5.50
June	1.13	2.41	.40	3.50
July	1.07	1.75	.65	2.80
August	.78	1.43	.40	2.50
September	.81	1.42	.50	2.35
October	.85	1.69	.45	2.35
November	.92	1.74	.40	2.75
December	.93	1.75	.30	2.75

Restoring a Worn Out Ranch

[Written for Pacific Rural Press.]

When P. M. Anderson bought his 21-acre farm on the hill tops in Humboldt county early in 1916, he was not considered a very good judge of land values. But he had noticed the colossal waste of manure by his dairying neighbors of the lowland, and he had seen farming in Denmark. In the spring of 1917 he had some remarkable demonstrations of how to bring back a soil that had been skinned of its fertility. There was yet a good bit of the unimproved soil in various fields which showed what the farm had been before. One field which the writer saw had a thin, short stand of oats and orchard grass that would do well to yield two tons of hay per acre. Along one side of this was a strip perhaps 20 feet wide running up and down the hill where the oats and orchard grass were hip high and promising seven or eight tons per acre. This field had been seeded and harrowed last fall. A tank with a faucet on behind had then been filled with the liquid manure from Mr. Anderson's stable and hauled up and down that side to distribute the manure. The field was then harrowed.

Another field still higher had in 1916 grown a very thin crop of alsike clover, orchard grass and perennial rye grass. He thought it needed more seed. There was a mat of dandelions over most of this when seen by the writer just after cutting the crop in 1917. But two spots showed a distinct difference. Liquid from the barn had been applied to one-fourth acre. On this the weeds were much less noticeable, and the stand of grasses seemed far better. The crop cut had been much heavier than from the rest. The orchard grass got rather coarse. Clover did not seem improved, but rather choked out. On a little spot about 15 feet across, not manured, a bucket of lime sweepings from the whitewashing of the henhouse was applied. Here the clover got far ahead of the grass and weeds both, the stubble showing a very marked line where dandelions had been choked out by luxuriant clover growth.

The upper third of another field was manured in the spring of 1916 with part of the 300 loads Mr. Anderson has hauled an average of four miles from the lowland dairies. From the manured third he took six cuttings of oats and vetch in 1916. From the lower two-thirds he got practically nothing. Last spring, when seen by the writer, the upper third had a thick stand of oats over knee-high, while the rest had a thin stand half knee-high except in a few spots where manure had been piled previously. A noticeably tall, dark green spot had been some of the poorest producing soil until a sled load of manure was put on it.

DISPOSITION OF APPLE CROP.

It is estimated, from a recent investigation made by the Bureau of Crop Estimates, United States Department of Agriculture, that nearly 56 per cent of the apple crop is sold from farm or orchard, 10 per cent is used in the manufacture of cider, 19 per cent is consumed on the farm for food purposes, and the remaining 15 per cent is wasted or eaten by livestock.

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A SPORTSMAN often has to travel a long distance nowadays to get a shot at big game.

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are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

LET OUR FERTILIZER DEPARTMENT HELP YOU SOLVE THE PROBLEM OF BIGGER AND BETTER CROPS.

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PURE ANIMAL MATTER AMMONIATES
GOLD BEAR
FERTILIZERS
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Field and Garden Suggestions

[Written for Pacific Rural Press.]

GETTING ONIONS STARTED RIGHT.

Out of at least two years' experience raising a small field of onions, J. A. Harvey of Butte county gives the following directions for seed-planting: Get seed as early as possible and be ready to plant them by September 15. Italian Reds sell better here than Weathersfields, which are smaller and not so sweet. Have the seed bed prepared about ten days before planting. Spade up a level bed of sandy soil with manure on it; put a border around it and flood. Leave it ten days for weeds to sprout; then spade and rake it down, leaving borders clear across every five feet, big enough to support you while you weed the onions later. Broadcast one and a half pounds of seed evenly in the checks. Two pounds made the plants too thick. Flood and then scatter as nearly as possible one-quarter inch of well-rotted manure over the seed as a cover and to prevent baking of the soil. Keep on flooding before the ground dries out until the first rains. Heavy flooding will not hurt after they are up. They will grow during the winter and should be transplanted to the field when the size of one's little finger late in December or early in January.

KILLING LUPINES AND MORNING GLORY.

To the Editor: As a reader of your paper I noticed your advice on morning glory destruction. Perhaps my experience with it may help others. When, a few years ago, I settled on a two-acre tract near Los Altos, there were small patches of both it and the large lupine on the land. When hoeing and digging them proved ineffectual, I resorted to the experiment of removing a handful of earth around the plant, then pulling up as much of the root as would come and pouring into the cavity a tablespoonful or two of kerosene oil. I have succeeded in clearing my two acres of the pests. Someone told me recently that I might have used a salt and water solution instead of oil with same result.—J. J. Nagel, Los Altos.

[We would expect either oil or salt to kill lupines which have a central or tap root; but if morning glory has had a chance to run, such application would not catch up with it. It would have to be treated very soon after coming from the seed.—Editor.]

A VEGETABLE MILK.

A press dispatch from Boston appeared recently in the daily press conveying a bit of curious information of special interest to dairymen, assuming it is true. Milk from soy beans, which cannot be distinguished from cows' milk by taste or by chemical analysis, is wholly practical, asserts Dr. Aero Itano, of the Massachusetts Agricultural College at Amherst. Dr. Itano, who is a native of Japan and studied at European universities before coming to the United States, says that the soy bean is identical with cows' milk in composition. In Manchuria soy bean milk is in general use. Dr. Itano has improved upon the Manchurian process so that the slight bean flavor has been wholly eliminated. Soy bean milk can be produced at low cost, and Dr. Itano believes it can be made to yield butter and other products.

QUICK CONSTRUCTION OF DITCHES.

The V-shaped ditcher will be found almost indispensable for quick and economical work in quick preparation of ditches. With the aid of an experienced land leveler we recently constructed over three-quarters of a mile of ditch, large enough to carry the water from a six-inch pump, in a day and a half and except for a half day's work for one man with a shovel cleaning out and strengthening corners, the entire ditch was constructed with the V and a twelve-inch walking plow. Sighting stakes were set at both ends of the field on a line where the outside banks of the ditch were to be located. A furrow was plowed out on these lines, which were six feet apart, and the V was run directly behind the plow, with the point in the furrow, the latter operation moving the loose dirt out of the furrow and forming the bottom of the ditch bank.

Two, and in some cases three, rounds with the plow were necessary to loosen all of the dirt and enough rounds were made inside of the ditch with the ditcher to entirely clean the bottom of loose dirt. After completing the inside the V was used to bank up from the outsides, strengthening the bank and raising it with loose dirt when desirable.

WHY NOT FOR CALIFORNIA?

The Government experiment farm of Florida is growing large acreages of the cheyote plant, which is promising big returns.

The cheyote is of the cucumber family, but, like a hop vine, lives from year to year, only the top dying. One plant will climb and cover the whole side of a small house in one season. In places four vines have been known to cover a whole acre. One vine is capable of putting out 300 fruits in one season. Being solid fruit, resembling squash and eaten like a potato, each fruit weighs from one-half to three-fourths of a pound, and will keep indefinitely.

The vine starts coming up the last of May and in September blossoms, and October and November the fruit is ready for harvest. The cheyote plant needs lots of moisture.—Mrs. H. Gillman, Ontario.

CO-OPERATIVE SEED BUYING.

Some $5,000 worth of seed have been bought co-operatively each of the past four or five years by the Humboldt County Dairymen's Association, according to F. J. Cummings. These include, principally, clover, vetch, ryegrass, oats, barley, beets and carrots. Members leave their orders with the secretary of the association, who in fall and spring calls for bids. Bidders come from Los Angeles and Portland and points between. Both Portland and Los Angeles seedsmen have been successful bidders, but most contracts are let to local parties. Grades, kinds and quantities of seed are specified when calling for bids.

PLANT SUDAN HAY NOW!

Help your country tide over the hay famine—and make some easy money *yourself* in doing it. Sudan grass is a wonder plant—grows like a weed in any soil. Produces eight to ten tons of sweet, nutritious hay per acre each season. Keenly relished by all types of stock. Thrives best during warm season. Crop matures in 50 to 60 days. Hay prices are soaring—plant Sudan now! Our big, free illustrated folder by return mail.

Special Prices

Single pounds (enough for 50x50 feet)—36 cents.
10-lb. lots (will plant half an acre, sown broadcast)—34 cents per lb.
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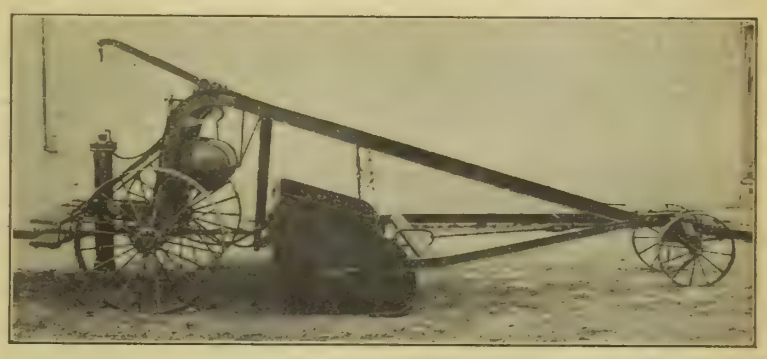

Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

THIRD ANNUAL TRACTOR DEMONSTRATION.

Since the appearance of an article in these columns last week announcing the third annual demonstration of the Traction Engine and Implement Dealers' Association, a widely awakened interest has been shown by exhibitors and prospective visitors alike. One thing that stands out preeminently is the high quality of the products that are to be exhibited and demonstrated. Only the most representative firms are exhibiting, those whose goods are known to be thoroughly reliable and of unquestionable excellence. The oil companies which stand for the best in their line are to be represented, the same with exhibitors of carburetors, automobiles, trucks, food products and on down through the long and interesting list. A visitor to the demonstration cannot fail to find something that will repay him for the time spent there. Indeed, if there be anyone who still quotes the old adage, "there is nothing new under the sun," let him come to the demonstration and he will be pleasurably convinced of his error.

The Tractor and Implement Dealers are putting forth every effort to substantiate their claims that this is to be the biggest thing of its kind ever held in the West. And when twenty-five such firms as are represented in this Association set out to make a success of an undertaking, a prosperous issue is pretty sure to result.

There has never been a time when such tremendous issues rested on the shoulders of the farmer and grower. The manufacturers realize this fact and, to the best of their abilities, are working to aid the agriculturist in his truly enormous task of producing the vast crops of every sort that are needed. With this end in view the great factories that turn out the tractors and farm machinery have secured the services of the most skilled artisans and have submitted their products to the most thorough and painstaking tests by these engineers and trained mechanics. The result of these factory tests is a perfection of detail that has never before been attained, so that the farmer purchaser may feel that the goods he is getting are as nearly perfect as human ingenuity can make them—and that with proper care of them they will aid him in doing that which our President and our allies are asking of him, namely—turning out a "bumper crop." And it is this class of tractors and farm implements that will be shown at the demonstration of September 18 to September 22.

WATER LIFTED 200 FEET AT TWO CENTS PER INCH PER HOUR.

[Written for Pacific Rural Press.]

A thousand acres irrigated by cooperatively-owned deep-well plunger pumps operated by engines using natural gas is the Montevista Irrigation Company of San Bernardino county. Four wells at various places along the upper edge of the tract were bored 400 feet deep and about 200 miner's inches are lifted 200 feet, running day and night this year on account of the greatly increased acreage of truck gardens and orchard intercrops. The pumps are double acting, so one plunger is lifting a load to be forced through the miles of underground pipes, while the other plunger is going down. Two engines of 60 horsepower each and two of 40 horsepower each formerly used low-grade distillate, but have recently been piped for natural gas without changing the engines. Distillate is kept for use in case the gas gives out.

The outfit is owned by the landowners, one share per acre, and the board of directors of the district of course would not transfer title to any of the water except for use with the land it belongs to. The engineer schedules the members very satisfactorily, most of them for a whole season ahead. According to President Frank Danks, no troubles have been encountered among members during the eight or nine years they have been operating. The same engines and pumps have been used from the start. They are overhauled thoroughly at odd times after the irrigation season of April to September is past. If anything goes wrong during the season, the engineer or directors fix it or hire it fixed. The whole cost of operation is about two cents per inch per hour.

MILKING MACHINE WORKS WELL.

[Written for Pacific Rural Press.]

A 2½ horse-power gas engine, running the air pump for three milking machine units used by Johnson & Jepsen of Humboldt county on their 90 cows, requires about eight and a half gallons of distillate per week. This is the third season the milking machine has been used and the cows are doing better, as shown by Cow-Testing Association records, than they did in two years of hand milking before they got the machine.

"Several of these cows are giving over two pounds butter fat per day. Some cows object, some heifers kick, teat cups sometimes drop off, and there are two or three cows in the herd on which the teat cups won't stick; but most cows stand for the machines better than for hand milkers. No damage has ever been noted; the stage of lactation has no effect on desirability or convenience of machine milking, and it takes much less time," says Mr. Johnson. One man handles three units, while two men strip and carry the milk to the collecting platform. It is advisable to take the machine off when the glass in the tube shows mostly bubbles coming. The teat cups exert fifteen to seventeen pounds suction and seven pounds "backward squeeze."

IT PAYS TO KEEP EXTRA PARTS.

To have plenty of extra parts on hand, so that worn parts that are getting weak and may not last the season out may be replaced, is a policy urged by L. J. Fletcher, instructor in agricultural engineering at the University of California farm. The extra time and energy spent in growing a big crop is of no use if the surplus is lost by improper harvesting. Harvesters, separators and other agricultural machinery ought to be frequently and carefully inspected and adjusted, for such inspection may disclose a part which is badly worn or so weakened that it is apt to break when a load is put on it. To find this out in time means that there will be opportun-

KILLEFER QUALITY

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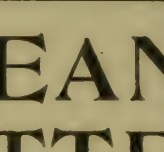
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Bean cutters should be ordered as early as possible this year, as the acreage planted is double that of any previous year and there is a shortage in the proper grade of steel for their manufacture. Our Cutters are very strongly built and well ironed with 6-foot cutting blades. Rollers can be attached in front of the runners in extremely heavy vines.

Don't delay; get your orders to your dealers as soon as possible.

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"have found Zerolene to be a satisfactory lubricant for Buick automobiles."

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ity for a new part to be received from an implement house before the break comes.

TRACTOR SHORT COURSES.

To the Editor: We are planning to hold our tractor short course this year beginning November 5. There has already been considerable interest in the course. We believe that we will have the full co-operation of the tractor manufacturers. At a recent meeting of the agricultural staff a similar course was approved for Southern California to be held at Riverside, the time to be determined later. It is our desire to stage a much better course this year than we had last. The opportunity to collect material will enable us to do this.

J. B. DAVIDSON,
Professor of Agricultural Engineering.
Davis.

TRACTOR PULLS OAKS.

White oak stumps fifteen inches in diameter can be pulled by tractor with proper pulleys. J. D. Cox of Sonoma county has cleared many acres with his 18-8 horse-power machine and two hundred feet of five-eighths inch cable with several snatch blocks. Occasionally a six-inch tree resists until some grubbing is done, but most up to over twice that size can be pulled by hitching four or five feet high. There is no advantage in hitching higher, for the heavy pull comes anyhow after the tree is tipped over. Hillside stump pulling is easier than on the level, if the tractor can run downward with the load.

THE TRACTOR OUTPUT.

Upon the authority of one of the leading manufacturers of engine plows, the portable output of standard tractors of all kinds and sizes for 1917 will total about 67,000. Despite the seriousness of the material situation, this output is considerably in excess of the production last year and testifies both to the necessity and demand for tractors. The significant fact about this is that the necessity is becoming more emphatic, while the supply of standard type tractors is woefully inadequate to meet the demand.

POWER LAND CLEARING.

[Written for Pacific Rural Press.]

A great level field of fine bottom land was first made available last spring for feed for the refined registered Jersey herd Chas. Willis Ward is building up at his Carlotta ranch in Humboldt county. It had been covered with giant redwood stumps, but these were blown out with electrically-discharged dynamite and pulled to great piles beside the field by a donkey engine and cable. Then two big tractors plowed and leveled the field in a hurry.

TRACTORS FOR ANTELOPE VALLEY.

Wm. Rabb, manager Los Angeles office for Dauch Manufacturing Co., reports the sale of ten Model E Sandusky tractors on June 22 to L. Harris & Co., Lancaster, Cal. These tractors will be used first for hauling combined harvesters, then for plowing dry land, clearing new land, pulling out Yucca palms, etc.

POWER NOTES.

The increasing alfalfa acreage in Mendocino county is made possible by gas engines and electrically-driven pumps.

A tractor owner opened the crank case of his tractor the other day and found two nuts in the oil, which the operator had failed to notice.

Caution people against overloading tractors, especially for a long time. They can't stand it much better than horses, says J. D. Cox of Sonoma county.

There is always a lot of tinkering to do with a tractor before you get to work, said a rancher recently; but yesterday the horses had to rest and cool off at the end of each row, while the hotter the weather got the better the tractor ran.

A resolution favoring State or Federal aid to build new tractor and farm machinery factories or additions to old ones, and to run all of them 24 hours per day was adopted at a meeting of the San Francisco County Council of Defense.

Daylight Route—

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Leave San Francisco (Key Route Ferry Depot) in the morning at 7:20—arrive at the Lake in the evening at 6:00—a most delightful and scenic ride direct to Lake Resorts.

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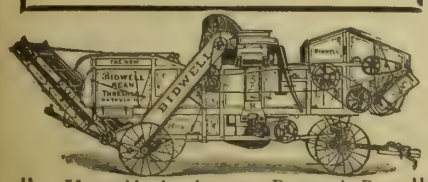
Oakland, Antioch & Eastern Railway

L. H. Rodebaugh, Traffic Manager, Oakland, Cal.



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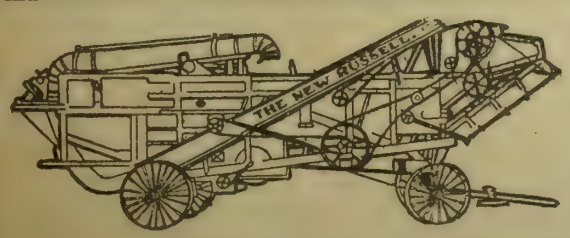

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WRITE FOR CATALOG 25.

Layne & Bowler Corporation
900 Santa Fe Ave., Los Angeles

EL PASO & SOUTHWESTERN R. R.
EL PASO, TEXAS

September 25, 1915.

Messrs. Layne & Bowler,
900-910 Santa Fe Ave.,
Los Angeles, Cal.

Gentlemen:

Regarding the performance of your pumps, I will say that we have three Layne & Bowler pumps on our Western Division, located and running as follows:

One at Columbus, N. M., which is running at the rate of 1025 revolutions per minute, pumping 13,200 gallons of water per hour; total mean lift 92'. This pump has run ten continuous hours per day for ten months and no repairs have been made on it.

At Rodeo, N. M., we have one running at a speed of 1017 revolutions per minute, pumping 10,000 gallons of water per hour; total mean lift 110 feet. No repairs have been necessary on this pump as yet, and it is giving satisfaction in every way. This pump has been in service ten months, also.

At Douglas, Arizona, we have one which is pumping 20,000 gallons of water per hour; total mean lift 112'; pipe line between pump and tank 1700' long. This pump has run from nine to twelve hours per day continuously for eight months, and, as yet, we have spent nothing on it for repairs, and it has given no trouble.

The operation of these pumps has been entirely satisfactory.

Yours very truly,
EL PASO & SOUTHWESTERN R. R.
G. F. Hawks, Gen'l Mgr.

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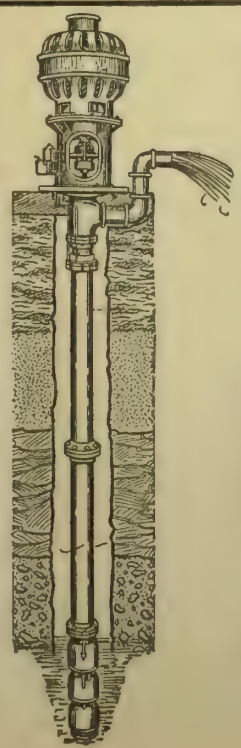

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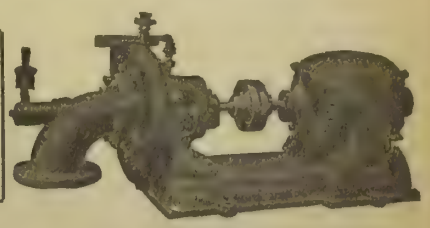

WRITE FOR CATALOGUE NO. 47.

BYRON JACKSON IRON WORKS, Inc.
SAN FRANCISCO.
LOS ANGELES, STOCKTON, VISALIA

General Agricultural Review

Field Crops.

New barley sold, July 25, in San Miguel at $2.22½ per cental.

The Placer County Fair is to be held from September 4 to 6, inclusive.

The cotton crop in the Imperial Valley this year promises to be a good one.

The California Ripe Olive Company at Oroville commenced canning tomatoes this week.

More than 2,000 acres of potatoes are to be planted for a fall crop in the vicinity of Pomona.

A new cannery is being built at San Diego. It is to be ready to pack tomatoes by September 1.

It is said 2,000 acres in the Chino district will be planted to fall potatoes the next two weeks.

The Turlock watermelon season opened last week, with prices of $5 to $20 per ton to the growers.

Artichoke growers of Half Moon Bay have organized an association to sell the produce from 3,000 acres.

The Hamilton City sugar beet factory will commence slicing, August 15. A good beet crop is in prospect.

J. W. Scott has harvested 905½ sacks of barley from 22 acres of land located six miles northwest of Turlock.

Lake county crops are fine this season. The prune crop especially is heavy. Almonds also will bear heavily.

Kern county last week ordered 25 tons of strychnine to be used in the ground squirrel eradication campaign.

The Chino beet sugar factory will begin its fall campaign, August 4. Its capacity this year will be 1,200 tons daily.

The tomato crop around Placenta, it is said, is now ready for the cannery, which is expected to get to work at once.

According to Japanese labor agen , workers in the fruit orchards near Hanford are now receiving $3 per day and found.

Hawaii has imported several tons of beans from California to plant this season, in an effort to raise enough for its own needs.

A 20-ton lot of barley hay sold recently for $18 per ton in the field on Benjamin Quigley's ranch in San Luis Obispo county.

Fifteen sacks of wheat and 26 of barley are the yields reported by John Work & Son of Ranchita Canyon, San Luis Obispo county.

The Visalia sugar factory commenced slicing beets last week. The output this season is expected to run over 100,000 tons.

The Glenn County Livestock and Agricultural Association has been incorporated and will hold a fair at Orland some time in September.

It is estimated that California will produce about 85,000 bales of hops this season. Oregon hopes to raise 50,000 and Washington 27,000 bales.

The Hollister Packing Company has completed the installation of a complete set of machinery and will be ready to handle fruit by August 10.

On August 13 the meeting to start the construction of the $9,000,000 Pine Flat storage dam will be held by the Kings River Irrigation Committee.

One hundred negroes were sent down to Orange county from Los Angeles last week to take the place of Mexican strikers in the sugar beet fields.

The vacation period for the Merced union high school will be extended until September 17 to enable the students to work in the fruit harvest.

John G. Fleming of San Benito county raised one and one-third tons of barley hay per acre and two tons of wheat hay per acre, selling both kinds recently at $19 per ton to the Lathrop Hay Co.

In the district around Corona the bean acreage now covers many thousand acres and to handle the crop a 1,000-sack capacity bean cleaner has been installed.

The Stanislaus County Farm Adviser is warning growers that the red spider has been found in all parts of the county and they should commence using sulphur.

Yolo county, with a population of less than 14,000, has produced this season crops worth twenty million dollars, being an increase of seven millions over last season.

Reports from the Imperial Valley indicate that the grain crops there are turning out better than expected. The crop outlook of milo maize is good and the acreage is large.

About 3,000,000 ladybugs were collected in the hills of Ventura county last spring by the Horticultural Commission to be liberated in bean fields for aphis control.

The new steam heat raisin plant being constructed at Sanders Station on the Northern Electric line is nearing completion. The owners expect to handle grapes this season.

A new variety of rice, brought from Japan last winter and planted on 140 acres near Biggs, April 25, will be ready for harvest by September 1. This crop will be sold for seed.

The Lathrop Hay Co. of Hollister bought 185 tons of barley hay, July 28, at $19 per ton, baled and delivered in town. This included $1 per ton premium for careful curing.

Apiary owners in the Porterville district declared that conditions have never been better for a prosperous year for them. The orange honey crop was heavy and of a high quality.

R. D. Goree, a cotton exporter of Texas, now in El Centro, says he expects cotton to sell this fall at 30c. He estimates the Texas cotton crop this year at 1,000,000 to 1,500,000 bales.

Five per cent loans to farmers, under the Federal Farm Loan system, are being approved by the Federal Board at the rate of $800,000 a day, the Federal Board announced recently.

The total acreage planted in the Sutter Basin, Yuba county, is 40,000. Of this, 22,000 is on land belonging to the Sutter Basin Company and the remainder is on holdings of private individuals.

What was thought to be partial failure has turned out to be a bumper grain crop on the west side in the San Joaquin Valley. Lands valued at $50 per acre are producing a yield selling for more than $60.

The country about Oceanside, San Diego county, has gotten to be an important bean growing section. It is said that the planting covers 13,000 acres and a crop of 130,000 sacks of beans is looked for.

Nearly 1,000 San Luis Obispo farmers have signed up for a farm adviser, but the Supervisors have as yet refused the necessary appropriation. The Farm Bureau directors meet at San Luis Obispo, July 28.

The amount of Federal Farm Loan 4½ per cent bonds available for July and August, which is considerably less than the $30,000,000 which the banking group contracted to purchase, has been over-subscribed.

The grain crop on the east side of Merced county is yielding much heavier than expected. Over 400,000 sacks, besides grain stored in elevators, is the estimated yield. The grain is all barley and is selling now at $2 per sack.

The California Lima Bean Growers' Association, which controls about 35 per cent of the acreage, has sold about one-quarter of their crop at an average of 9 cents. They do not intend to sell much more until the crop is assured.

October 15 is the time limit planned by Kings County Horticultural Commissioner for people to exterminate squirrels on their land. After that, the county will clean them up as fast as possible, charging the cost to each piece of land.

August meetings of the Glenn County Farm Bureau will be held as follows: Ord on the 6-7; Larkin, 9-10; Codora, 13-14; Jacinto, 16-17; Orland, 20-21; Plaza, 23-24; Elk Creek, 27-28. Directors' meeting, Willows, August 4.

Plans are being worked out for an increase in the acreage of grain in the Tulare lake district. Work is being done to increase the height and strength of levees in all directions about the lake to protect the grain lands from high water.

Increase in prices, coupled with greater production, will bring California's crop of cereals, etc., to a value this year of more than $100,000,000, as against $47,000,000 for last year, according to figures from the United States Department of Agriculture.

Construction work on a Government plant for the manufacture of potash and iodine from kelp is to be started near Santa Barbara soon, according to J. W. Turrentine of Washington, D. C., an official of the United States Department of Agriculture.

Farmers are being urged to provide their own storage facilities before the coming crops are ready for market by J. B. Baird, general traffic manager of the Northern Pacific Ry. An acute car shortage may result when the crop movement is heaviest.

There are 20,000 acres of beans in Lompoc Valley this year, as estimated by the Lompoc Produce and Real Estate Co. Of these, about 5 per cent are large whites, 10 per cent or more pinks, and the rest are bluepods. Last year the bean acreage totaled about 17,000.

Reports from Porterville say that much of the alfalfa crop of Tulare county will be lost if ranchers cannot get cattle to graze. The crop is a big one and sufficient labor cannot be had to harvest it. The first two cuttings brought four and a half to five tons to the acre.

There are about 15,000 acres of sugar beets in the Spreckels district of Monterey county, according to G. T. Scott of the Spreckels Sugar Co. It was all contracted before planting, on the basis of $5.25 per ton for 15 per cent beets and 35 cents per ton for each additional per cent.

To insure an adequate supply of canned goods for the army and navy the National Defense Council's supply committee has asked all the country canners to reserve 12 per cent of each canner's pack of peas, 12 per cent of corn, 18 per cent of tomatoes and 6 per cent of salmon.

Beet leaf hoppers, which seem to be the cause of "curly top," are not troublesome in the Salinas district of Monterey county this season, as in 1914, but C. F. Stahl and Dr. E. Carsner of the United States Department of Agriculture are continuing their efforts to find a control before the next epidemic.

The temporary horticultural building for the State fair is about finished and space is being assigned to the several county exhibits. At this time assignments have been made for county displays from Alameda, Butte, Tehama, Sutter, Sacramento, Colusa, Yolo and Santa Cruz counties and the Northern California Counties' Association.

Citrus and Deciduous Fruits.

Escondido will hold its tenth annual grape festival on Monday, September 10.

Apple trees around Watsonville Junction are heavily propped due to heavy crops.

The hot spell killed walnut aphis and citrus red spider in parts of Ventura county.

There are 5,027 acres of bearing and non-bearing almond orchards within twelve miles of Paso Robles, according to Horticultural Inspector Tom Henry.

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58 SUTTER ST., SAN FRANCISCO, CAL.

About fifteen cars of Gravenstein apples are now being shipped from Sebastopol daily.

The Saticoy Walnut Growers' Association has recently completed a large packing house.

Pear and apple leaves about Paso Robles were considerably burnt by the hot wave in June.

The Merced peach crop is late this season, but the shipping and canning season commenced this week.

Pear growers of Solano county are getting ready to co-operate with the State marketing organization now forming.

The big fruit cannery at Hanford started its season's run last week. While a little short of help, no trouble is anticipated.

Arbuckle is making arrangements to celebrate Almond Day, September 14, with an almond fair, which will be continued till the 16th.

The co-operative deciduous fruit drying association organized by the ranchers of Pomona Valley, it is said, is meeting with success.

During the past year over 200,000 tons of cull oranges have been used at the by-products factory at Upland, mostly for the orange peel.

Placer county is shipping plums in large quantities. The phenomenal price of $2,200 was received for one car sold in New York last week.

The M. R. Van Woermer almond orchard of 25 acres, four years old, grossed $1,793.75 in 1916. The cultivation, pruning, etc., cost $175.68 and the harvesting $350.

A three-year almond tree planted as a Nonpareil near Paso Robles is bearing nuts 50 per cent larger and with proportionally more meat than Nonpareils, and the nuts look like Ne Plus, says P. S. Brown.

Pear growers of the Ygnacio Valley, Contra Costa county, have made arrangements to ship the 90-car production of pears from that locality to the Eastern markets this season. They are to receive $40 per ton.

It is reported that some contracts for grapes for drying have been made in Sutter county at $30 per ton, with a higher rate for shipping grapes. Prices for raisins outside the Association are said to be 8c to 9½c per pound.

Arrangements have been completed by the Southern Pacific Railroad to put into the fruit districts at least 1,500 refrigerator cars monthly. This service will continue until the orange season opens, when the supply will be increased.

A magnificent crop of Morello sour cherries is being harvested by D. U. Meyers of San Bernardino county. From 170 trees four years old 4,400 pounds had been picked and sold on the place previous to July 19, and there seemed nearly a ton left.

Heavy pruning back of 35 or 40 acres of lemon trees on the Limoneira ranch is in progress. Assistant Superintendent J. D. Culbertson notes that trees pruned so heavily two years ago are full of live fruit bearing wood while other trees look less thrifty, though bearing good crops.

A strike of fruit cannery employes in three establishments occurred at San Jose last week, during which a number of people were injured and one was killed. The strike was settled this week on the basis of the canneries paying 30 cents per hour instead of 25 cents. Piece workers also secured an advance.

The Sespe ranch was spraying citrus trees for red spider when the hot spell killed remaining spiders and made further spraying unnecessary, as noted by Assistant Manager H. F. Pressey. Horticultural Commissioner Brock reports that red spider control usually costs $10,000 annually in Ventura county.

The National Orange Co. (E. A. Chase & Sons) are not plowing up any of the mulched basins around their citrus trees at Corona and Riverside, as reported, but are still enthusiastic over the results obtained from them and have recently plowed to basin a little piece never before fixed that way.

RICE GROWING: WATER'S HIGHEST PATRIOTIC SERVICE.

(Continued from first page.)

lina and Georgia, 30 bushels; Louisiana and Texas, 45; Arkansas and California, 60 to 80; and the average cost of production at from $20 to $35 per acre. The above yields have in many instances been materially exceeded and can still further be increased.

PRESENT RICE CONDITIONS IN CALIFORNIA.

Rice being a new product in California, areas best suited for its production have not been fully ascertained. It is now grown chiefly in the Sacramento and San Joaquin Valleys, where it seems to thrive best on black adobe soil; the variety mainly planted being the "Wateribune," a short grained rice. The "Edith," a very fancy head rice, is now being tested, and, if found adaptable, seems capable of proving a great favorite.

Rice production now seems to be, for the most part, divided between the Orientals and the wealthy men and syndicates who farm large areas. It yields readily to big production, as—after planting—no further cultivation is necessary, and all preparatory and harvest work can be done with tractors. Largest yields are obtained when rice is planted early, preferably about April 1st. Some of its chief values as a California crop are the facts that it can be produced on land unfit for other crops, that it matures at a time when other farm work is slack, that —the immense wheat ranches of former days are now being rapidly subdivided and put into other crops—rice is well suited to take wheat's place both as human and stock food.

THE OUTLOOK FOR RICE.

Considering all the facts, it appears that the world's production of foodstuffs is not keeping up with her demands; that America's decrease in the production of wheat and corn, as shown to be 53,073,000 and 124,753,000 bushels respectively, must be made good by the increased production of other foodstuffs to keep pace with the growing demand. As rice, properly prepared for food rather than for show, contains more nutritive value than any other cereal, beef, or potatoes—and as its production is more nearly subject to the control of man and most certain of all foods; and while its price per bushel is about the same as corn and much less than wheat, and its yield is far greater than either—rice should become our great reliance, with its increasing acre yield to replace the cereals which are decreasing.

Rice production in California has a great future. When the food value of rice is better understood, not only will a large home market be assured, but foreign markets as well will make heavy demands, which California is excellently situated to fill. Many thousand bushels of Oriental rice are now being annually imported, a large portion of which is exported to other countries. California rice has these markets awaiting its production.

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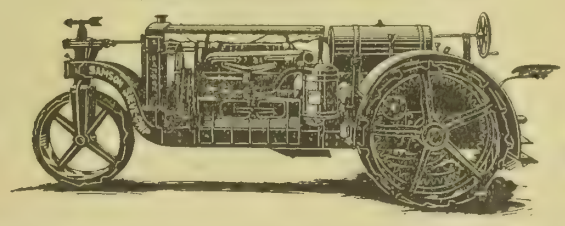

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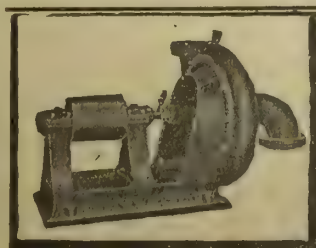

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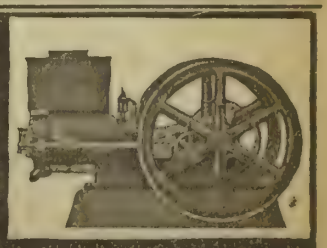


Simple Steam Sterilizer for Dairy Utensils

[Written for Pacific Rural Press.]

If you wish to have high-grade dairy products, clean, free from bacteria and disease germs, and milk and cream which will remain sweet longer, cleanliness and sterilization of the dairy utensils are absolutely essential. The sterilizers now generally used are often considered too expensive, especially on farms where only a few cows are milked. A simple, inexpensive sterilizer is described in Farmers' Bulletin 748, issued by the Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C., and may be obtained, free of charge, by writing to the department for it. However, you will find in this article complete, condensed instructions for the construction and use of this sterilizer.

CONSTRUCTION OF THE STERILIZER.

Although the sterilizer here described and recommended is of the greatest use to those who have two or three cans, pails and a strainer cloth, it may be used with a larger number of cans.

The sterilizer consists of a roasting pan of standard size, 20 inches long, 14 inches wide, top measurement, and 3 inches deep. The cover is in three parts: The lower part, fitting closely over the pan, is covered with asbestos, upon which is placed the upper part, the latter being the same width as the pan, but three inches shorter at each end. It is made as follows: Take a sheet of heavy galvanized iron and cut it large enough to cover the top of the roasting pan, allowing a little to overlap the edge. Solder flanges beneath this cover, so that they will meet the edge of the pan, thus making a tight cover. Then cut a hole in the center of the cover one and a half inches in diameter and solder on a round, galvanized iron pipe four and a half inches in height and one and a half inches in diameter. The cover should then be insulated by covering with a piece of asbestos board five-sixteenths of an inch thick; a hole should be cut in the center of this piece to allow the steam outlet pipe to pass through. Then for the upper part make a shallow pan of galvanized iron 14 inches square with sides five-eighths of an inch high; cut a hole one and a half inches in diameter and fit the pan on top of the asbestos, allowing the steam outlet pipe to extend through the center hole. When the pan is pressed down closely to the asbestos, solder it to the steam outlet pipe which passes through it. On the pan four strips of stiff galvanized iron three eighths of an inch wide are soldered. These should extend three-eights of an inch above the bottom of the pan, and should run from a distance of one inch from the corners to one inch from the steam outlet in the center. In case asbestos cannot be obtained, paper may be used instead. Pack papers tightly to a height of three-eighths of an inch over galvanized iron and cover with another iron sheet, soldering all edges together to make absolutely tight seams. This will form an insulated cover three-eighths of an inch thick which will replace the asbestos. The rest of the sterilizer consists of a galvanized-iron box with a removable cover which has a handle on the top. This box has no bottom, the 14-inch shallow pan on the asbestos over the cover of the roasting pan forming the base of the box. The sides should be made separate and should be 11 inches high. These sides should fit tightly into the shallow pan just mentioned. On one side of the box at the top a wire should be attached three-fourths of an inch from the top and one-half inch from the side, on which hangs a strainer cloth. The cover of the box should be made large enough to extend over the sides and fit closely.

Two-Burner Sterilizer.
Photo by courtesy of Standard Oil Company.

COST OF STERILIZER.

The cost of the sterilizer itself should not be more than $5.00. The roasting pan varies in price from 25 cents to $1.00, depending on the grade of iron. The galvanized iron, with asbestos and construction work, should not cost more than $4.00, and the work can be done by any tinner. Oil stoves such as shown here can be had at $11.00 for 2-burner style, $14.50 for 3-burner style, and $18.50 for 4-burner style. Only two burners are needed for the sterilizer, however, and with a 3 or 4-burner stove the sterilizer need not interfere with cooking on the remaining burners.

Three-Burner Sterilizer, Showing Extra Burner.
Photo by courtesy of Standard Oil Company.

SOURCE OF HEAT.

A good oil stove will give excellent results. As the temperature of the steam at the end of the outlet pipe should be at least 205 degrees Fahrenheit, and preferably above, it may be found necessary to turn the wicks to their highest points. The cost of operating an oil stove is not high.

METHOD OF OPERATING THE STERILIZER.

Fill the roasting pan with water one inch deep, fit the cover on, and place over two burners of a kerosene stove. Test the temperature of the steam at the end of the outlet pipe with a thermometer which registers 212 degrees Fahrenheit. When the steam has reached a temperature of 205 degrees, place the cans and pails (which have first been rinsed with cold water and then washed with hot water and washing powder) inverted over the steam outlet. Each utensil should remain over the steam for five minutes to insure thorough sterilization; then remove, shake out any water, and place upright on the floor. If the can or pail is not dry in two or three minutes, the steam was not at 205 degrees Fahrenheit, or it was not washed clean. If the room is cold, an insulating cover may be made from a blanket, which helps to conserve the heat and raise the temperature more rapidly. Otherwise the can may be cooled so quickly that it will not dry thoroughly. When the cans and pails are steamed and dry, place them upright in a clean, dry, covered wooden or metal box until milking time.

TO STERILIZE CAN COVERS, STRAINER CLOTHS, ETC.

Use the galvanized box. Place strainer cloth on the wire top of galvanized box, folding it so that it may be handled by one edge. Set the can covers upright with the tops

GET YOUR
DE LAVAL
NOW

WHETHER you are selling cream or making butter, if you have no separator, or are using an inferior or half-worn-out machine, you are wasting cream, time and labor every day you delay the purchase of a De Laval.

You can't afford to wait another week. It means too much loss with butter at its present high price, and the importance of saving time and labor. Let the De Laval start saving cream for you right now, and it will soon pay for itself.

See the nearest De Laval agent right away and let him show you what the De Laval will save for you. If you do not know the De Laval agent, write direct for any desired information.

De Laval Dairy Supply Co.
Largest Dairy Supply House on the Pacific Coast
61 Beale Street, SAN FRANCISCO

Do You Want Long Distance Backing?

We have a son of the California State Champion three-year-old for sale. Born October, 1915; sired by PRINCE ALCARTRA KORNDYKE, whose dam is TILLY ALCARTRA.

The Dam of this young bull is not a fifty-pound cow, but she has to her credit 21,208 pounds milk and 860 pounds butter in one year, which is the largest record ever made in California by a Junior three-year-old.

If you are in the market for a bull, it will pay you to visit our ranch and see what we have to offer—at prices that will surprise you.

J. S. GIBSON CO., Box 97, Williams, Cal.

"THE NAME GIBSON INSURES QUALITY."

SAVE YOUR CALVES

Raise Them Without Milk

Why throw away money by knocking them in the head or selling them for a dollar or two at birth when they can be raised or veaied WITHOUT MILK at a fraction of the cost of feeding milk. You profit both ways selling the milk and still have the calves.

The Best Milk Substitute to Use is

Ryde's Cream Calf Meal

the most successful milk substitute on the market—the standard of perfection Thousands of farmers are using it and cannot say enough for it. It is NOT a stock food—it's a complete food that long experience has proved to be right for rearing calves. It contains all the nutrition of milk prepared in the most digestible form and is sold on a money back guarantee to give results.

BOOKLET "MILKLESS CALVES" FREE

100 lbs. equal to 100 gallons milk—Try it on your calves.

GREAT WESTERN MILLS, LOS ANGELES

CALIFORNIA BREEDERS' SALES AND PEDIGREE COMPANY — PUBLIC SALES — GOOD REGISTERED LIVESTOCK

SERVICE TO THE BUYER TO THE SELLER

Economy of time, effort, and money is only one of the many services our organization is delivering to both sellers and buyers of registered livestock in public auctions.

If you want to consign cattle for public sale, or disperse your herd to best advantage, write us about it.

California Breeders' Sales and Pedigree Co.
C. L. HUGHES, Sales Mgr., SACRAMENTO, CAL.

against the sides of the box. Have the steam temperature 205 degrees Fahrenheit. Place the cover on the box and steam for five minutes. Remove the can covers, shake out any water collected in them, and place top down on a table. When thoroughly dry, place tightly on the dry cans. Handle only the edge of the cover which remains outside of the can. The strainer cloth should remain hanging in place with the cover on the box until it is to be used at milking time.

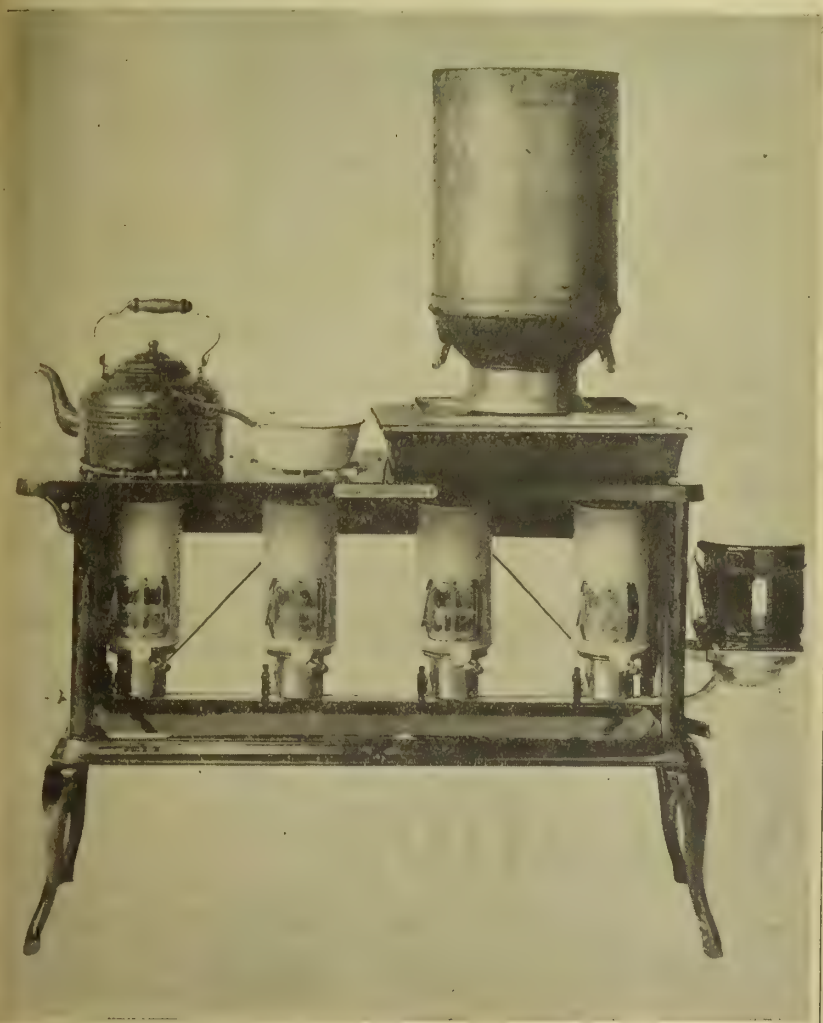
The milk-receiving tank should be sterilized in the same manner as the cans and pails. Sterilize the other parts in the box for the can covers. If they are too large, a special case should be constructed. After sterilizing, keep the tank and separator parts in a clean place free from dust.

The inverted can or pail over the steam outlet should rest on the metal supports, and should be three-eighths of an inch above surface of the pan. If this space is filled with water, steam will not enter the can.

No arrangement is provided for the water from condensed steam to run back into the roasting pan. This can be arranged if found desirable, or the water can be soaked up with a towel, or the whole cover may be lifted and the water allowed to run off. The drying of dairy utensils after washing and sterilization is extremely important, for bacteria are likely to develop in a moist can.

After use, all parts of the sterilizer should be cleansed and wiped dry to prevent rust.

The sterilization of dairy utensils is a matter of great importance, and producers are urged not to use unsterilized utensils, which may look clean to the eye. Under ordinary circumstances bacteria grow rapidly in milk and spoil it.



Four-Burner Sterilizer, with Cooking Accommodations.
—Photo by courtesy of Standard Oil Company.

FROSTED BEET TOPS DANGEROUS.

[Written for Pacific Rural Press.]

Beet leaves left in piles in the field with the sunburnt crowns of the beets as cut off in harvesting, made good feed for the cows belonging to R. D. Knight of San Joaquin county. Only when they were very green did they scour the animals. But he lost four cows from eating them in the same field after they had been frosted. The cows bloated so that their hip bones were not visible, and the gag-and-soda treatment Mr. Knight usually gives for alfalfa bloat failed entirely. They had to be stuck to relieve the bloat, and the sticking revealed a sort of compaction of the pieces of beets in the stomach.

COW HAS DEPRAVED APPETITE.

To the Editor: My cow has a habit of picking up small bones around the yard. She chews on them and when possible swallows them. What is the reason for this?—F. B., St. Helena.

This is pica or depraved appetite. Place ashes and salt where she can have free access to them.

Purebred Registered
HOLSTEIN CATTLE

Enthusiastic Holstein Clubs, county, district and state, have been organized all over the country, and they are making wonderful progress in establishing testing associations, and in co-operative effort in eradicating disease among their animals. They inspire in their members a high standard of dealing, and in many ways accomplish the maximum of good for all breeders of Holsteins in their localities. There's big money in the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets.
THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA
F. L. Houghton, Sec'y, Box 230 Brattleboro, Vt.

California State Fair
SACRAMENTO, CAL.
September 8 to 15, Inclusive
Make the War Time Fair the Biggest Ever
SHOW WHAT YOU HAVE DONE—LEARN WHAT OTHERS HAVE DONE—WE NEED MORE SOIL PRODUCTS—BETTER LIVESTOCK.
Exhibit Your Best to Help Solve the Nation's Food Problem
Patriotism—Profit—Pleasure
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Great Display of Vocational Work by School Pupils—Over 500 Prizes divided between city and rural schools for Domestic Art and Science, Manual Training and Home Gardens. Greatest incentive ever offered to California boys and girls.
Special Exhibits by U. S. Government Indian Schools and Agencies.
LARGEST LIVESTOCK SHOW IN THE WEST
OVER $30,000 OFFERED IN PREMIUMS.
Education and Amusement Combined
BIGGER AND BETTER POULTRY SHOW
Displays of Horticulture, Agriculture, Viticulture, Forestry, Dairy Products, Dairy, Farm and Road Machinery, Tractors, etc.
NATIVE SONS' CELEBRATION OF ADMISSION DAY
Daily Program of High-class Amusements. Night Horse Show. Harness and Running Races. A tent city of Carnival Attractions. Great Annual Band Contest Open to Entire State.
HEAD ON COLLISION OF GIANT LOCOMOTIVES
Special Excursion Rates on All Transportation Lines.
Send for Premium List.
JOHN M. PERRY, President
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AUCTION SALE OF DAIRY COWS AND REGISTERED DUROC BROOD SOWS
On the Joe Lawerence ranch, two miles northwest of Modesto, on the Carver Road,
WEDNESDAY, AUGUST 8, 1917
On the above date I will sell to the highest bidder the following livestock: 33 head of good dairy cows, consisting of 17 Holsteins, 16 Durhams and Jerseys, 8 Holstein calves, 1 registered Holstein bull two years old, 17 extra choice brood sows, all due to farrow by the 12th of October. Two herd boars, all pure blood Durocs; registration papers furnished with each hog. One expert cow horse and saddle. Dairymen, I am not selling these cows because they are not paying; they are making better than $300 per month; see the cream tags and cows before date of sale. My lease expires on the Lawerence ranch is the reason for selling. A nice registered Duroc sow pig will be given away to the best looking baby under two years old on the ground. Terms of sale: A credit of six months will be given purchaser on approved notes; without interest if notes are paid when due, but if not so paid they will draw seven per cent interest from date. No discount for cash.
COME EVERYBODY—YOU ARE WELCOME.
LADIES ARE ESPECIALLY INVITED.
R. J. ROSS, Owner
FRANK HATCH, Clerk
COL. CY N. CLARK, Modesto, Auctioneer.

SCOTCH SHORTHORNS
We have just purchased the entire herd of shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.
FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.
CARRUTHERS FARMS, == MAYFIELD, CAL.
City Address: Hearst Building, San Francisco, Telephone Sutter 1311

BULLS - Shorthorns - HEIFERS
REGISTERED AND TUBERCULIN TESTED.
Animals of either sex ready to deliver in car lots or singly.
H. L. & E. H. MURPHY, Perkins, Cal

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED.
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE
DUROC-JERSEY SWINE
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REDWOOD CITY, CAL.

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
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426 J Street,
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Acme Herd Jerseys
QUALITY COUNTS
STOCK FOR SALE
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Expert Livestock Auctioneers
Purebred Stock Sales a Specialty
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Shorthorns
Paicines Ranch Co.
Offers for summer and fall delivery both registered and unregistered weanling bull and heifer calves.
For prices and particulars apply to
DAVID J. STOLLERY
320 Sharon Bldg.
San Francisco, California

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

A new milk sugar factory is being erected at Salida.

The annual convention of the California Creamery Operators will be held at Petaluma, October 4-5-6. Details of program later.

The Carpenter Cheese Co. of San Francisco is figuring on establishing a cheese factory at Tulare.

Two dairymen were fined $25 each at Modesto last week for selling milk containing less than 8.8 per cent solids.

It is reported that a dozen milch cows of the E. B. McNear herd, near San Rafael, died from being poisoned last week.

The annual picnic of the Humboldt County Dairymen's Association was held at Loleta last Saturday. Colonel John P. Irish was the speaker.

Among recent purchasers of land in the Brentwood Irrigated Farms are J. E. Swift, J. E. Davis, H. Logan and Peter Tripodis. The latter has started a cheese factory.

The Loleta, Humboldt county, creamery has during the last three months paid to its 160 milk patrons $85,000 for butterfat.

An El Centro creamery is to establish a milk sugar plant. The creamery will separate the butterfat, then the curd will make casein and the whey will be used to make the sugar of milk.

The American Jersey Cattle Club has recently awarded thirty-nine medals to breeders of Jerseys of outstanding merit. One of these medals was captured by F. H. Van Derpoel of El Centro.

A lease has been made by the Balfour-Guthrie Co. of about 450 acres of land in alfalfa to N. S. Nelson, the owner of the Diamond Dairy at Pittsburg and the San Carlos Dairy in San Francisco. Construction of dairy buildings is now under way to be completed within sixty days, when Mr. Nelson will move his herd of 400 cows from Pittsburg to Brentwood.

Reports from 266 cold storages in the United States show that their rooms contain 65,874,378 pounds of creamery butter, while on July 1, 312 storages reported 48,498,442 pounds. The 207 storages that reported holdings on July 15 of this year and last show a present stock of 61,273,734 pounds, as compared with 78,707,845 pounds last year, a decrease of 17,434,111 pounds or 22.2 per cent. The reports show that since July 1 the holdings increased 35.9 per cent, while the last report showed that during June the June 1 holdings increased 426.7 per cent. Last year the increase from July 1 to July 15 was 46.4 per cent and in June the increase was 675.2 per cent.

Beef Cattle.

The Santa Rita Ranch of San Luis Obispo recently shipped several grass-fed steers weighing over 1300 pounds.

Most of the cattle ranges in Eastern San Luis Obispo county are grazed so short that next year's grass is likely to be very scarce.

There is plenty of feed for what cattle are left in western San Luis Obispo county, according to Will Bagby of the Butte Cattle Company.

R. Featherston of Lompoc, Santa Barbara county, is increasing his registered Shorthorn herd slowly by retaining the best heifers. Six months calves bring $100 each at the ranch.

S. J. Lowe of San Luis Obispo is working into registered Shorthorns on his 4100-acre ranch. He has about 40 head registered now. He is using Paicines Diamond, a Scotch roan of Cruikshank blood, from the Paicines Ranch.

"Cattle for feeding are lower now, but people that can hold till September will strain a point and hold till the rains come," said Will Bagby, cattle buyer of Paso Robles, late in July. "Seven cents are being offered for feeders, but it will be higher within sixty days."

The Butte Cattle Co. of San Luis Obispo county shipped three carloads of steers and cows to Salt Lake City last Monday. They were paying 7¾c and 8c to ranchers last week for steers delivered at the nearest scales. Cows were worth 6c and 6¼c to the rancher.

Swine and Swinemen.

A letter from Secretary Whitten states that the Poland China sale, scheduled to take place at the State Fair, has been called off, because of lack of consignments by breeders.

The Anchorage Farm of Orland recently received three large Berkshire sows from Riverside and the University Farm. Two of them were of the Rookwood and the third of a different strain.

"I doubt if you could get a carload of stock hogs within a radius of fifty miles from Paso Robles now," says Will Bagby. "There are fewer hogs in this country than ever before. We bought a bunch at 12½ cents to the grower the other day."

R. H. Whitten writes that a fire occurred at his ranch in Tulare county recently. A large number of the buildings and nearly all of the grain and hay harvested this year were burned. All of the live stock were saved.

Horses.

A carload of good brood mares was shipped from Paso Robles last week. They and their colts will be needed here before another season is past.

R. P. Royce, of the Animal Husbandry Department of the University Farm, has bought for the institution four grade Shire mares, two and three year olds, from Chas. Kimble, the well known Hanford breeder.

Three thousand war horses have been shipped out of Paso Robles last summer and this, according to Dr. V. Ward. People will not be able to get young stock as usual because ranchers with greater grain acreage are holding their animals.

Sheep.

The Pinkerton ranch of Bradley, Monterey county, recently shipped some registered sheep to Nevada.

W. S. Mann of Orr's Springs, Mendocino county, recently sold his entire herd of 2200 head of sheep to Ben Noonan of Santa Rosa.

The Associated Press states that cattle worth $150,000 were poisoned in the Klamath Falls section within the past two weeks.

L. N. Pabst of Cedarvale, Cal., recently purchased thirteen Hereford cows and a bull from Carpenter & Ross of Mansfield, Ohio.

Frank H. Hanson of Lower Lake recently secured fifteen Rambouillet rams from the Bullards at Woodland.

The sale of the McCoy ranch near Red Bluff is announced. The new owners, Messrs. Ramsay and Ellenwood, will use the 26,000-acre tract as a sheep ranch.

LIGHTS AND SHADES IN THE DAIRYING BUSINESS.

Butter, in common with some other commodities, is suffering from the uncertainty due to unsettled economic conditions incident to the war and to disturbed industrial conditions, which are reducing needed labor on California's dairy ranches to a critical minimum. However, to compensate the dairyman beset with lack of help and high feed prices, butter prices are climbing up steadily. This advance in butterfat prices seems destined to continue for some time to come, as a heavy percentage of dairy cattle are being sold off in the East and Middle West, and to some extent in our own State. The results of this heavy slaughter of dairy cattle the country over must be reflected in extremely high prices for dairy products. Holders of dairy cattle and good breeding stock who can by any possibility do so should hold on to what they have. An additional fact showing the trend of things in the dairy business is the statement of the Department of Agriculture that the cold storage holdings of butter reported July 15 last disclose a shrinkage of 22.2 per cent compared with July 15, 1916.

Revada Guernseys
BRED IN THE PURPLE

Every animal on this farm is imported, and carries the blood of such noted sires as Governor of the Chene, Sequel's Monogram, and Governor of the Gree.

HERD BULL IMP, Ricardo of Edgmoor 34367

SOME FINE YOUNG BULLS FOR SALE

No Females for Sale at Present

See Our List of Winnings at the California State Fair

REVADA FARM

B. E. NIXON, Proprietor,

Yountville, Napa County, California

Your Vacation

SHOULD MEAN

Rest—Health—Pleasure

There are hundreds of Mountain and Seaside resorts only a few hours away.

SUGGESTIONS:

San Francisco and Oakland
Alameda Beaches
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Santa Cruz Mountain Resorts
Shasta Resorts—Sierra Resorts
Yosemite—Lake Tahoe
Lake County Resorts
Klamath Lake Region
Crater Lake—Huntington Lake
Los Angeles and its Beaches

Write for Free Booklet—state region you prefer. We will gladly assist you in arranging a delightful trip. ASK ANY AGENT.

Southern Pacific

Write for folder on the Apache Trail of Arizona

Six Old English sheep dog pups, all born without tails, will form one of the novelty exhibits at the California State Fair this year. Mrs. M. Colverd of San Francisco is the exhibitor. The sire of the litter, "John Bull," and the dam, "Shepton Lassie," are both naturally tailless, but frequently dogs of this breed are born with long tails, which must be cut off, and it is most unusual that all pups in the litter should be tailless when born.

CULL RAISINS FOR MULES.

Cull and second-crop raisins beat barley, pound for pound, as a feed for work mules, according to O. Peterson of the W. M. Giffin vineyard near Dinuba, who has been feeding sixteen mules nothing but a gallon a feed twice per day of raisins and alfalfa hay. The mules on this ranch have received practically nothing else for years, says Mr. Peterson. They are "hog fat," showing that their appetites do not fail on the fruit. Stems and all are fed, and a few moldy raisins in the lot do not seem to signify.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

SWINE.

Poland-Chinas.

MAKE BIG MONEY with our famous Big Type Poland-Chinas; prolific breeders; profitable feeders; grow rapidly, fatten quickly; prices reasonable; satisfaction guaranteed; send for free illustrated book, "Hogs for Profit"; packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, R. D. 5, Box 647, Los Angeles.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

POLAND-CHINA HOGS—Large type. 200 lbs. in 6 months. I guarantee to please you. O. L. Linn, Linview, Modesto, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS—Three extra fine boars, one large and two medium type. W. Bernstein, Hanford, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS—A few gilts left at $15 each. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

BEAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of Champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

REGISTERED BERKSHIRES — Progeny of Improver B. Young stock now ready for sale. Start your herd with breed and strain of established reputation for California conditions. Geo. G. Meckfessel, Berlin, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

IMMUNIZED NORMANDY BERKSHIRES—Good type. Breeding stock, any age, for sale at all times. Cast iron guarantee. Arlington Smith, Visalia, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Second annual sale August 1st, 1917. Mayfield, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

REGISTERED BERKSHIRES—Geo. M. York, Modesto, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 Third. Prices $20 and up. Haden Smith, Woodland.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 631-637 Brannan street, San Francisco.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

REGISTERED DUROC-JERSEYS — Service boars from prize-winning stock are money-makers. They grow faster. New England California Corporation, Ripon, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13 Taxpayer; boars ready for service out of a daughter of Lambs American Beauty. F. M. Barney, Hanford, Cal.

RANCHO RUBIO DUROCS—Nothing to sell at present; a fine bunch of gilts and a few extra good service boars for this fall. Elmer Lamb, Ceres, Cal.

DUROC-JERSEYS — Herd boars. E. N.'s Colonel and Tulare Boy. Sweepstakes winner at Fresno, 1915. Choice breeding stock. J. P. Walker, Visalia.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROCS — Crimson Wonder stock. Young stock, both sexes. L. D. Collins, Denair, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

STEVENS CREEK STOCK FARM—Registered cholera-immune O. I. C. and Chester White swine. Pigs of either sex. Box 107, Cupertino, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

HOLSTEIN HERD FOR SALE—Herd consists of seven females and five bulls; including a splendid cow, her four daughters and a granddaughter; all registered stock of good breeding, priced for quick sale. P. A. Hogaboom, Route A, Fair Oaks, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

PACKWOOD FARM HOLSTEINS — Fine young bulls of serviceable age out of tested A. R. O. cows. W. F. Mitchell, Visalia.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

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Pretty
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Few Animals of Either Sex for Sale

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REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN-FRIESIAN CATtle—J. M. Campbell, Escalon, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATtle—Dr. Ben Stetson, Napa, Cal.

A. R. O. HERD OF HOLSTEINS—Alex. Whaley, Tulare, Calif.

Jerseys.

FOR 30 DAYS—JERSEYS—Pedigreed bull calves, not registered, $25; registered, $50. Service bulls, $100, from producers. Tested registered cows, $150, with yearly records. Horses. N. H. Locke, Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATtle—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

Guernseys.

PUREBRED GUERNSEY BULL—Aged one year and four months, for sale at sacrifice, owing to lack of accommodations; his dam sired by imported and advanced registry stock. Fern Ridge Farm, Yuba City, Cal.

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BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

Ayrshires.

NORABEL FARM AYRSHIRES—Pure bred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

FOR SALE—400 head of 2-year-old Durham heifers for sale at Dutton Station, Solano county, on Oakland, Antioch and Eastern Railway. F. N. Chaplin, Dutton's Landing, Solano county, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORThorns—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORThorns, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM — Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder registered Herefords. Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

D. E. KELLIHER, importer and breeder of Hampshire sheep, Eugene, California, offers for sale a choice lot of Hampshire Ram Lambs, sired by Walnut Hall and Butterfield; rams purchased at Salt Lake, August, 1916; lambs ready for delivery after July 15, 1917. Inspection and correspondence invited.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

FOR SALE—Two Swiss Toggenburg milk goats, one and three years old. Not bred. Box 232, Colfax, Cal.

SHROPSHIRE SHEEP—About one hundred good grade ewes and their lambs. Box 362, Red Bluff, Cal.

J. R. BLOOM—Breeder of Shropshires. Yearling rams for sale. J. R. Bloom, Dixon, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

HORSES AND MULES.

FOR SALE OR TRADE—One registered Missouri jack and four jennets; would trade for tractor. Mist Central Mercantile Store, Mist, Cal.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal—the best California calf raiser. Geo. H. Croley Co., Inc., 631-637 Brannan st., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FREE FEED FOR STOCK—Acorns for hogs, grass for cattle and sheep; get State and Government land; new booklet free. Joseph Clark, Sacramento.

Is Fattening Beef Cattle Profitable?

To the Editor: Would appreciate some information regarding feeding some cattle for beef. I have some young cattle that are in fair condition, but not fit for slaughter. At their present condition they are worth 6½c per pound, where, if they were fat, they would be worth 9c. With alfalfa hay worth $15 per ton, would it pay to fatten them? How much weight should a ton of alfalfa produce on a yearling, two-year-old, three-year-old and old cows?

What are the present prospects for the hog business? With a good mast on the range here for this fall, would you advise entering into the business, possible prices for next spring being considered, etc.?—Earl W. Long, Covelo.

[Answered by Prof. Gordon H. True, University Farm, Davis.]

Replying to your correspondent's first question, "Would it pay to fatten cattle worth 6½ cents in their present condition and 9 cents fat with alfalfa hay worth $15.00 a ton?" I should say, "Yes." I am not sure, however, that I should depend entirely upon alfalfa hay for the fattening of these cattle. No statement is made as to the age or weight of the stock in question. If they are mature animals two to three years old, it is possible that they will fatten satisfactorily on alfalfa. While we have no very definite figures as to the amount of gain per ton of alfalfa hay, some data available seem to indicate that one might safely figure on about 15 pounds of alfalfa hay for one pound of gain. This for steers weighing around 800 pounds when started on feed. The query as it is put by your correspondent making a definite statement as to the difference in value between the thin and the fat cattle, makes it comparatively easy to point out where the money is usually made in the feeding of cattle for market. It is not in the pounds of fat put on in the feeding process, but the increase of value on the original weight of the cattle fed. For instance, in feeding a steer weighing 800 pounds so that his value increases 2½ cents a pound, one makes a profit of $20.00 on the original weight of the steer. If the gain is also put on at a profit, this profit is added to the $20.00 made on the original weight. It is clear, however, that one may put on fat at a loss and still make money on the increased value of the steer. If, for instance, 200 pounds of gain were put on at a cost of 12 cents a pound, the loss in feeding would be but $6.00, whereas the increased value on the original weight being $20.00, the feeder still has an increased value on the steer of $14.00.

We have figures at hand showing the result of feeding operations conducted during the past winter, showing that a profit would have been made had $15.00 a ton been charged for hay, together with something over $2.00 a sack for cottonseed meal and $2.40 per ton for silage. I believe that your correspondent, even at the present high prices of grain, could afford to buy barley at around $40.00 a ton to feed with his alfalfa hay to the stock in question.

Humboldt Forage and Succulence

[Written for Pacific Rural Press.]

Humboldt county dairymen have more cows than they can raise feed for, according to Secretary R. W. Werner of the Farm Bureau, who goes to Sacramento Valley to buy 1,000 tons or more of alfalfa every year for use of members. To the cost of alfalfa in the field must be added the freight to San Francisco and $2.00 per ton freight from San Francisco to Eureka by boat. If the hay can be landed at Eureka for less than $15.00 a ton, they figure that they can buy it cheaper than raising it. The locally-grown feed is mostly ryegrass mixed with red, alsike and Dutch clover, with mangels and carrots to supplement ryegrass hay in the dry season and during winter. Vetch and barley or oats are generally raised. This mixture makes abundant green feed, excellent silage, and occasionally is cut for hay. The ryegrass and clovers are resown, with a root crop between, every five years more or less, when the red and alsike get poor. Some patches have not been re-seeded for twenty years. Generally a crop of ryegrass is cut for hay and the clovers pastured until they dry up in July. The Dutch clover makes good pasture and endures close grazing.

REHABILITATE OUR SUPPLY OF HORSES.

Horse organizations throughout the country are directing attention to the necessity of speeding up the horse-breeding industry in the United States, and J. W. Gerard, former Ambassador to Germany, who is familiar with the methods employed by Continental countries in the production of war horses and race horses, adds his voice to the general demand that high-grade horse-breeding be given increased attention. Gerard says:

"This war is calling for horses as well as for men of fighting spirit, and while cavalry has played only a small part in hostilities to date, it does not follow that they will not be needed later on. Germany and Austria are prepared for any emergency through the establishment many years ago of a system of studs for the production of army horses which is only rivaled by that of France. Only those who have visited Continental Europe and have seen the system under operation can appreciate the care and expense bestowed upon the work. Racing and army horse breeding are so closely allied that the recent announcement of 108 days of sport in the German Empire this year, while it caused comment here, only means that the enemy is keeping up the speed tests in order to find the most desirable material for the twenty-four great breeding studs that are scattered throughout the empire. Americans have never placed a proper value on their mares, and I am glad to learn that their purchase for army use has been forbidden by our Government. It ought to be an obligation for every farmer and horse breeder in the country to see that the crop of foals next season should be the largest in the history of the United States. If the rural communities have not the type of sire which is needed to secure the best results, the Government should be appealed to.

Looks Like Sheep Will Have an Inning

It would appear from market prices and present prospects that no time could be more auspicious for starting in the sheep business, on either a large or small scale, than right now. Sheep-raising does not call for an elaborate and costly outfit, aside from the cost of the stock, nor the expenditure of heavy labor, but to make it a success does call for familiarity with the business, and this is best and most cheaply acquired by starting in on a small scale—for the small farmer, say with from 10 to 50 ewes. Of course, it is a waste of time to start in with inferior animals for a foundation. A purebred ram is a prerequisite, and high-class grade ewes are very desirable, but common ewes will do if others are not within reach. Early fall is the best time to start, and for the small farmer who must rely on forage crops for feed, subdivision of the pasture should be provided for, that the health of the animals may be maintained at the highest point.

500 One and Two-Year-Old

SHROPSHIRE RAMS

By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:

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Champion Ram P. P. I. E.

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

PURE-BRED **SHROPSHIRES** FOR SALE

500 RAMS, one and two years old, 300 yearling EWES
These sheep are of SUPERIOR QUALITY and are offered in lots to suit at
REASONABLE PRICES

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Shropshires sired by rams imported by me from England.
The Famous Glide Merinos.
My purebred range-raised yearling Shropshire and Merino rams are now ready for inspection at my place.

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A FEW SHORTHORN BULLS FOR SERVICE.

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BLACKLEG PILLS
"California's Favorite" for nearly 20 years
For the Prevention of Blackleg in calves and young cattle

Their superiority is due to nearly 20 years of specializing in "Vaccines and Serums only."
Year in and Year Out they give better satisfaction than any other vaccine made, and the cost of a few cents per dose is cheap insurance against a disease that always takes the fattest and best.
Single Pills may be used for ordinary and range stock.
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Use any Injector, but Cutter's simplest and strongest.
Prices:
10 dose pkge. Single pills $1.00
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Cutter's Pill Injector.... 1.50
Insist on Cutter's. If unobtainable, order direct.
Write for new booklet, "The Control of Blackleg." It tells about Anti-Blackleg Serum which cures Blackleg and may be used simultaneously with vaccine to combat outbreaks and safely protect valuable stock.
The Cutter Laboratory, Berkeley, Calif.
The Cutter Laboratory of Illinois, Chicago Eastern Agent

Barley-Vetch Pasture for Hogs

Because he believes hogs should have a continuous supply of pasture the year round if they are to be maintained in the most economical manner, Elmer Lamb of Stanislaus county planted two small fields of vetch and barley last fall and secured surprisingly good results.

The first field, which contains about one and an eighth acres of land adjoining his hog houses, was sown October 1, after a crop of beans had been previously harvested from the land. Twenty pounds of vetch and 40 pounds of barley were sown broadcast to the acre, and by the first of December the feed was high enough to start pasturing. The other field was sown about two weeks later, but did not grow so fast either in the fall or with the beginning of warmer weather in the spring.

Between December 1 and April 1 Mr. Lamb kept 30 to 40 head of brood sows and weaned pigs on the first planted lot every day, being careful not to pasture it so closely as to expose the roots to the heavy frosts. Early in April there was still a good supply of green feed, in spite of the fact that the field was also furnishing pasture for a team of horses.

As pasture Mr. Lamb believes that it is fully as nutritious as alfalfa, and by early fall planting he believes that he can be insured green feed every winter at a relatively small expense.

Feeding Hogs at a Profit

To the Editor: Would like to know if hogs would do well on sugar beets, tops and all—finishing off on corn (feterita) for the market.—R. E. B., Chowchilla.

[Answered by Prof. Gordon H. True, University Farm, Davis.]

I am unable to say whether hogs will do satisfactorily on "sugar beets, tops and all." The fact that you expect to finish these animals off with feterita suggests that you have this feed available as well as the sugar beets. If this is the case, it would clearly be an advantage to feed the hogs from the start both sugar beets and feterita. The idea that hogs may be grown to advantage on roughage and then finished off on grain is a mistake very prevalent in California. The hog's digestive system is naturally adapted to the use of concentrated feed, so that where it is possible to feed some concentrates with coarse feed from the store, it has always been found economy to do so. If I were feeding these hogs and had feterita and sugar beets, I should give crushed feterita in a self-feeder and let the hogs run on the beets. I believe that quicker and cheaper gains could be had in this way. If the feterita is not available until later, $40.00 barley could probably be fed at a profit. I believe, too, that a little tankage or cocoanut meal in another self-feeder would add still further to the feeder's profits.

Morning Glory as War-Time Forage

To the Editor: When I came onto this place in April there was lots of wild morning glory, and as hay and all kinds of feeds were very high, I tried feeding some of the morning glory to the pigs, to their great delight. They straightway ate them up and called for more. Then I tried it on the dairy cows, as I was short of hay, with the same results. Since then I have been feeding about 150 pounds per day to fourteen pigs, trying to get as much of the roots as possible, and a more contented lot of pigs would be hard to find. They don't leave any crumbs, eating it much better than alfalfa.

I feed about 50 pounds per day per cow and the results are very noticeable in the milk pail, showing a decided increase over the alfalfa hay ration. At the same time we are getting the weeds out of our field. We have tried the leaves for table greens and they surpass beets and spinach in my opinion. Several farms have morning glory and they might be made use of.—E. J. Nye, Cloverdale.

[With the high cost of labor we should let the pigs do their own mining for forage, giving them their part of the feed inside a fence, and confining our digging to the cow and kitchen supply.—Editor.]

CORN SILAGE REDUCES COST OF BEEF PRODUCTION.

A steer feeding test recently completed, says an exchange, illustrates the possibility of reducing the cost of beef production by the extensive use of corn silage. Sixteen head of two-year-old steers fed for 130 days made an average gain in live weight of 322 pounds per head. They were fed 3.16 tons of corn silage, 750 pounds of alfalfa hay, and 503 pounds of cottonseed meal and old process linseed oil meal per steer. They received no corn other than that contained in the silage. By this method of feeding a fairly satisfactory grade of beef can be produced, and it is possible to fatten three steers on an acre of good corn instead of one.

GOOD HAMS.

"I would pick a breeding hog for good hams, loins, pasterns, depth of body, and good back in the order named," said John F. Myers as we looked at some fine registered Berkshires of which he is the proponent. "Notice the ham from the side—how low it gets before it angles toward the hock. Notice from behind whether the hog is split up high or whether the hams make a low square arch with lots of meat above it."

REMOVE THE SCRUB RAM.

Scrub rams are expensive at any time, but doubly so at the present high price of wool and lambs. A good ram is more than "half the flock". Many successful and progressive sheep breeders trace their start on the road to success to the purchase of a good ram. Sometimes the price of the ram has looked high at the time of purchase, but developments have proved it to be the cheapest and by far the best investment.

CALIFORNIA HOG BOOK

"Worth Twice The Money"

The California Hog Book, by W. S. Guilford, issued by the Rural Press nearly two years ago, is winning its way among the swine breeders of the Coast. Here is what one buyer thinks of it:

He Changed His Mind

On July 4th he wrote us that he had heard of the book and to send him a copy to his address, C. O. D., at Los Angeles. On July 11th he wrote us:

"I am in receipt of a package with charges of $2.03. If this is the book I wrote about, it is too expensive for me. I have not opened it. The package is at your disposal."

Later, on the same day, he writes:

"Wrote you this morning, offered to return Guilford's book on hogs. Began reading it, wouldn't part with it now for twice the money. Many thanks.—M. McC."

California Hog Book, Price $2.00 Postpaid

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Mighty Good Pigs Moderately Priced

ANCHORAGE FARM NOW HAS FOR SALE SOME VERY GOOD SPRING PIGS, SIRED BY MAYHEWS LEADER 6TH, A PRIZE WINNER AT THE P.-P. I. E., AND A SON OF THE $3,000 WORLD'S CHAMPION, GRAND LEADER 2ND.

THESE PIGS WILL BRING FINE BLOOD INTO ANY HERD. THEY ARE MODERATELY PRICED AND ANCHORAGE FARM STANDS BEHIND EVERY ONE. SEND FOR DETAILS.

We are glad to answer your letters. Address

ANCHORAGE FARM Orland California Quality Products

All Anchorage Farm Pigs are cholera immune.

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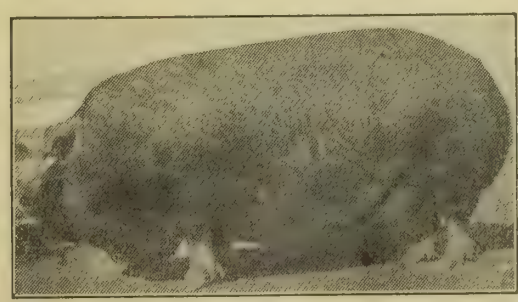
BASSETT'S POLAND CHINAS



GRAND CHAMPION SOW, P.-P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.

Young stock, $30 Up.

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TAMWORTHS

(The Bacon Hog)

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Mature Stock and Weanlings of both sexes. Sure to please.

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W. O. Pearson, Prop. Woodland, Cal.

CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

To Brew Twenty Gallons of Good Beer.

Boil in a copper kettle 24 gallons of soft water. When it boils, throw in a gallon or so of cold water to stop it and remove the fire. Put in 1 bushel of good malt and steep it for 3 hours, covering it up to keep warm. Then tie up in a haircloth ¾ pound of fresh dried hops and boil malt, hops and wort (liquor) all together for ¾ of an hour. Strain it off and when luke warm take a small quantity of compressed yeast and dissolve it in a bowl full of warm liquor and set it (the bowl) in the liquor that has been cooled until it works over the top of the bowl. Then mix it altogether and cover up the tub. Reserve a gallon or two to warm and put on the next day to improve fermentation. When it has fermented two days, put it in a barrel with a tin for the purpose of drawing out the yeast at the top cork hole. Put the bung in slightly, but do not stop down tight until it has done fermenting, which will be in two or three days. Then take out the tin, cork it close, beat the bung down tight, paste brown paper over it, and lay sand upon it and let it stand at least six months before it is tapped, but twelve months would be better. This process makes strong English beer.

SAM'L HAIGH.

Will Dog the Squirrels.

To the Editor: Whose business is it to attend to the extermination of squirrels? I can exterminate squirrels on my own land, but as soon as I do they simply come in from my neighbors'. Once I had the San Joaquin county inspectors and the Federal inspectors out and all of them put on great airs and insisted that there were no squirrels. I asserted then, and I assert now, that there are thousands, probably millions, of squirrels in this vicinity. Please say that the authorities who are in charge of the squirrel elimination are absolutely incompetent and the destruction to crops because of the squirrels, which these men say do not exist, is exceedingly serious. I shall try to use some fox terriers on my land. The squirrels have already done several thousand dollars' damage on my land this year.—Mark A. Rodgers, Acampo.

Renewing Old Friendship.

To the Editor: I was looking at the editorial staff of the Pacific Rural Press and was glad and surprised to find you still the editor. I have read the Press every season since I was a boy and find it a valuable paper for the farmers of the Pacific Coast. Since I quit fruit farming near Sebastopol I have been up here in El Dorado county raising goats, sheep and cattle. There is lots of cheap land in this county that would grow fine tree fruit and berries, and the climate is healthy and warm at this season, which makes sugar for the fruit. The time is coming when the counties along the Sierras will be the banner fruit counties of California.—Alex Ragle, Pleasant Valley.

Let's Tickle the Germans to Death!

To the Editor: Permit me to compliment you on your pleasing, humorous way of putting things. Even your editorials touching on the war are so spiced with wit and wisdom and so free from abusive language and epithets, such as are found in many even of our Christian publications, that we, whose fathers and mothers were these same "Huns," "Vandals," "Barbarians," etc., can take no offense at the Pacific Rural Press utterances, though we may not always agree with you in all you say.—J. J. Nagel, Los Altos.

FREE WATER UNDER AN EASEMENT.

To the Editor: I would like some information in regard to a water right. I own lot 2 in Ivanhoe Valley, and when the company supplying water to the valley transferred the water to the city there was existing a water right given by this company to the different lot owners where the pipe went—free water for the easement. Now, this lot has been unoccupied for several years, but now I want to use it and the city doesn't seem to want to know anything about it. The secretary of the water company says there is a water right, but they don't seem to want to do anything. I would like to know how and where I would have to go to force the city to comply with the original company's contract.—R. E. S., Los Angeles.

The conditions on which an easement over land is granted must be fulfilled by the grantee, or the easement lapses. If in the case cited an easement over your lot was granted to the water company contingent on this water company supplying you (the owner) with a continuous (or periodical) supply of water, and the company or its assignee now neglects or refuses to continue such supply, you have cause of action to compel the company to fulfill the original conditions of the grant by supplying the water as agreed. The city to which the company assigned its water rights acquires both the rights and obligations of the assignor in relation to the matter assigned—just as, on the other hand, a transfer of the real property would pass all easements attaching thereto.

While this is about the legal status of the case, it would be foolhardy for you to undertake the assertion of your assumed rights except under the advice of a competent attorney. Water companies and municipal corporations are ugly antagonists in matters under litigation, and it behooves the humble individual to use caution and deliberation before throwing down the gage of battle. Remember, too, that the extent and validity of the easement is determined by the terms of the grant, and it is well to ascertain exactly what these terms are before beginning proceedings.

CONVENIENT COW FEEDING.

[Written for Pacific Rural Press.]

A convenient system of feeding hay, concentrates and roots separately, is that used by J. W. Coppini of Humboldt county. The hay is stored overhead in the barn and simply shoved into slat racks in front of the cows in the barn. Under the rack, above the floor of the manger and fastened to the partition between each cow and the next one, is a feed box made like a cross-section of a wide pig trough. It is just wide enough for a cow to get her head in. One end of it projects far enough on the alley side of the hay rack so concentrates are put in from the alley. Root crops or green soiling crops can be hauled through the alley and dumped into the mangers.

HOGS AS BY-PRODUCT ON SUGAR BEET RANCH.

[Written for Pacific Rural Press.]

Hogs are used by M. F. Martin of Monterey county to clean up waste patches of feed on his 100-acre ranch, where sugar beet raising has for years been the chief industry.

A small patch of alfalfa furnishes most of the feed during the summer growing season and until beet harvesting is started in the fall, when they are turned onto the sugar beet tops. Those and bean straw, from the 24-acre field of "small whites" planted this year, together with a little grain, put the hogs in marketable condition and size before the cheap feed is exhausted in the late fall.

The Federal Labor Union Fruit Pickers met at San Jose recently and decided that $3.10 was a reasonable wage for ten hours' work.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swayzgood, Pomona.]

SOME OREGON EXPERIMENTS.

We have given some experiences of those who are making out all right with poultry, even at the high prices for feed, but it must be remembered that all those who are making money are people who are forehanded enough to buy feed in quantities. The man who, having a dozen or two hens, buys his feed in paper sacks, may just as well close the account, because he is going to come out of the small end of the horn.

The facts below are taken from Henry W. Kruckberg's page in the Illustrated Times Magazine, and Mr. Kruckberg states they were sent to him by Prof. Dryden of Oregon experiment station. The increase of prices in Willamette Valley, of the principal grain feeds on May 15, 1916, and the same date in 1917, is shown below (prices per ton):

	May 15, 1916.	May 15, 1917.
Wheat	$33	$85
Oats	29	57
Corn	39	85
Bran	27	42
Shorts	29	48
Ground oats	30	58
Ground corn	39	85

The highest and lowest quotations on select eggs in the Portland newspapers from May 1 to 15 last year were 23 and 24 cents, and this year at same dates 32 and 34 cents. This is an increase of about 42 per cent.

The professor says: "Everything was bought at first hand, of course, and everything, even to litter, was included in the cost of egg production. The total cost of feeding each hen was $1.80 for the year 1916, and this year at price of food so far the cost will be $3.06 cents." Now it will be seen from this that so far the price of feed has increased 71 per cent and the price of eggs but 42 per cent. Quoting the professor again: "The hens were extra good layers—a yield of 181 eggs per hen—they were Barred Rocks—is just about 100 eggs more than the average farm flock will give. If the hens had laid an average of 100 eggs per hen, assuming that the percentage of the total production each month was the same in each case, the value of the eggs laid would have been $47.21, or $2.36 per hen, a profit on feed of but 56 cents per hen." Should the farmer, however, have a fairly good strain of fowls, he should be able to secure, if they are pullets, an average of 150 eggs per hen, or 3,000 from a flock of twenty. The value of the eggs would then be $3.55, leaving a profit on the feed of $1.75.

These figures don't seem to tally, in my reckoning, but I have given them just as I found them in the Times. To sum up, the professor says: "If the farmer has a good laying strain of hens, buys his feed at first hand, and cares for his flock intelligently, he can make money with poultry. If, however, he has a poor strain that does not lay over 100 eggs a year, he is losing money, and even though he has good hens and buys his feed prudently, he is losing money. So there you are. Just the same old song I have been singing to you the last many moons, but it's in a new tune, so maybe you can catch on and sing it yourselves.

Second Thousand

Answered Questions

in California Agriculture

A Sequel to "One Thousand Questions in California Agriculture Answered."

By Edward J. Wickson
Editor Pacific Rural Press

First Edition—1916

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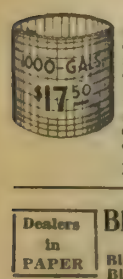


35 years in this business. I sell direct to the consumer. You act as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.

R. F. WILSON, Stockton, Cal.

Dealers in PAPER

Blake, Moffitt & Towne
37-45 1st St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

The average farmer makes several mistakes in his poultry department. First, he does not consider it of any importance. That is the biggest mistake, and until he rectifies that no others count. In a year like this, when the navel orange crop was destroyed in a few hours by the heat, if the grower had a fair sized flock of poultry he could manage to grow a quantity of green feed in his orchard, without in the least injuring the ground; and by turning the chickens loose they would pick up some animal and mineral food, and with the addition of his green feed, that would be tender with irrigation, he would only have to buy a little grain feed and he could at least keep his grocery bills down. An orange grove is too much shaded for the growing of vegetable crops, but green feed and chickens, and, for that matter, bees, would be a good combination that would help many a family to tide over such a time as this.

GIVE PULLETS SPECIAL CARE.

The early pullets of small breeds, such as Leghorns, Anconas and Minorcas, should now be receiving special care. Don't let them commence to lay by chance. Just a few will lay a fair amount of eggs with such treatment, but if the egg organs and the constitution are properly fed and educated, these early pullets are a gold mine. They come in at a time when hens are getting seriously hampered by the molt, and if kept right up to the notch the second batch of eggs pass as hen eggs, provided they are from a strain that lays a good-sized egg.

Feed pullets a laying ration and plenty of green feed, grit and shells. Next keep them clean, and if they are shut up in yards, either spade up the yards frequently or move the pullets to fresh ground. Moving will delay the laying process a short time, but it is good in spite of that, because when the pullets do start to lay after several moves they will be all the better prepared to stick at the job.

Now, for bringing pullets on and making them develop quick, there is not anything quite as good as sour milk. Mix the mash, or a part of the daily mash, with sour milk, and if it is plentiful give them some to drink, but they should be given water, too, so that they can drink either at their own choice. Much of the trouble that comes from feeding fruit is because there is not enough of anything else fed them, and they eat more than they otherwise would. When chickens are fed plenty of other feed, they eat fruit more as a relish or drink, and they don't often eat enough to be harmful. Too much acid, and nothing in the craw to offset it.

Eggs are on the upward trend now, and there is no reason for them to go back, but I don't look for extravagant prices, nor would I want to see them, because the people who need eggs and will always buy them at reasonable prices are the wage earners, and if eggs go beyond their means they don't go into circulation.

SUBSTITUTE FOR PAINT.

To the Editor: I have recently built a chicken huse 60x16 feet. All kinds of paint are twice as high as they were a year ago, so I do not feel that I can put the money in paint. Can you tell me if crude oil mixed with kerosene would be effective on the outside? If so, is there anything I could mix with it to give it a green shade or chocolate brown?—Mrs. P. B. V., Live Oak.

Crude oil, coal oil and a little linseed oil mixed makes an excellent paint for outdoor buildings. I use one quart linseed oil and one quart coal oil to six quarts of crude oil. For a dark red or brownish color, buy the "prince metallic" at the hardware store. This is a dry powder and mix in until thick enough to use. If you want green get Chrome green and mix. Reddish brown is more suitable for outbuildings, and it keeps the wood and keeps mites out.

LIMBERNECK.

To the Editor: My chickens' necks get limp and they can't hold their heads up. They die quickly.—Mrs. H. L., Fairmead.

These chickens have limberneck. It is caused by eating maggots of some dead animal — perhaps dead chickens or gophers. What you must do is to search thoroughly wherever the chickens run and find all dead chicks, gophers or whatever dead things are around, or you will lose more. Treatment is of little use until you clean up. Give them a teaspoonful of castor oil and about fifteen drops of oil of turpentine. Pour down from spoon or medicine dropper. Then give a little ginger tea and feed warm, soft food, keeping the birds in a cool place.

RABBIT HUTCH CONSTRUCTION.

To the Editor: What size, height, width and length are preferred in rabbit houses? Is it advisable to build them "two story"? Is a solid or slatted bottom the best construction, and if the slatted bottom is better, what size cleats and how far apart? Is it preferable to slat only one corner?

Rabbit hutches are built about 2 x 3 and about 2 feet high. Slatted bottoms are best. The slats should be 1½ x 1 and half an inch apart. This enables them to keep dry and clean when hutches are set up from the ground, besides allowing for a better circulation of air. It is not advisable to put one tier on top of another, though it is often done. But if disease gets among them, the lower ones get it from those on the floor above.

PREMATURE MOLTING.

To the Editor: I have some white Plymouth Rocks, about 55 hens, which laid well until now. I think they are molting. I feed Surelay and barley. When should they lay again? Will it pay me to keep the hens over winter?—H. G. N., Dinuba.

Very likely the hot weather started these hens to molt, and they may make a partial molt only. The time they are idle will depend much on how you feed them and whether they are of good laying stock or not. Feed them well if you want to get them back to laying. Give plenty of meat or milk, greens and some good scratch food. Sprouted barley is good, too, for molting hens.

To effectively combat roup, sick fowls must be completely separated and kept at some distance from the others. Treatment must be regular and frequent, as often as three times daily in severe cases. Mucous plugs, patches and incrustations should be removed with a toothpick, splinter or cotton swab, care being taken to destroy or disinfect all such material. A number of reliable remedies may be applied afterwards.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

FEEDS AND FEEDING.
(Continued.)

CO-OPERATIVE PURCHASING OF FEED.

Last year, through the efforts of the Farm Bureau, there was organized at Tolenas, three miles northeast of Suisun, a co-operative purchasing association. Prior to this all were buying feed at the regular retail price. Some paid cash and others played the credit game, to the disaster of the feed dealers. The man who paid cash shouldered the load of his dead-beat neighbor. Nobody was satisfied. A meeting of the Farm Bureau brought out enough discussion to show that it was a case of co-operation or quit. The president and secretary were appointed a purchasing committee. The several feed dealers were invited to bid on the combined order, which was to be spot cash. The result was surprising to all parties. Since then practically all the feed has been purchased in this manner. Some of the eggs were also marketed through the association, but this has not been as satisfactory as the feed-buying end.

Placer county, we believe, is going to purchase their feed through the Farm Bureau. The people of California are not getting the most out of their farm bureau organization. Every county should have a purchasing agent to buy supplies for the farmers, orchardists and poultry men. Now is the time to get your stock of grain, but it is almost impossible for an individual, especially one who has but a few hens, to purchase grain for the same price as his neighbor with a large flock. The central purchasing agent would do away with this inequality. We know a party in Sacramento who bought his wheat in Oregon in carload lot at several cents less than the price down here, saving several dollars per ton. Unless one has friends who are grain farmers, it is impossible to buy feed from them, because they do not like to peddle out small lots.

If your county has no farm bureau or county purchasing agent, organize your community and buy collectively, in order to get your supplies at the lowest possible cost.

FEEDS.

Wheat is well liked by fowls, which do well on it. In fact, most of the hens on the farms up to last year were fed wheat and its milled by-products. All poultrymen recognize wheat as the best grain, and most fowls will eat it before any other. The high price now, however, makes its use almost prohibitive. Does it pay to feed three or three and one-half cent wheat to hens? Some say yes, but the great majority who do it think it does not. We intend to feed a little this coming year.

The mineral matter in wheat, in addition to its food content, makes it especially valuable as an animal food. The nutritive ratio of wheat is 1:6.9. Shrunken wheat contains the normal amount of protein, and is therefore an excellent food, having the full fibrous content, along with the mineral elements. The nutritive ratio is higher than plump wheat, and must be taken into consideration when making up the ration.

Bran shorts and middlings are wheat by-products. Bran is the outer flaky wheat coat, its quality being determined by its flakiness, and contains most of the mineral material of the wheat. It is especially good for chicks if fed dry, but when fed wet proves too laxative. It is very bulky, weighing about sixty pounds in common grain bags and one hundred in large northern sacks. N. R. 1:4. Middlings is made from the next wheat layer as a rule. It is of higher quality and is higher priced than bran. N. R. 1:5.1.

In the milling some of the bran and some of the middlings are mixed. This is shorts. It is sometimes known as brown middlings or red dog meal, and may be substituted in a ration for middlings, being half as valuable, having fewer heat calories.

OUR COMING GRAIN SUPPLY.

Many a poultryman and small farmer is pondering over the question, "What shall I feed this coming year?" There is no doubt that wheat will be above the reach of poultrymen. We understand that grain dealers are offering from three to three dollars and fifty cents per hundred for wheat that is now being harvested. There is a question as to whether it is worth the above price for chicken feed. We intend feeding a minimum amount of wheat, making oats and barley the main grains. There is no doubt that wheat is a better feed than either of the latter. Corn is a good feed and possibly will be cheaper if the dry law is put in force. Indications point to good crop. Sorghums and milo are classed with Indian corn. At the present time we cannot forecast the supply. This season we fed a considerable amount of white oats with excellent result. The only fault we found there was a tendency for the hens to get too fat. Barley, being the main grain on the Pacific Coast, will be our cheapest grain. The present prices to the ranchers range from two to two and a quarter dollars per hundred.

We would recommend, if the farmers and poultrymen are in a position to do so—to buy their grain supply now direct from the farmer. Club your orders and save the middleman's profits.

Keep poultry houses and grounds well sprayed with disinfectants.

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, box 396, Los Gatos, Cal.

DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

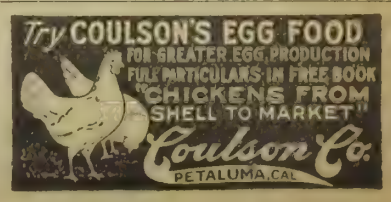
INCUBATORS—For Essex Model Incubators at factory prices, write Geo. H. Croley Co., Inc., Poultry Supplies, 631-637 Brannan st., San Francisco.

"EASTMAN'S BRED-TO-LAY" Barred Plymouth Rocks, August chicks and eggs. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

BRONZE TURKEYS — Albert M. Hart, Clements, Cal.



Mrs. Best's Letter.

RANDOM NOTES ON LATE STYLES.

My Dear Friends: Knitting bags are exceedingly popular now, and you can find them not only in gay colored cretonne in odd styles, but also in shirred poplin of gray, blue and purple, as well as brocaded satin bags of rose and blue and gold and silk taffetas, with small pockets for small trifles. Prices range from $2.50 upward.

The trench cases, made of khaki, are much in demand now as gifts for soldier friends and relatives. They are fitted up with the necessary articles, including a mirror, and range in price around $5.00, according to the style.

The shopping bags for fall are much in evidence in the shops, and are of many styles and designs. There are bags all of beads in conventional or Oriental designs, bags of velvet or silk of unusual designs, embellished with beads, and bags of patent leather with a hairline stripe of red, blue, purple or white to make them effective. These latter bags are in the flat book style. Perhaps the shortage of leather is responsible for the many bags made of other materials.

The lace jabots continue to be much worn and many beautiful ones are shown all ready made, but you can buy eighteen-inch nets with lace from two to four inches wide already sewed that can be made up at home. These jabots are attached to collars that must be boned up around the neck.

Some of the new fall waists come in broad collared effects with quite elaborate designs of hand-embroidery or a profusion of lace, and so far are mostly in white and flesh tint. There are a few soft tan ones embroidered in beads and silk of the same color, and as the season advances there will be other colors shown, of course.

If one can judge from the stocks of trimming furs shown, it is going to be a fur season. You can buy furs in various colors and varying widths from 40 cents to $20 a yard, depending upon the width and the desirability of the fur. Coney, fox, seal, skunk, mole, squirrel and beaver are all shown.

One of the best stores is showing a line of all-white hats for late summer and early fall wear. They are unusually smart and are of velvet, hatter's plush and satin, with some small turbans of white feathers.

The new sweater coats for children are much seen here all summer and would be good for all parts of the State a little later. These are made long enough to well cover the knees and button up the front to a military collar, and are of firm weave, so there is a good deal of warmth in them. Many of them are in soft shades of tan or green. Many times there is a snug cap of the same color to wear with them.

ROSABELLA BEST.

VEGETABLE DRYING.

Editor Home Circle: I saw it stated in some agricultural paper that potatoes peeled, sliced and sulphured and dried on galvanized wire trays are when cooked equal to fresh potatoes. Sulphuring potatoes will make them tough as a piece of buckskin and quite uneatable. The British government during the Crimean war was supplied by a firm located at Douglas, Isle of Man. The potatoes were peeled, cooked and mashed and forced through perforated plates and dried in a vacuum and came out beautifully white and light. As I was in the business some years ago, I devised a method of my own. I washed, peeled and sliced raw potatoes, dropping them into salted water. They were then spread by machinery on wooden trays and piled on iron trucks that were run into large retorts, heated by a steam coil. An air pump exhausted the air just enough to prevent the potatoes discoloring or bursting or being cooked. When soaked and cooked, they cannot be distinguished from fresh potatoes. — Sam'l Haigh, Santa Clara county.

THE HOME CIRCLE

CANNING CORNED BEEF.

After beef has been properly corned for required time, remove the meat from the brine; soak for 2 hours in clear water, changing the water once; place in a wire basket and boil slowly for ½ hour. Remove from the boiling water; plunge into cold water and remove gristle, bone and excessive fat; cut into small pieces and pack closely into glass jars; put rubber and cap in position, not tight, and sterilize in water bath outfit for 4 hours. Remove jars and tighten covers. Cover with paper when ready to put away.

CANNED CHICKEN.

Kill fowl and draw at once; wash carefully and cool; cut into convenient sections. Place in wire basket or cheesecloth and boil until meat can be removed from the bones. Pack closely in glass jars; fill jars with pot liquid, after it has been concentrated one-half; add level teaspoon of salt per quart of meat for seasoning. Put rubber and cap in position, not tight; sterilize in water bath outfit for 3½ hours. Remove jars, tighten covers, invert to cool. Wrap with paper to prevent bleaching.

COOKERY HINTS.

To produce the attractive brown glaze on pastry, brush a bit of white of egg over the top crust before baking.

To prevent a fruit pie from having a soggy under crust, brush the lower crust with white of egg before putting in the fruit.

Before baking either pies or cakes the oven should be tested with a piece of white paper. When the oven begins to heat, place a sheet of white paper on the tray. When it is a golden brown the oven is ready.

JELLY STOCKS.

When fruit is plentiful, it is not always possible to make jelly and in that case it may be used to make jelly stock.

A jelly stock is simply the juice of boiled fruits containing the necessary pectin and acid; it can be kept indefinitely and can be made into jelly by boiling with sugar.

Prepare it by cooking the fruit until tender and then strain through a jelly bag. Red currants, loganberries and crab apples are so rich in pectin that the pulp left in the bag may be reboiled for 10 minutes with water of about half the volume of the juice. The reboiled pulp is strained and the second lot of juice added to the first.

Test the jelling quality by boiling a small cup of the juice with the same quantity of sugar. If it fails to jell, boil the juice down more.

Heat the juice to 130 degrees F. and place in clean scalded bottles, filling to within 1½ inches of the top. Close with corks that have been boiled or steamed for half an hour and tie down.

The juice may also be poured hot into cans or heated jars, which are sealed at once.

The bottles, after filling, should be placed on their sides in a boiler of hot water for 15 minutes. Cans or jars should be placed upright. After heating, the bottles and jars are placed on their sides to cool.

Fruit juices may be canned separately or blended, as one desires. Loganberries and strawberries, apples and apricots make good combinations.

To make the jelly, shake the stock well and pour into pans with an equal amount of sugar. Boil and pour into jelly glasses. This method defers the purchase of sugar and makes it unnecessary to have so many jelly glasses on hand.

STRAWBERRY RECIPES.

Strawberry Ice.—Boil 1 pint sugar with 1 quart water until it drops like honey. Cool, add the juice of 1 lemon and 1 pint strawberry juice. When partly frozen, add 1 cup thick cream and finish freezing.

Strawberry Saracen.—Toast thin slices of bread, butter and line a buttered baking dish with them. Fill the dish with alternate layers of strawberries and toast, sifting sugar plentifully over them, then bake for half hour. Serve cold with thick cream.

Strawberry Dumplings.—Make a good biscuit dough, roll thin and cut in rounds. Place 3 or 4 large strawberries in the center of each round, fold the dough around them and pinch together in a dumpling. Lay smooth side up and bake. Serve hot with cream and sugar.

Friends, I think that good must come of good,
And ill of evil—surely unto all,
In every place or time, seeing sweet fruit
Groweth from wholesome roots, or bitter things
From poison stocks: yea, seeing, too, how spite
Breeds hate—and kindness friends—or patience peace.
—Edwin Arnold.

Good Health.

[By H. E. Pastor, M. D.]

Tiding Over the Hot Spell.

Hot weather and fairly good health are not incompatible if we use a little gumption in lessening the discomforts naturally growing out of the heated term. There are several things that can be done to this end. The dwelling place should be well ventilated and screens should be provided to enable one to secure a free circulation of air without admitting flies, mosquitoes, gnats and other winged wanderers of the air. The diet should be reduced in quantity and confined to such articles as fruit, vegetables, farinaceous foods and eggs, with a minimum of meats and fats, more especially animal fats. Don't overload the stomach with too much food of any kind; better arise from the table a trifle hungry. Ice cream and iced drinks are valuable in keeping the bodily temperature down, but these things should not be partaken of immediately after great exertion or when one is much fatigued; better rest and cool off before indulging. Heavy work of any kind in excessively hot weather, either indoors or outdoors, should not be undertaken, unless absolutely unavoidable. Save time and health by postponing heavy jobs till cooler weather. Cold bathing, as frequently as possible throughout the day, is desirable. Clothing should be simple and light, as much so as the laws and ordinances will permit. Keep cool mentally as well as bodily; and if, after doing all these things, you are not entirely comfortable, bear in mind that the heated spell will not last forever. Weather changes—it's a habit it's got into.

What Is a Calory?

Now and then a new word creeps into our terminology and moves around like a dancer in a masquerade ball. Few of the beholders know who the dancer is. Latterly we find the word "calory" frequently mentioned in scientific discussions of food values. It is used to designate the unit of food value. Food substances are burned (or oxidized) in the body just as fuel substances are burned (or oxidized) in a furnace. It has been found convenient, therefore, to determine food values by the amount of heat the food generates in the human body in undergoing digestion and assimilation. A calory represents an amount of heat generated sufficient to raise the temperature of a pint (or pound) of water four degrees F. The nutritive value of foods is thus expressed in calory units.

Guard Carefully Your Milk Supply.

A recent number of the Journal of the American Medical Association relates that in a small town in Wisconsin quite recently an epidemic of septic sore throat seized upon about one-third of the population. It transpired on investigation that the contagion was traceable to infected milk, all coming from one dairy. This was proved by cultures from the sore throats of the infected persons, which were used to swab the throats of animals by way of experiment. These animals developed the same symptoms as the human patients from whom the cultures were taken. The epidemic was not ended until the cows responsible for the epidemic were segregated and their milk no longer used. The lesson to be drawn

from this incident is that all milk which in any way falls under suspicion should be properly pasteurized. It is claimed that a virulent bacteria may be present in the udders of cows which show no outward signs of infection.

Medicinal Use for Orange Peel.

The exigencies of the war situation in Europe have brought into use some homely substitutes for standard drugs which have become scarce. An effective laxative is said to have been found in orange peel, which is plentiful in our own State and is a cheap and simple remedy if as effective as reported. The fresh orange peel is boiled for half an hour in water. This water, which draws out the bitter principle, is discarded, and the peeling then boiled for another half hour in fresh water slightly sweetened. The peeling is then removed and dried. The peel of one orange is said to be an average dose.

Fruits Versus Drugs.

Fruit acids should enter more largely into the dietary of the average person than they do, especially at this season of the year. While their food value is not great, they serve to keep sweet the stomach and intestinal tract. Fruits of all kinds are plentiful in California. They are safer and pleasanter to take than drugs—and cheaper.

SMILING TO THE TOP.

The man with a smiling face
Gets along better in the race;
Better comes and goes the stock,
Better grows and yields the crop;
Going out and coming in,
Things go pretty well with him.

HOW TO USE RICE.

As a staple article of diet rice may be boiled in salted water and used like potato or sweet potato as a vegetable at a meal at which meat, eggs, beans, gravy or other foods rich in protein are served. Wholly or partially cooked rice can be used with cheese, minced meat or poultry, fish, eggs, beans, etc., for a variety of made dishes, the combinations constituting dishes in which most of the needed food elements are present. It also may be used as a major or minor ingredient in stews and soups.

Instead of serving rice plain as a vegetable, it may be stewed with tomatoes, cooked in a double boiler with tomato juice, soup stock or milk, or it may be seasoned with curry powder, onions or other seasoning materials. By using skim milk in this way a particularly economical dish is produced.

As a cereal for breakfast, rice may be boiled in milk and sweetened, or eaten with butter and salt. If it is desired, dried fruits such as dates or raisins, may be cooked with the rice. Cold boiled rice, mixed with pancake or muffin batters of wheat, buckwheat or corn meal, makes a pleasing addition to such food products, and reduces the quantities of other left-over cereal.

CHERRY PRESERVES.

Place 1 gallon of water in a kettle and add 10 pounds of pitted cherries. Boil slowly for 18 minutes. Add 12 pounds of granulated sugar and cook until the product is boiling well. Cool quickly in shallow pans. Pack into glass jars. Put the rubber and cap in position, not tight. Sterilize for 20 minutes in water bath outfit.

After all, what are shadows? The grass of June laughs at the storms of December.

The college athlete will be proud of a blacked eye he'd be ashamed of had he got it around behind the barn.

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The nation has a big job on its hands. It's only a little part, perhaps, but a genuine part of that job to keep up the cheerfulness of camp life, to keep tight the bonds between camp and home. Pictures from home to the camp and from camp to the home can do their part.

There's room for a little Vest Pocket Kodak in every soldier's and sailor's kit. The expense is small, six dollars. The cheerfulness it may bring is great. They are on sale by Kodak dealers everywhere.

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THE RETREAT OF THE ANTS

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, August 1, 1917.

WHEAT.

Very favorable crop reports from all Coast grain-growing sections have softened the local market, and prices of all lines show declines. Congressional action in fixing a $2 minimum price on wheat has had quite a depressing effect on buyers, and they are keeping out of the market for the present.

Sonora wheat	$3.55@3.60
Northern Club	None offered
California Club, per ctl	None offered
Northern Bluestem	$3.75@3.80
Northern Red	3.60@3.80
Russian Red	3.50@3.55

BARLEY.

The spurt in futures on the speculative barley market has given a stimulus to spot trading, and a number of transactions were recorded during the week. Light receipts and a decided increased demand have caused an upward trend to the market, which resulted in advances in values of choice feed.

Shipping, per ctl	Nominal
Brewing	Nominal
Choice Feed, per ctl	$2.25@2.27½

OATS.

The better tone of the barley market reflected a stronger feeling to oats, producing livelier and more frequent transactions. Values of both white and red feed have advanced and choice lots of red can command even higher figures than the quotations indicate.

White Feed, per ctl	$2.35@2.50
Red Feed, per ctl	2.35@2.40

BEANS.

Such a quality of instability has developed in this market that quoted values are hardly reliable. Prices can only be determined at the time of making a transaction. During the week declines occurred in prices of bayos, cranberries, pinks and Mexican reds. Crop reports from all sections generally are very cheering and under ordinary conditions a good yield seems assured, over an increased acreage.

Bayos, per ctl	$ 8.25@ 9.25
Blackeyes	8.00@ 8.25
Cranberry beans	10.50@11.00
Horse beans	4.00@ 4.50
Small whites (south)	14.00@14.75
Large whites	14.00@14.75
Pinks	9.00@ 9.50
Limas (south, recleaned)	11.75@12.00
Red kidney	13.50@14.50
Mexican reds	9.50@10.00
Tepary beans	None offered
Garbanzos	6.00@6.25

CORN.

The Eastern situation of ascending prices has strengthened the local market and an advance in Eastern yellow has occurred. Few shipments have been made from Eastern points and stocks of that variety are very light here. There is so strong a feeling that orders for Eastern yellow would not be filled except at advances.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, per ctl., bulk	$4.00@4.15
California, sacked	Nominal
Milo Maize	None offered
Egyptian	None offered

HAY.

The sudden drop in the receipts of hay during the past week was quite unexpected. Probably the decrease is due to the difficulties in getting cars for shipment, the railroads claiming a car shortage and refusing to give any but gondola cars. Most of the hay arrivals have been by boat from bay and river points. Considerable hay has changed hands on a basis of present prices, mostly for immediate use and some for storage. Receipts of fancy wheat hay are small, with a good demand. Fancy red oat is plentiful. Locally, trade is rather quiet, buyers preferring to wait for lower prices. The U. S. transport Dix has taken 2000 tons of hay, ordered in May. Otherwise export trade is dull. Alfalfa is in good demand, with receipts lighter than usual.

Wheat, No. 1	$17.00@19.00
No. 2	15.00@17.00
Tame oats	18.00@19.00
Wild oats	13.00@16.00
Barley	13.00@16.00
Alfalfa, new, first cut	13.00@16.00
Stock hay, new	10.00@12.00
Straw, per bale	Nominal

FEEDSTUFFS.

Owing to the drying of pastures, there is more call for feedstuffs and this has automatically forced up values in some lines. Inquiries are now very frequent and have developed more activity in this market. Alfalfa meal, rolled barley and oats have advanced since last week.

(Per ton, San Francisco.)

Beet Pulp, per ton	$38.00@40.00
Alfalfa meal, per ton	26.00@28.00
Bran, per ton	36.00@38.00
Oilcake	50.00@55.00
Coconut cake or meal	38.00@39.00
Cracked corn	82.00@83.00
Middlings	49.00@50.00
Rolled barley	48.00@49.00
Tankage	None offered
Rolled oats	$56.00@58.00
Rice middlings	None offered
Rice bran	$30.00@33.00
Shorts	43.00@45.00

POTATOES, ONIONS, ETC.

Asparagus is now off the market. Peas are doing a little better, but wax beans have dropped below last week's quotations. Other lines are normal in price and supply, with the exception of river tomatoes, which are cheaper. Potatoes arrive regularly in good supply and shipping is very active. Scarcity of help and the unfavorable labor conditions generally have been the means of forcing up prices of both potatoes and onions. Onions, however, are far too low, even at the advances.

Asparagus	None
Peas, per lb	4@4½c
String beans, per lb	2@4c
Wax beans, per lb	2@4c
Hubbard squash, per dozen	40@65c
Summer squash, per box	75c@$1.00
Cucumbers, per box	50@75c
Celery, per lug	Nominal
Tomatoes, per lug box	75c@$1.00
Sacramento river	$1.50@$2.00
Potatoes, Salinas	Cleaned up
Oregon	None
New, per ctl	$2.50@3.00
Sweets, per lb	None offered
Onions, yellow, per sack	$1.00@1.25
Reds	85c@$1.10
Garlic, per lb	2½@3½c

POULTRY.

The market is active and responds easily to the supply. Heavy arrivals of young stock were the feature of Wednesday's proceedings. All grades of fryers are quoted at 26 to 27 cents. Geese, squabs and ducks are quiet and Belgian hares are normal.

Turkeys, live, per lb	20@22c
do, dressed, large, per lb	None
Broilers, 1½ to 2 lbs	26@27c
do, under 1 lb	26@27c
do, 1¼ lbs	26@27c
Fryers	27c
Hens, extra, per lb., colored	20c
Small leghorn	15@16c
Smooth young roosters, per lb. (3 lbs. and over)	28c
Old roosters, per lb	12@13c
Geese, per lb	12½c
Squabs, per doz	$2.50@3.00
Ducks	15@18c
Old	12½c
Belgian Hares (live)	10@12c
do (dressed)	12@14c

BUTTER.

Apparently the market is firmly set at the present high figures. Government orders continue heavy and, with the large concentration camp located within the reach of local dealers, it does not seem likely that the Government business can do anything but increase in volume. There are some dealers, however, who are of the opinion that the market is too high for the housekeeper, who, when extras retail at over $1 per two-pound square, will curtail on butter purchases. Hence they look for a break in the market within a week.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	41	41½	42½	43	43	43
Prime firsts	40	40	41	41½	42	42

EGGS.

Extras are becoming very scarce and are raising automatically, which is to be expected at this time of year. The deficiency in arrivals this week was over 1500 cases, and this slacking off of receipts may be expected to continue until fall. Prices of eggs, therefore, are not likely to show any material declines for some time.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	37½	37½	37½	38½	38	38½
Extra 1sts	36½	36½	36½	36½	36½	38
Extra pullets	36	36	36	36½	36	36
Ex. 1sts pul	35½	35	35	35	35	35

CHEESE.

The heavy export business of the past few months has cleaned the market of most lines of cheese and there is barely enough to satisfy home demands. Young Americas and flats both show advances over the quotations of last week, but these prices can hardly be relied upon to stay firm.

Y. A.'s	24c
Fancy Calif. Flats, per lb	21c
Monterey cheese	8@18c

DECIDUOUS FRUITS.

Apples are cheapening under the strain of increased supply. California cherries practically are over and cherries now in market come from Oregon, and Oregon Bings are sold by the drawer at $1. Figs are arriving now very readily and to include those packed in double tiers the quotations have been changed. Seedless grapes are on the market, fetching the same range of prices as Malagas.

Apples, Gravenstein, per box	$1.25@1.75
Pears, per box	75c@$1.50
Cantaloupes, per crate	$1.50@2.25
Currants, per drawer	75c
Cherries, per drawer	$1.00
Apricots, per box	75c@$1.50
Peaches, per box	50c@$1.00
Figs, per box	50c@1.50
Plums, crates	50c@$1.00
Watermelons, per crate	$3.50
Grapes, Malaga	$1.00@1.25
do, Seedless	1.00@1.25

CITRUS FRUITS.

Valencias show a little weakness owing to the arrival of several carloads of inferior quality. Lemons are stiffening, and lemonettes have advanced. The demand from the East is enormous due to the hot wave sweeping over that region.

Oranges:	
Valencias, fancy	$3.50
Valencias, choice	$3.00@3.25
Lemons:	
Fancy, per box	$7.00
Choice	$6.25
Standard	$3.75@4.00
Lemonettes	4.25@4.50
Grapefruit, fancy	3.50@3.75

DRIED FRUITS.

There is a general feeling of uncertainty among buyers, who are holding back, awaiting developments. Considerable surprise was expressed by some of the dealers at the announcement from the California Peach Growers advancing certain of their prices. According to the new list, standard unpeeled yellows and Muirs are quoted at 8⅛c, choice unpeeled yellows are placed at 8⅝c. Other grades remain at the former established base prices and fancy and extra fancy Muirs are withdrawn from the market.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop	9@9½c
Apricots, per lb	13@16c
Figs, black, 1916	None
do, 1917	5¾@ 6¼c
do, white, 1917	6½@ 6¾c
Calimyrna, 1917	10 @11 c
Prunes, 4-size basis, 1917	6 @ 6½c
Prunes, 1916	None
Pears	8 @10 c
Peaches, 1917	8 @ 8½c

BERRIES.

Banners are very plentiful and as the quality is somewhat inferior they have not held up to last week's quotations. The range of prices on Banners is wide. There is still a good demand for berries, especially rasps, which are higher. Blacks are cheaper and gooseberries are off the market.

Strawberries, Banners, chest	$6.00@ 9.00
Longworths	8.00@ 9.00
Blackberries, per chest	4.00@ 5.00
Raspberries, per chest	8.00@10.00
Loganberries, per chest	5.00@ 6.00
Gooseberries	None

HONEY.

Present prices of honey are considered by some dealers to have reached a point where they are too high for the consumer's pocket and must fall to a more reasonable level before there can be any trading of moment. The crop of new honey is turning out better than expected earlier in the season.

Comb—	
White honey	15@17c
Light amber	12@15c
Amber	8@10c
Extract—	
Water white, per lb	10@12c
Light amber, per lb	9@10c
Amber	8@10c

HOPS.

Contracts for futures are stronger, ranging from 12½c to 14½c—occasionally 15c. Spot stocks are plentiful, there being about 50,000 bales in growers' and dealers' hands. California will raise this year about 85,000 bales of hops, against 145,000 bales for last season.

Choice baled, per lb	10@12c

LOS ANGELES.

Los Angeles, July 31, 1917.

BUTTER.

Receipts of week ending July 31....356,900
Receipts of same week last year....344,700

With lighter receipts and holding up in consumptive demand, the market steadily advanced the past week. The production in the southern half of the State is said to be running lighter than a year ago. Tuesday the receipts were heavy, yet there was no change in the market, dealers on call holding Monday's advance in the face of more liberal arrivals.

We quote:

California extra creamery	44c
Prime first	43c
First	42c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	41½	42	43	43	44	44
1916—						
Extra	26	26	26	26	26	26

EGGS.

Receipts (railroads) for week ending July 31, 1917, 1245 cases.

Receipts (railroads) for week ending July 31, 1916, 1952 cases.

There was a noticeable falling off in receipts the past week, influenced by hot weather and molting of hens. Yet the supply was equal to the demand. Cold storage stocks here are also 17,505 cases heavier than a year ago, which had a rather bearish influence. Hence a weaker market and a decline of 1c up to Saturday. Monday, however, the market strengthened up a little under light receipts. Tuesday, under light receipts, extras sold up 1c and demand fair. San Francisco being higher caused a firmer feeling here, but the Eastern markets were unchanged.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	37½	37	36	36	37	38
Case count	37	37	36	36	36	36
Pullets	34½	34	33½	33½	34	34½
1916—						
Case count	28	28	28	28	28	28

POULTRY.

There was a dropping off in receipts the past week and the market tone was better. Broilers and fryers were steady and firm. Heavy hens scarce and higher and light hens advanced in sympathy. Ducks selling fairly at old prices.

We quote from growers:

Broilers, 1¼ to 2 lbs	20@22c
Fryers, 2½ to 3 lbs	22c
Hens over 4 lbs	21c
Hens under 4 lbs	14@15c
Ducks	15c
Geese	12c
Roosters, 3 lbs. up (soft bone)	25c
Turkeys, heavy, 12 lbs. and up	29@30c
Turkeys, light	24@25c
Squabs, live, per doz	$4.50@5.00
Dressed	4.50@5.50

FRUITS.

Market well supplied with all kinds of stone fruits and apples; prices lower. Shipping stock in good demand, but overripe and off hard to move. Grapes coming in freely; prices generally steady. Figs scarce and firm. Some nectarines now arriving and selling in a fair way. Pears slow sale and lower under free offerings. Good loose apples by the ton, $40.

We quote from growers:

Apples, Gravenstein, per 4-tier box	$1.50
do, do, 4½-tier box	$1.00@1.25
do, Alexandrias, loose, per lb	2c
Peaches—	
Freestone, local, per lug	60@90c
Clings, Tustin, per lug	75@80c
Northern, per lb	1½@2c
Figs—Black, 2-layer	$1.75@2.00
Grapes—Malaga, per lb	5@6c
Plums—	
Burbank, per lug	20@30c
Tragedy, per lug	90c@$1.00
Satsuma, per lug	30@40c
Pears, per lb	2½@3c
Prunes, per lug	90c@$1.00
Nectarines, per lb	4@4½c
Apples, green, per lug	30@40c

BERRIES.

Not many coming in now and market very quiet. Stone fruit and melons now attracting most attention of buyers. Strawberries and blackberries not only dull but weak. Raspberries scarce and higher; demand light.

We quote from growers:

Strawberries—	
Fancy, per 30-basket crate	$1.10@1.20
Poor to choice, per 30-basket crate	.90@1.00
Blackberries, 30-basket crate	1.00@1.20
Raspberries, 30-basket crate	1.80@2.00

MELONS.

Local now coming in with more freedom and controlling the market. Pineapple and Tiptop cantaloupes in very good supply and market sharply lower. Watermelons coming in freely and lower, but demand fair. Casabas slow sale and weak. Honeydew melons dull and lower.

We quote from growers:

Cantaloupes—	
Local, Pineapple and Tiptop, jumbo crate	$1.75@2.00
Watermelons, per cwt	1.00@1.25
Casabas, per lb	2@2½c
Honeydew melons, per box of 9-10	$1.00

VEGETABLES.

Market the past week held steady on most things. All good stuff in fair demand. Peas scarce and firm and in fair demand. String beans steady; slow sale. Tomatoes coming less freely and shipping stock higher. Potatoes higher and in good demand. Onions dull and weak. Corn firm and best in good demand. Summer squash and cucumbers unchanged. Cabbage dull but steady. Lima beans slow sale and lower. Bell and Chile peppers coming in more freely; slow sale.

We quote from growers:

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., July 31, 1917.

All Eastern markets showed decided improvement over the previous week, due principally to the fact that weather conditions have been more favorable and the store movement has been very active; then again, Eastern competition has considerably lessened. There has been a noticeable demand for peaches.

Shipments of Georgia peaches have lessened and offerings from Texas are very light. We do not look for competition from Eastern peaches until the first of September.

The movement of Bartlett pears from California is very heavy, averaging from 80 to 90 cars a day. The height of the shipments, however, has passed and will be somewhat lighter during the next week and a noticeable falling off from then on. Shipments of Placer County Bartletts moving in light supply, but Colfax and El Dorado pears will not be ready before the 20th of August.

Grapes are moving from Imperial and Coachella Valleys and considering the fact that the quality has been affected by the extreme heat, prices are satisfactory. Shipments of Thompson seedless have commenced in the San Joaquin Valley. Malagas are looking well and indications are for a big crop. This applies also to Tokays, but we believe the berries will be small on account of extreme heat.

A large percentage of California peaches this season have been undersized and were not fit for Eastern shipment. This has been the cause of depressing the market on early varieties and growers profiting by their experience in receiving low prices withheld shipping smaller sizes of midsummers, with the result that shipments have not at any time been heavy, consequently market has shown an active demand. San Joaquin Valley Elbertas are now moving but quality is below standard. It is estimated there are about 600 cars to be shipped East. Placer County Elbertas are of excellent quality and large sizes and will be ready for shipment about August 5th, and we anticipate a good demand.

The following prices have ruled for the week:

New York.—Bartlett pears averaged $3.28; Tragedy plums, $1.50; Wickson, $2.32; Burbank, $1.50; Diamond, $1.50; Santa Rosa, $1.47; Malaga grapes, $2.95; Thompson seedless, $2.50.

Boston.—Tragedy plums, $1.62; Burbank, $1.50; Wickson, $2.35; Climax, $1.07; Diamond, $1.90; Hale peaches, 87c; Triumph, 87c; St. John, $1.15; Bartletts, $3.32; Malaga grapes, $3.20.

Chicago.—Bartlett pears, $2.59; Buerre Hardy, $2.10; Tragedy plums, $1.36; Wickson, $1.43; Diamond, $1.40; Cal. Blue, 1.15; Burbank, $1.39; Malaga grapes, $2.50; Thompson seedless, $1.81; Hale peaches, 63c; St. John, 86c.

Total shipments from the State for the week ending July 27th, were as follows: 78 cars peaches, 256 cars plums, 672 cars pears. Total number of cars from the State up to and including July 27th, 4,066; last year, 5,499 cars.

New potatoes, per cwt.....$2.25@2.35
Peas, Northern, per lb.....7@7½c
Onions, Northern, per cwt.....$1.10@1.20
String beans, wax, per lb.....1½@2c
do, Kentucky Wonders, per lb.....2c
Tomatoes, No. 1, local, per lug..$1.10@1.25
do, No. 2 .....40@60c
Summer squash, per lug.....15@20c
Cucumbers, per box of 2½ to 3 dozen .....15@20c
Green corn, per lug.....40@45c
Cabbage, per 100 lbs.....40@50c
Lima beans, per lb.....4½@5c
Okra, per lb.....10c
Bell peppers, per lb.....7@8c
Chile peppers, per lb.....5@5½c
Celery, per crate.....$2.50@3.00

BEANS.

There was very little doing the past week. Stocks light but so was demand. All kinds of beans reported dull.

We quote from growers:

Limas, per cwt.....$11.00
Large white, per cwt..... 14.00
Small white, per cwt..... 14.00
Pinks, per cwt..... 9.50
Blackeyes, per cwt..... 8.00

HAY.

A steady and fair market was had the past week. Receipts not heavy and fair demand both from the country and city for all choice offerings. There was no disposition to buy ahead, buyers confining themselves to immediate wants. Receipts, 126 cars.

We quote f. o. b. Los Angeles:

Barley hay, ton.....$19.00@21.00
Oat hay, ton ..... 20.00@22.00
Alfalfa, northern, per ton..... 16.00@17.00
Alfalfa, local, ton ..... 18.00@19.00
Straw, ton ..... 9.00@10.00

HONEY AND BEESWAX.

The past week brought no improvement. The holding back of Eastern buyers causing dealers to buy cautiously and were inclined to lower prices. Beeswax also dull.

We quote from growers:

Orange-water white .....12@12½c
White sage .....12@12½c
Light amber sage.....9@10c
Light amber alfalfa.....9@9½c
Beeswax 31c

PRICES FOR HOPS ADVANCING.

During the past two weeks the hop market has taken a strong upward turn. Instead of from 5c to 8c—offered during the past few months—last week sales were made at 11c and 12c per pound, and this week further advances were made. Sonoma hops have sold for 15c and Sacramento Valley hops are quoted at 13c. This change in the market was brought about by the action of Congress and the shortage in production. Hop picking will commence about August 15. Labor is scarce and wages will be high. Some large acreages have been greatly reduced—notably by the Horst Hop Co. and the Durst Bros.

Special Livestock Market Report

San Francisco, August 1, 1917.

BEEF CATTLE.—There was a slight slump in livestock prices generally about the middle of last week, though at this writing the market is stiffening up again. Quotations have been shaded in some lines. There is considerable activity in out-of-town buying.

Grass Steers—
No. 1 weighing 900@1200 lbs.....8¾@9c
No. 1 weighing 1200@1400 lbs.....8¾@9c
Second quality .....8@8¼c
Thin undesirable .....6½@7½c
Grass Cows and Heifers—
No. 1 .....6¾c
Second quality .....6¼@6½c
Undesirable .....4@5½c
Hay-fed cattle ½c to ¾c higher.
Bulls and Stags—
Good .....5½@5¾c
Fair .....5@5¼c
Thin .....4@4¾c
Calves—
Lightweight .....9¼@9½c
Medium .....8¼@8½c
Heavy .....7¼@7½c

SHEEP.—There is little change in the sheep situation from week to week. Stock for slaughter is scarce, but arrivals about suffice the requirements of the market, as consumers are deterred from buying freely owing to the almost prohibitive retail prices. Some lamb stock from Nevada should be headed this way about this time.

Lambs—
Yearling .....11½@12c
Milk .....11½@12c
Sheep—
Unshorn wethers .....10@10½c
Unshorn ewes .....8@8½c

HOGS.—Hogs sagged a little through the week, heavy receipts causing a decline of about a quarter of a cent. However, the pressure has been removed and prices have recovered.

Hard, grain-fed, 100 to 150 lbs...13@13¼c
Hard, grain-fed, 150 to 300 lbs...14¼@14½c
Hard, grain-fed, 300 to 400 lbs...13¾@14c

DRESSED MEATS.

Steers—
No. 1 .....14c
Second quality 12½c
Cows and heifers.....12@12½c
Calves as to size, etc.....12@15c
Lambs—Suckling 22c
do. Yearling 20c
Sheep—Ewes 18c
Hogs 12c

WOOL.—Wools continue to be a sensational feature of the market. The trend of prices is still strongly upward, and 75c and $1 wool is variously predicted by the wise and optimistic. There is little activity in this line in California at this time.

HORSES.

The horse market in San Francisco is in a rather unsettled and unsatisfactory condition. Horses consigned on commission to any of the several horse marts in the city bring what the buyer is disposed to offer, which rarely or never approaches the stereotyped quotations appearing in local stock journals. In illustration: Last Wednesday the United Railroads Company of this city held an auction sale at its stables, corner Turk and Fillmore streets. The horses offered had good appearance and few blemishes. One bay horse 9 years old, weighing about 1450 pounds, brought $72.50. Another, a fine-looking mare, 1600 pounds weight, brought $80; some others in about the same class, down to $70. One handsome span of horses, weighing about 1400 each, light colored, brought $225 for the team. This gives a line on prices actually obtained.

Los Angeles, July 31, 1917.

CATTLE.—Tone of the market the past week was a little better. Offerings were not so liberal and for all good well finished steers market was firm. Medium and fair fleshed steers and cows, however, made up most of the offerings and they were slow sale and weak, many being forced to market by high price of feed. Calves in light supply, steady and fair demand.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs.....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers..... 6.50@7.00
Calves, per cwt. ..... 8.00@9.00

HOGS.—While receipts the past week were not heavy, they were ample for the demand, which is light this time of year. Most receipts were made up of poorly fed and half fat hogs and for such the market was 50c per cwt. lower. But while there were plenty of unfinished hogs on the market, really good grain fed hogs were scarce and commanded a premium over quotations.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 250@300 lbs..$12.00@12.50
Mixed, 200@250 lbs..... 13.00@14.00
Light, 175@200 lbs..... 13.00@14.00
Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP.—Sheep and lambs continue scarce and market firm. Killers while not wanting any great number at high prices asked, yet needed a few and bid up full last week's prices. California and Arizona furnished what coming in. The high price of wool causing flock owners to part with their sheep and lambs reluctantly.

Prime wethers .....$ 9.00@10.50
Prime ewes ..... 9.50@10.00
Yearlings ..... 10.50@11.00
Lambs ..... 13.00@14.00

North Portland, Ore., July 30, 1917.

The run of livestock at the Portland Union Stock Yards for the week's opening was lighter in the cattle and hog pens with a slight increase in sheep, in comparison with the offering of the previous week, and general market conditions were satisfactory.

CATTLE.—Of the 600 cattle submitted, a large proportion were well-bred Shorthorn and Hereford animals, carrying a fair kill. There were very few "finished" cattle, but the bulk were "good." Buyers from the coast competed for selections and the market took a strong turn with a rise of 25 to 35c in all lines, except first quality steers, which remained steady. The following quotations are made from the sales of the morning: Best beef steers, $8.50@9.00; good beef steers, $7.35@8.00; best beef cows, $5.75@6.75; ordinary to good cows, $4.00@5.75; best heifers, $5.75@6.75; bulls, $4.50@6.00; calves, $8.50@9.25; stocker and feeder steers, $4.50@7.25.

HOGS.—More than 800 hogs found their way to a steady market at last week's prices. The feature of the day for a $15.65 top, by a car load of hogs from La Grande, Oregon. This should not be taken as representing market conditions, because the load carried exceptionally heavy kill. General conditions warrant the following quotations: Prime light, $15.50@15.60; prime heavy, $15.40@15.50; pigs, $13.60@14.10; bulk, $15.50.

SHEEP.—There have been some choice herds passing through the yards at contract prices somewhat above prices quoted, but those were not handled in the open market, and cannot be used in balancing the market. The current prices are: Western lambs, $11.50@12.00; Valley lambs, $10.50@11.00; yearlings, $8.50@9.00; wethers, $8.00@8.50; ewes, $3.50@6.50.

Special Citrus Market Report

Los Angeles, July 31, 1917.

Shipments of citrus fruits from Southern California from November 1 to July 29: Oranges, 34,726 cars, and lemons, 6,749 cars. Same time last year: Oranges, 27,197 cars, and lemons, 5,814 cars.

While the tone of Eastern markets the past week was firm, orange prices showed little change.

Demand fair for best highly colored fruit, but others slow sale. Local packers paying for Valencias 1½@2c per pound in the grove, picked. Grapefruit, 1½@2c per pound in the grove, picked. Lemons firm in sympathy with higher markets East, though prices not quotably higher. Demand moderate. Local packers paying 2@3c per pound, picked, for fancy stock, but low grades have to be sold for what they will bring.

AUCTION SALES.

New York, July 30.—Thirty-five cars oranges and three cars lemons sold. Orange market strong on fancy fruit and choice fruit strong on small sizes; lemons higher. Valencias averaged $1.40@$4.45. Lemons averaged $4.50@$6.05.

Boston, July 30.—Sixteen cars sold. Market is doing better on both Valencias and lemons. Valencias averaged $2.50@$3.35. Lemons, $3.60@$6.60.

Philadelphia, July 30.—Fourteen cars sold. Market unchanged on Valencias. Demand good at prevailing prices. Higher on lemons. Valencias, $1.90@$3.90. Lemons averaged $3.40@$5.30.

WILL AVERAGE UP PRETTY WELL FOR THE TWO YEARS.

Although there will result a heavy reduction in California's citrus crops this coming season as a result of sunburn and frost, the high prices which this fractional output will normally command, coupled with the handsome returns received from sales of last season's crop, will show a very fair average of profit for the two years in the citrus industry of our State.

Classified Advertisements

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

MISCELLANEOUS.

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SECOND-HAND WATER PIPE and Screw Casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. Shecter Pipe Works, 306-8 Howard st., San Francisco.

TO FRUIT GROWERS.—New simple process for crystallizing figs and all other fruits. Instructions, terms, on application. Correspondence with fruit growers solicited. Monteith & Company, Santa Rosa, Cal.

AT LAST THE PERFECT SILO — THE Star Round; no hoops; no bolts; no experiments. Anyone can erect. Close price. Address D. O. Lively, 215 Hobart Bld., San Francisco.

GOOD PAYING WHOLE MILK DAIRY for sale; some cows for sale and some rented with place; reason for selling, other business. Box 720, Pacific Rural Press.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

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WANTED TO BUY—CANARIES—1 Coolidge Place, off Jackson, San Francisco.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

FOR SALE — Hendy Invincible Tractor, Deere three-bottom tractor plow, Universal fifty-tooth harrow, Van Brunt disc drill, Dunham pulverizer; purchased new less than three months; used few times only; property now taken by Government for Camp Fremont. P. O. Box 215, Menlo Park.

FIRST-CLASS DAIRYMAN and general agriculturist wishes to take ranch (with stock and implements) on half shares. Box 690, Pacific Rural Press.

A PRACTICAL DAIRYMAN AND FARMER wishes to take a dairy on shares; must be close to school; references. Box 730, Pacific Rural Press.

COUNTRY LANDS.

HUMBOLDT STOCK RANCHES—Dairy land. C. E. Robertson, 105 Montgomery street, San Francisco, or Fortuna, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

WANTED—To rent, a grain and stock ranch. Box 182, Vina, Cal.

SEEDS, PLANTS AND TREES.

WE BUY WEED SEEDS—Mustard, rape, anise, bitter clover, etc.; send samples; write us stating quantity and price. Globe Mills, Los Angeles.

SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar Sts., Oakland, Cal.

AVOCADO SEEDLINGS in flats; write for prices. Newberry-Sherlock, R. D. 2, Pasadena, Cal.

Publisher's Department.

During the past week we added 303 new paid subscribers to our list.

The Rural Press is to help India farmers to farm. We received this week an order to send twenty copies weekly to the Director of Agriculture, State of Gwalior, India.

Trevor J. Spalding of Visalia writes us the following interesting item: "Six cows, out of a herd of twenty, have produced twin calves since last September. All calves were sired by my registered Holstein bull."

A new subscriber at Pomona told our representative last week that he had wanted to subscribe for the Rural Press for the past thirty years, but did not have our address. We trust he will need the paper for the coming thirty years.

Copy for the new edition of California Vegetables is now nearly ready for the printer. Prof. Wickson estimates that in revising the book he will add about one-sixth to the text. New cuts will be added to embellish the book. Look for it by September 15.

A press representative writes from the southern part of San Joaquin county that considerable alfalfa hay has been sold in the Escalon district at $14.25 f. o. b. cars. Loose hay in the shock at $10. Little or no buying of grain hay. Another representative at El Monte, Los Angeles county, says that alfalfa loose is bringing $16 on the ranch.

California
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SHRUBS, TREES AND VINES

Being Mainly Suggestions for Working Amateurs

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Hon. President California State Floral Society

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262 pages, 5½x7½ inches; illustrated; cloth bound; 12 full-page photo-plates and numerous text illustrations.

This book aims to tell the beginner in California, whether he be a scholar struggling with his school-garden, or a suburbanite gazing vacantly on his residence lot, or the farm-home maker, who is puzzled to translate his experience with teams, plows and pasture fields into trowels, pruning-shears and lawns, just what to do to make garden-soils, grow plants and surround his abode with beauty under the peculiar climatic conditions of California.

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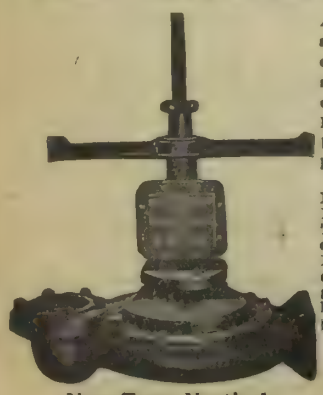

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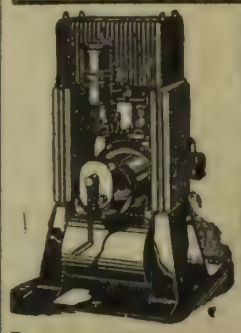

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Vol. XCIV—No. 6

Forty-seventh Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO AUGUST 11, 1917 LOS ANGELES

State Library

State Fair to Feature Agriculture and Livestock

[Written for Pacific Rural Press.]

FOOD PRODUCTION is to dominate this year's State Fair as never before. The interest—nation wide—awakened by food agitation has given agriculture and livestock an unprecedented interest in the public mind. The greatly increased number of livestock and other agricultural exhibitors this year will beat all other California State Fairs.

To prepare for increased livestock, five acres were purchased August 1 at the southern corner of the Fair Grounds, and new buildings are to be erected in order to house all Holsteins and Jerseys near the dairy products buildings. Present quarters provide shelter for 650 dairy and beef cattle. Eighty-four brand new hog pens and a new judging ring have been built in addition to the 168 new ones and the judging ring built last year. Small pens have been built around the judging ring to eliminate the vexatious corralling of excited hogs with fence panels, as during the judging last year. Maybe the 1916 hog show was not the greatest ever put together in California, but 880 head were exhibited. The California Swine Breeders' Association has assured Secretary Paine that between 1,200 and 1,600 hogs will be here September 8 to 15. Running water, electric lights, and wood floors are provided in all pens.

Nominations to the Poland-China futurities this year number 25, exceeding thirteen of the twenty state fairs holding this feature this year. Iowa has 47, Illinois 35, Missouri 29, Minnesota 28, Texas 26, Nebraska 25, Wisconsin 24, Indiana 23, South Dakota 22, Kansas, Oklahoma, Oregon and Montana 21 each, Ohio, Idaho, and Memphis (Tennessee, Kentucky, Mississippi, and Arkansas) 20 each, according to State Fair Publicity Manager G. D. Loomis. Duroc futurities were not so numerous, and no Berkshire futurities were nominated.

The Jersey quarters of previous years will be occupied by beef, which are to be here in greater numbers than ever before. Three new pens are being built for three car-lots of fat Hereford steers, 45 animals, to show what breeding and feeding can do for the nation's meat supply. Four or five Hereford herds will be here whose owners have never shown before. Shorthorn breeders have always been awake to the advertising and educational value of the Fair and will not lag this year. A well-known herd of Angus cattle will come down from Washington, and University Farm is to have its usual select exhibit.

The draft horse show will be better than ever, due to increased interest in replacing the stock taken away in the past three years for war purposes. It is fortunate that the Fair comes just before mares should be bred, for the fine animals to be shown will disgust many a farmer with the grade and scrub stallions being offered locally for reproduction of their kind. Horse quarters include 108 permanent box stalls for draft horses, 16 for ponies, and uncounted stalls for race horses.

Sheep may be no more numerous than previously, as feed conditions have been poor.

To eliminate the complaints of former years in regard to delays in switching livestock to and from the Fair Grounds, the Central California Traction Co. has given assurance of special attention. A man is to be appointed by them to stay on the grounds for this purpose. Secretary Paine hopes that a personal friend of his, a man high in railroad business, will accept the job and insure satisfaction.

Korndyke Ormsby Hengerveld 2nd, who has a 7-day record of 28.91 pounds butter; owned by F. Stenzel of San Lorenzo, who will be represented at the State Fair this year.

The above pictures a scene on the Glide stock ranch. Representatives of the Glide herd will be shown at the Sacramento State Fair and contend for first place.

Livestock Judges.

Livestock judging will be carried on by the following: E. J. Barker, Indiana, Berkshires; J. J. McLain, Texas, Durocs; H. B. Francis, Illinois, Poland-Chinas; W. T. Gatton, Los Angeles; R. V. Moore, Los Angeles, and Will Purdy, Washington, poultry, pigeons, pet stock; Prof. H. H. Killdee, Minnesota, dairy cattle; Prof. John T. Caine, Utah, draft horses and beef cattle; Prof. W. L. Carlyle, Oklahoma, horses and horse show.

Livestock entries will have closed August 8, but dairy products may be entered until September 7. Director T. H. Ramsay, in charge of this department, announces three classes and many additional cash premiums and medals for milk "guaranteed" under the dairy law. Raw and pasteurized products are to be judged separately.

Poultry will occupy the commodious quarters built last year, and additional space may be required.

Horticulture.

The abundance of this year's crops gives every promise of a representative display. The $300,000 appropriated by the past Legislature for a building to replace the one burned down last year is to be spent later, as plans have not yet matured. There is a suggestion that the new building will take its place in a comprehensive scheme that will eventually locate all livestock and poultry at one end of the Fair Grounds and the other interests in a systematic group together. Meanwhile a temporary horticultural building has been built 100x150 feet on the old foundation, with great additional floor space, to be tent-covered. The splendid county displays of last year, which burned on the second night of the Fair, are to be brought together in the horticultural building this year, newly conceived and arranged in ways to illustrate latest developments.

Government Exhibit.

The Government is to put in an exhibit that will thrill us as never before with a knowledge of what war preparation means along the lines of food, munitions, guns, navy, hospital equipment, etc. It is expected that trench digging will be shown as in modern war operations.

Vocational Exhibit.

Extra emphasis is to be placed on exhibits from students in all schools of the State, from kindergarten to university. These will generally feature handwork, and the production, cooking and conservation of food.

Tractors and Automobiles.

The automobile show last year was exceptional, though not so lux-

(Continued on page 129.)

PACIFIC RURAL PRESS

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Member Audit Bureau of Circulation.

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D. L. SCHRADER - - Subscription Manager
R. E. HODGES - - - Assistant Editor
L. H. STORGAARD - - - - Livestock

EDITORIALS

OUR CURTAIN OF FIRE.

WE DO NOT expect to often resort to barrage-firing, as we did last week, to keep outsiders from making inroads into agricultural situations, the practical requirements of which they do not and cannot fully understand. In this connection the barrage does not seem appropriate because it is certainly not desirable to drop an excluding curtain between farmers and the earnest friends of farming. Such an obstruction would work injury both ways, because there is inter-dependence which should be mutually recognized and promoted. But when there arises an attack, threatening injuries which the aggressors do not intend nor appreciate, there may have to be a few shells dropped to warn too eager reinforcements that they are throwing their gas-bombs into wrong places. This is the reason we were so ill-natured last week and explains also our intention not to use too frequently in that way such munitions as we may have. We claim a share in the general desire to pursue a constructive and not a destructive policy through this period of variable factors and unsettled conditions which has come upon our country's industries. Exclusive methods should only be employed when particular requirements and purposes are denied their proper preponderance, or are actually prevented from attaining their necessary recognition and development, by manifestations of mistaken zeal or of too selfish counter-interests. In such events a constructive policy must be first of all destructive of obstructions.

LIMITATIONS OF A BARRAGE.

BUT THERE IS another reason why barrage-firing does not meet the requirements of the present situation—not only in the matter of the farm labor supply but in all other essentials to success in increased food production. Such success depends upon full public understanding of the particular requirements of each branch of the farming industry and therefore there must be well-aimed shooting by each such branch to overcome the particular attacks which the general situation is making upon each. It is unfortunate that this must be at first a defensive warfare in nearly all directions. The public mind is full of misconceptions based upon false facts and ignorance of the truth. One general misconception is that the farmer is being paid too much for his products and that is based upon ignorance of the changed conditions under which he has now to pursue production. Everything which is a factor in the cost of production has advanced: taxes, rents, tools and machinery, seeds and fertilizers, labor, livestock, etc.; also all living expenses. What are the particular facts and influences of these increased burdens in each of the branches of production only those who are actually in each of them can definitely and authoritatively set forth. This is the kind of sharp-shooting in defense of farming which has now to be undertaken and each branch of farming must do this for itself under the leadership of Generals Organization and Co-operation. Neither we nor any other advocate can outfit and lead such a movement. There must be actual farmer leadership and munitioning. If we should be presuming enough to claim to do this, we would subject ourselves to the same impeachment we visited upon others last week. We are of the farming business but not practically in it and can therefore set forth farming facts and feelings but approximately. An issue has arisen which cannot be met by proxies: the farmers must themselves take the field against all those who are ignorantly or wilfully opposing them and push all proxies and retainers to the side-lines.

WHY THE DAIRY SHOULD LEAD THE DRIVE.

WE TURN to the dairy industry for an illustration of what we have in mind because the dairy is by a long way the pioneer of successful business organization and co-operation in this country. More than fifty years ago, to our personal knowledge, the dairy producers of central New York had made strikingly successful entrance upon production, co-operatively capitalized and operated, had established co-operative selling of their products in open markets of their own and by pooling expense and effort had secured such legislation as their undertakings needed for protection and successful operation of thousands of them acting as a co-operative producing unit. Two decades before California fruit growers took their first step toward co-operative selling organizations, which now are the greatest in the world, dairy co-operation, in production and sale and in securing protection from imposition and oppression, was smoothing the way for individual prosperity and industrial development in the dairy line, all the way from central New York to Wisconsin. Therefore, we say to the younger dairymen of today who find themselves hampered and perplexed by the private and public hardships which are now arising: "Gird on the swords of your grandfathers and fight your way through as they did!"

And whatever dairy owners and tenants do for themselves in defense of their business against misunderstanding and discrimination and in favor of fair finance and trade and a competent, loyal labor supply, will be a notable contribution toward getting all our agricultural specialties organized upon such an enduring and advantageous basis.

WHAT THEN IS THE DAIRY OBJECTIVE?

THAT IS OBVIOUSLY not for us to say because we have neither livelihood nor return for capital resting directly on the prosperity of the dairy industry. If we should mark the objective on the industrial war map or if we should try to declare whether it should be reached by the use of "tanks" or "sturm-fursts," we would be doing exactly what we protested against last week and ought to be caught and driven back by our own curtain of fire. But we have a right to discuss such a campaign suggestively and to state our conviction as to how such a job should be entered upon.

It may seem a cowardly culmination for such a brave proposition, but we must confess it, viz: that the only way for the dairy, and for any other specialty which has wrongs to redress and rights to attain, is to get behind a man—and to get behind a man solidly and unflinchingly! We say it without derogation of the personal force and qualities of our admirable friend Samuel Gompers, that it is not what he has in himself so much as what he has behind him which makes him stand at this moment very high in national councils. It is the force behind which sends him (as the telegraph indicates) to Europe, at the request of the allies, to help drive autocratic subserviency out of the alleged socialistic assemblies which the Kaiser is subsidizing to secure his kind of a peace. If Samuel Gompers had not had hindsight for his backing as well as foresight for the labor objective which he sought to attain, he might still be rolling cigars for a cent apiece in a New York loft, as he was thirty-five years ago. And now he is acknowledged as one of the leaders of patriotic loyalty in this country and may later win recognition as one of the forces which won the war for humanity, and for the German people as a part of it—why? Because of the men who filled the ranks behind him!

Therefore, we say that the dairy interest must get behind a man: and the whole agricultural industry must get behind a man, if it is ever to be heard in behalf of the industrial truth and fairness for which it has always yearned but has never adequately declared and striven for!

WHO IS THE MAN?

WE DO NOT KNOW. No one knows. But he must be sought for just the same. He must be a man who knows men and business methods. He must have courage, initiative and untiring energy. He must fear no man, but must have great heart and clear sight for all honorable men whose interests and problems he knows by sharing them. He must feel the industrial touch of all whose lives are devoted and properties are invested in the same line of production as are his own. He must be qualified for leadership because he has actual knowledge of those he leads and honest loyalty to their interests and because he knows how to measure and shape the interests of others in relation to what he has to attain. Is any reader sure he knows such a man in the dairy industry of California? We are not sure, but we catch an item in the current local news which sets us to wondering whether some other writer has not unconsciously named such a man. This is what we read:

The butter and milk situation in the State is coming in for a large amount of attention. J. M. Henderson, Jr., president of the Sacramento Bank and closely identified with the milk industry of that valley, is in Washington in reference to conditions here.

It is said that an embargo on the export of butter is proposed in order to save the American public from extreme prices next winter.

The butter situation in the country is clearly set forth in the report of cold storages to the Department of Agriculture on July 15. On that date 207 storages contained 61,273,734 pounds of butter, as against 78,707,845 pounds held by the same ice-houses a year ago—a decrease of more than 17,400,000 pounds in storage stocks, or 22.2 per cent.

On July 15 twenty-one storages in the six Southwestern States, including California, reported holdings of 2,821,195 pounds, as against 3,513,357 a year ago, a falling off of nearly 20 per cent.

Here is a man who goes to Washington on his own interest and expense to maintain the proper claims of California producers in connection with such problems as the printing which we have quoted sets forth. It is an enterprising thing for him to do in support of his own dairy interest and perhaps also of his personal friends who share his alarm over the situation. It threatens an embargo with the possible holding back of the American output and an arbitrary reduction of values without reference to the fact that the present cost of production justifies a notable increase of selling price. Of course, a man should go at once to the center of disturbance to set forth truths which may save our producers from bankruptcy. But is it respectable that such a man should go to represent personal interests when a whole industry should send him or some other man on such an errand with the combined force of all producers supporting his effort? It is neither sensible nor respectable on the part of the industry though it may be very enterprising and creditable to the man fighting for his own interests. But there is nothing new about doing that. It is really the reason why the farming interests have always been thrown down and walked over. Farmers have always been the most shameful industrial slackers of all mankind in the promotion of their own interests.

WILL THERE BE BUTTER TO EMBARGO?

WE ARE NOT undertaking to elucidate the whole dairy situation. We have said that that should be done by someone who had his life and money in it and could speak with authority of that kind. We hope some qualified reader will accept our medium of publication to address a forceful appeal to his industrial associates. We make bold, however, to throw in the suggestion that there may be a worse thing than an embargo on butter and that will be to have no butter to put under an embargo. And if a butter consumer, in whose fancied interest an embargo is being invoked, should happen to read what we have to say it may put him wise about what his attitude in present dairy troubles should be. Of all menaces to dairy production at this

moment the greatest is the lack of an adequate supply of qualified and dependable labor. Cows are going unmilked for hours while owners and their families and a few men with decent consciences are overworking heroically to catch up with the requirements of the suffering beasts. But the owners are nearly as mute as the cows in impressing their labor-needs upon public attention and so the popular clamor about there being "plenty of farm labor" and "the urgency is going out of the farm labor situation," etc., goes unceasingly on. The public does not know that dairy labor is most exacting of qualified and enduring performance, and no one lifts its ignorance. It has been misled by the allurements of the "tripping milkmaid" of art and poetry—whose charming activity has no more resemblance to commercial milking than the sip of a bee has to the suction of an irrigating pump. And as the public knows nothing about it, one hears nothing about the needs of the dairymen for more qualified milkers, while all labor agitation of the present type makes it sure that he will have less and less of them, and most of those now in the service are qualified neither by skill nor sympathy and are incited to throw up their jobs by the ignorant popular outcry that farm work is easy or should be made so. It is a delusion. Farm work never was easy and never will be. The Lord told Adam what he might expect, but some of our exhorters seem to be trying to rival the Kaiser in giving pointers to the Infinite. And what are the dairymen doing about it—collectively we mean: in the only way anything large and hard ever can be done? Nothing so far as we have heard. And yet if they keep on doing nothing the cows must be butchered and we shall be as short of butter as the Germans.

WHAT SHOULD THE DAIRYMEN DO FOR LABOR?

UNLESS HE HAPPENED to grow up with her kind, an ordinary farm laborer has no more respect for a cow than he has for a shock of corn: in fact, he probably regards the latter the greater blessing to mankind because he can snooze peacefully in the shadow of one while the other will keep on slashing his face with her tail. The dairyman cannot profitably use a laborer who has no liking for a cow: no appreciation for her delicate organism and no worship for her distinctive industrial service to mankind. And such an attitude toward a cow has to be bred into a man and developed from boyhood onward. Whether there is any place on earth whence such qualified dairy laborers can be brought in quantity we do not know. A properly organized dairy effort could settle that question by investigation. Until that is done and special effort for importation of dairy help is indicated or shown to be impracticable, dairymen should join heartily in such a movement for increased farm labor supply as we hope may soon be taken up by farmers in their own behalf. If there should be an adequate supply of general farm labor secured, the dairyman might find his problem covered also, for there would be a notable reduction in the disposition to desert from his service fostered by the current agitation which is working continually toward unsettling the supply we now have and not toward increasing it, as it is mistakenly intended to do. For if there is an adequate supply of common field labor there will be a movement from such employment toward the higher class work of dairying, fruit growing, etc., because of their higher intellectual quality and the higher compensation which such higher work would naturally command. Then the man who has grown up with a cow would hasten to point with pride to his bringing up and would eagerly accept regular employment in her service—continually glad to exchange the flower-like fragrance of her breath for the exhalations of garlic and forty-rod whiskey. There is probably no more delightful farm service than to care for a string of well-fed and well-bred cows, well-stabled and environed as both law and reason declare that cows in dairy service now shall be. The work is unremitting and the days very long, it is true, but for the man who takes an interest in his work and desires to see in it the way to mastery and proprietorship, as every American should see it, to begin early and stay long with the cows is the foundation for achievement and satisfaction. The man who sees nothing but drudgery and slavery in dairy work is unfitted for it and it is the necessity which forces employment of unfit men, which makes trouble for employers and ruins their property. If the dairymen will take hold earnestly to help the general farm labor supply, they will probably find plenty now aimlessly beating about who will be glad to accept the steady employment their industry offers.

QUERIES AND REPLIES

By the Editor

Inquirer Must Give Full Name and Address

Apricots Cracking, Moulding and Decaying.

To the Editor: What causes my Royal apricots to split, become mouldy and rot at the blossom end as they ripen? The trees are young, thrifty and have made a vigorous growth. They are on rich, sandy loam soil and have never been irrigated.—C. N. P., Ontario.

To the Editor: I have Royal apricot trees which set a good crop of large, clean-skinned fruit which cracked at the end and rotted on the trees. Some fruit rotted without cracking, while the stem end was still green. An explanation, if possible, will be appreciated.—Subscriber, Ontario.

If the experts have demonstrated what causes cracking of fruits we have not yet heard of it. When cracking comes, the fruit is opened for several fungi, which can cause decay. If the cracking is not a condition of the trouble, but merely incidental, and the fruit goes off as our second querist describes, the invader is "brown rot," due to a fungus (schlerotinia or monilia fructigena). It is a bad pest of pit fruits, but much less troublesome in California than in humid climates. It does not wait for fruit to crack or to ripen, but discolors part of a fruit while the balance is green and firm. Later on, however, the whole fruit goes to the bad and may hang on the tree and become dry, while the fungus is likely to follow the attachment of the fruit into the tissues of the twig and kill that also. The spores live through the winter on the dried-up fruit or on the bark of the tree, ready for a new start when the tree blooms. Protection consists in winter spraying with strong Bordeaux or lime-sulphur before buds swell, and again with weak Bordeaux as the bloom buds are ready to open. All the "mummy" fruits should be removed at winter pruning and plowed under as soon as practicable.

The Berkeley Bank Baffle.

To the Editor: You know that the farmers had great hope of the Federal Farm Loan Bank, and you know also how our Berkeley officers keep the money in the bank while the farmers have to renew their loans and mortgages with other parties because we don't know whether we ever will get money from the Federal Bank. I think it should be the duty of all the farm papers to go after the men in Berkeley, to make them hand out that money to the needy farmers. It seems like they do their business that way—in favor of the private money lenders.—Farmer, Beaumont.

We have no inside information about the Berkeley Farm Loan Bank. We have our notion about its plight, as probably other outsiders have, and our notion is that it is sound financially and the law and theory upon which it is to work are correct and practicable and we believe that its inactivity is in no whit a reflection on any of these basic qualities. The trouble seems to be due to the fact that the Farm Loan Board unfortunately appointed a management for this one of its twelve banks which has no skill nor ability in handling either men, money, or farming propositions, and the result was an internal explosion, the cause of which has been investigated by the Farm Loan Board and the cure for it will be prescribed by that body before long probably. Whether the choice of unfitness to manage the bank was due to political or personal influences, as is freely charged, we do not know, but it is clear that if anyone did that he has thrown a boomerang. If the condition was simply the result of a blunder in appointment, it is not much better, for the same reaction is to be expected. As to its being due to the influence of those desiring to make private loans, as is also charged, we consider that suggestion untenable because we can conceive of no way in which such a motive could have been applied. The situation is unfortunate and bad, but it may be soon remedied.

Cucumbers Dropping.

To the Editor: I have four hills of cucumbers (two or three plants to the hill) and only one plant has any cucumbers. They form on other plants, but turn yellow and drop off when one or two inches long. For several years the land has grown alfalfa, and I put three and four inches of stable manure on last fall. I have been watering plants twice daily, spraying them thoroughly. Do you think that they will bear later, or would you dig them up and quit? One party tells me that bees have to be around the vines to pollinize them. I have only seen one or two bees around plants.—W. D. G., Middletown.

Cucumbers will stand about all the richness they can get, and they like continuous moisture near the surface within the reach of their shallow roots. They also like rather moist air. But we suspect that your "thorough spraying" twice a day has washed out all the pollen before any of it could catch on, and it may have discouraged the bees, which do not like to slosh around in the wet. We apprehend that the trouble is lack of pollination, though we cannot explain why one plant came through. If the plants are thrifty, stop sprinkling and run the water in a ditch, keeping moisture up well, but not wetting the plants.

When to Sulphur Red Spider?

To the Editor: What stage of a red spider's life can I do him most harm with dry sulphur? I have an almond orchard that is literally full of them. The leaves are all mottled. I have irrigated them twice, and after cultivation the spiders form red-top knots on every clod and spear of grass. If there is any stage in their lives that is better to dust them than another, I would be thankful to know it.—R. E. R., Lodi.

Red spiders are killed by sulphur fumes whenever they are out of the egg; therefore, sulphuring should begin as soon as they begin to hatch freely, which is usually as the heat rises in May or June, according to locality, and the hotter and drier it gets the faster they multiply. Early sulphuring checks this rapid increase and an orchard should never be allowed to get in the condition you describe. Get your sulphur on as soon as you can, for you may perhaps save some of the leaves for the important work they still have to do. Spray your trees this winter with lime sulphur to kill as many eggs as you can, so the spiders may make a poorer start next spring, and then sulphur early and make the start poorer still.

Red Spider and Thrips.

To the Editor: I send some leaves from a young prune tree; also some from a polebean plant. Kindly publish in your valuable paper the cause of this affliction.—M. V. S., Ripon.

To the Editor: I enclose some leaves of the Kentucky Wonder bean. Is there some disease or insect on them. I can see nothing except that they don't bear. An unusually hot spell may explain that.—C. E. S., Paradise.

The prune leaves have red spider and the little trees should have a thorough blowing of sulphur before the leaves are more injured.

The bean leaves from both querists have both thrips and red spider, and perhaps should be burned up if the leaves have largely gone white and yellow, as the samples have. If they are still worth treatment, a tobacco spray, as for plant lice, may keep them along till the pods fill.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., August 7, 1917:

Stations—	Rainfall Data. Past Week.	Seasonal To Date.	Normal To Date.	Temperature. Data. Max'm.	Min'm.
Eureka	.02	.02	.12	62	48
Red Bluff	...	...	...	102	64
Sacramento	...	...	...	98	56
San Francisco	...	.02	.01	66	50
San Jose	...	...	...	84	46
Fresno	...	...	...	104	64
San Luis Obispo	...	.01	.03	84	52
Los Angeles	...	...	...	88	60
San Diego	...	...	...	78	66

Prune Old Toppy Lemon Trees Now

[Written for Pacific Rural Press.]

While the fruit is off is now the very best time to begin renewal of old lemon trees by heavy pruning of their tops, says C. C. Teague of Ventura county. He is seizing the opportunity to give some twenty-five-year Eurekas "the first real severe pruning they ever had." Heavy top cuts in the Santa Paula district made between May 1 and August 15 have been found by Mr. Teague to induce a vigorous growth of new wood, which will set a fine crop of lemons next spring. Heavy pruning after August 15 or September 1 makes the new growth come so late in the season that it is short and stubby and does not make enough fruit. Lower wood of good foliage and color is left this fall to bloom for the crop to be picked next spring.

Mr. Teague's confidence in the benefits of heavy pruning is based largely on results of previous years' heavy pruning on the Limoneira Ranch, of which he is the manager. Not only is he pruning his own 40-acre lemon orchard near Santa Paula in that way, but a block of 40 or 50 acres are being heavily pruned that way on the Limoneira, as shown to the writer recently by Assistant Manager J. D. Culbertson.

PRUNED HEAVILY YEARS AGO.

Twenty-five or thirty acres on the Limoneira were heavily pruned after the big freeze of 1913. During the following year a limited acreage was pruned heavily as a further experiment. In the years since then results have been so encouraging that the heavily pruned area is extended each year. A few rows cut back severely two years ago the first of August through a block the rest of which has been pruned in the ordinary way shows marked superiority in size, vigor, density, and dark color of foliage and larger, greener fruit, which was far less injured by the recent hot wave than that on the rest of the orchard. A single tree in another block was in worse condition than its neighbors in February, 1915. It was heavily pruned at that time and is now an outstanding example of vigor and fruitage in that orchard, where some of the blocks produce one and one-half cars of fruit per acre per year. It is full of strong live fruit wood, though too thick, for lack of the semi-annual thinning needed after such pruning.

Trees pruned in the regular way in this, one of the largest lemon orchards in the world, are somewhat scraggly, have much of nearly leafless brush; they spread wide and grow tall out of reach of pickers but where wind can whip the fruit out of marketable condition. Their fruit during the hot spell was cooked almost as badly as in other orchards.

PRINCIPLES OF THE SYSTEM.

The heavily pruned trees lose about one-fourth of their height and over half of their brush. Cuts are made as large as necessary in the tops to get rid of most of the big brush on each main limb. Always a horizontally growing branch is left just below the cut. Few main limbs are taken out at the head of the tree on account of danger of starting decay in the trunks. All considerable wounds are covered with a mixture of asphaltum and creosote. This is applied with a brush fixed at an angle on the end of a long stick; for many of the cuts are 10 to 12 feet up. The tops are heavily thinned out, but inside and low growing fruit brush is partly cut back and left to the fullest extent possible. It has been found that after the heavy topping even the leafless seemingly dead twigs in the skirts of the tree will put out leaves and fruit when light is let in through the opened centers. Not even the dead twigs in the skirts are taken out, because unobservant pruners would take much live wood with it.

On trees so pruned three weeks previously an abundant shooting of new growth was already seen all along the main limbs, even down to the head of the tree, the more horizontal limbs having the most numerous shoots. These will bear fruit abundantly close to the strong frame work of the tree for years to come, if kept properly thinned out. Many of them will set fruit next spring. Meanwhile the old growth left in the skirts will set fruit more abundantly this fall to mature next spring.

Too much of the skirt growth was cut from the first trees heavily pruned, and long growth was left on the corners of the top. Both of these practices are now seen to be serious faults. The upper corners whipped in the wind, bore terminal fruit, and by the extra leverage and exposure split off more limbs.

SAVE THE FRUIT.

As there is some fruit on the brush cut out, even in this year of hot weather, pickers follow the pruners and save the fruit. Following closely after the pruners is a spray rig applying whitewash to all the main limbs to prevent sunburn.

Makes Tragedies Bear Regularly

There were two old Tragedy plum orchards with only a fence between them in the deep river bottom loam near East Biggs, Butte county, six years ago. One of them died out. The other, seven acres about 25 years old, was obtained by C. S. Hixson and pruned heavily six years ago. They had not been bearing on account of neglect. Next year there was a light crop of about 1,000 crates. On the seven acres since then, except for 1916, when a heavy setting was frozen, the trees have had to be propped or wired every year; and as much as 2,200 crates have been taken off. In the middle of May, 1917, Mr. Hixson expected 3,000 crates. They have been sprayed and cultivated well in recent years, and, since the first heavy pruning, have not been cut back at all, but just thinned out and dead wood all removed. Mr. Hixson's neighbor, J. A. Harvey, who also gets good crops, notes that too close pruning of Tragedy and Gros plums makes them grow too much and cast their blossoms. Fruit sets uniformly all over the Hixson trees and inside all along the twigs. No other varieties are near, except some peaches, but a neighbor adjoining has over 200 stands of bees.

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

FEEDS DRIED TOKAY CULLS.

"I haven't bought a sack of barley for five years until this year. I have three horses and three cows, which look as good as anybody's, though their only feed, besides grain hay, has been dried cull Tokays. The dried culls last year were worth 3¼ cents, so I sold them and bought barley at 2 cents." It was W. G. Micke of San Joaquin county, speaking of the five years he has dried all the culls he needed from the early pickings. Horses, cows and calves eat them, stems and all, and Mr. Micke considers these raisins at least equal in feed value to barley.

Since he needs only a few, he just throws the early ones on peach trays and lets them dry about four weeks. Late Tokays would be caught in rains. If more were desired, Mr. Micke says he could dry them in seven days after dipping in lye water. He pays no further attention to them until cured. Only four tons were dried last year, though he could have saved 100 tons by dipping them and drying on unbleached muslin, as another man does in this locality.

PEACH GROWERS DO OWN MARKETING.

That a large fruit corporation controlled the marketing end of the California Peach Growers was the charge recently made in the writer's presence. Investigation showed that not only are eight separate packing companies marketing dried peaches for the Association under contract, but that the one named handled far less last year for the Association than did another one; and that the Peach Growers' own agents and brokers marketed nearly 50 per cent more than any of the packing companies selling for them under contract. One-third of the 24,000 tons handled by the Association last year (its first season) was through its own agents other than packing companies.

A CHANCE TO DISTINGUISH NEW FRUITS.

The regular biennial meeting of the American Pomological Society will be held in Boston, Mass., October 31 to November 4, 1917. Very full programs covering all phases of fruit growing will be rendered and an exceptional exhibition of fruits, fruit products and allied material will be staged. The society will feature the Wilder Medal, its distinct and special honor for new fruits, discoveries in pomological science, and for specially meritorious exhibits. Those who contemplate offering new fruits for the medal should advise the secretary, E. R. Lake, 2033 Park Road, Washington-D. C., in order that registration and entry cards can be properly made before the meeting date.

VENTURA FRUIT INCREASED.

A horticultural census of Ventura county by Horticultural Commissioner A. A. Brock shows the following number of trees of all ages, including 1917 plantings, as compared with the figures of three years ago. The total increase has been nearly 500,000 trees.

	1914	1917	Increase
Apricots	390,000	583,081	193,081
Lemons	403,000	564,673	161,673
Oranges	216,500	327,791	111,291
Walnuts	190,600	218,002	27,402

LESS WATER, EARLIER ORANGES.

Citrus trees need water every fifteen to twenty days during three hot months in summer, says F. R. Irwin of Butte county, whose soil is red loamy gravel 20 feet deep. It now gets dry in summer with monthly irrigations, though it is thought that cutting down the water late in summer gives the oranges size and color earlier. Under the new law, it does not matter how sweet or sour it is if tree colored.

DATE GROWING.

The prohibition of export of date offshoots from the French possessions in North Africa and the interruption of imports from other places has given new impetus to the date-breeding work under way for the past ten years at the department date garden at Indio, Cal.

Pick Pears Twice—Packing for Storage

[Written for Pacific Rural Press.]

More tonnage, better sizes, better quality due to more uniform maturity, and a longer picking season with less of a rush—these are the advantages claimed for at least two pickings of pears in the Little Rock country of Los Angeles county by Mrs. Nellie J. Barton, who handles about nine tons per day in the busy season on her ranch. She and her neighbor, W. P. Peyton, have picked according to size one or two seasons.

In this district all pears are generally picked at once. They are packed without wrappers in lug boxes and shipped to Los Angeles, where they are stored until other pears are gone. Last season the district shipped ten cars to the East wrapped and packed in half boxes, but rather unsatisfactorily to the shipper, who paid growers $60 per ton and will not repeat this, the first experience shipping Little Rock pears East.

PICKING.

Some pears size up and ripen before others. Some get oversized before the general run are ready. If these early pears are picked first, with some care not to knock the others off, the small ones left will have all the strength of the tree to increase their size, and the earliest ones will not get oversized or overripe. Fewer pickers would be required and the job, being longer, would be more attractive to them.

Pears are ready to pick, according to Mrs. Barton, when of proper size, seeds beginning to turn brown, the flesh perfectly hard and firm. The fruit is picked carefully and handled almost like eggs. It is not pulled off the tree, but is lifted in the hand. If mature, the stem breaks loose without pulling. Pickers are instructed to lay the pears into picking sacks hung from their necks, without dropping them, and to be careful in dumping them into field boxes in which they are hauled to the packing shed. The work continues all day, because fruit must not be allowed to get too ripe.

As the wind blows hard nearly every day in Antelope Valley, windfalls are picked up early every morning. They are packed and stored as windfalls.

PACKING.

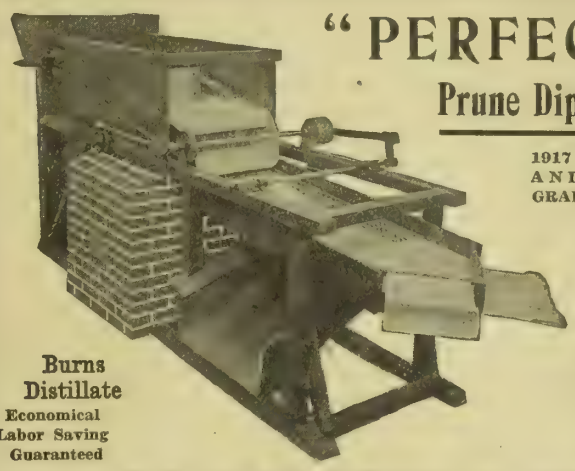
Systematic grading for size is done by the packers, who place the pears diagonally on their sides with stems up, in two layers only, and snugly together. Paper wrappers are taboo because they are thought to hold the heat. Field boxes are placed on the packing table and the fruit packed directly into three boxes of different sizes. There are usually a few gnarly, wormy, or bruised fruits which the packers remove. Packers have objected to wearing gloves, but must keep fingernails cut short.

HAULING TO STATION.

The packed fruit has to be hauled ten miles to the railroad at Palmdale. The road overseer always fixes the road smooth just before hauling time. Every effort is made to get the fruit to the station before sunrise to avoid the hot sun. Only one trip per night is made with teams, but auto trucks may make this work faster and easier in the near future.

DRIED THE CULLS.

Beautifully translucent dried pears were made from the windfalls one year by Mrs. Barton. They were so fine that next year Mr. Peyton joined her in drying, but the price for culls and windfalls fresh has prevented this practice in recent years.



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Harvesting Potatoes for the East

[Written for Pacific Rural Press.]

Eighty acres of young prune trees produced an intercrop of 4,000 sacks of big, clean, smooth Burbank potatoes in the spring of 1917 for the Swall Land Co. of Tulare county, pioneers in potato production and shipment from their locality. They have been shipping carlots East for three years, and were just filling an order for ten carloads when visited by the writer in mid-July. Experience had taught Arthur Swall, the manager, that only the best, most careful handling would pay well with potatoes for distant shipment. A potato digger was lying idle while in this time of scarce labor men were plowing them out and picking them from the dirt by hand. Spading forks injured too many potatoes, as was learned by dear experience.

They were hauled in 50-pound boxes to a willow grove, where they were piled on the ground in great ricks about two feet deep. Hay was spread over them to avoid their turning green. They were left here, cool and dry, until time for shipment. They seem to keep better that way than in sacks.

Eight or ten men were sorting them into buckets, making two sizes of marketable potatoes and keeping rots separate. Small potatoes were saved for seed to be planted before August 5 for a fall crop. With these were put all knobs cut with sharp knives from marketable potatoes, and all injured tubers not showing decay.

Fresh, smooth cuts (and even those made with shovel or plow) heal in the sacks. But potatoes which forks had penetrated, however sound they looked, had to be thrown out. Occasionally one would pass inspection, and it showed up within three days by making a wet spot through the sack. Wherever such wet spots were found the rots had to be taken out. These were "leaky" potatoes, infected with watery rot by soil pushed into them with the fork and kept moist so the fungus could flourish. A lot of potatoes were dug carelessly and found rotted in the piles before this knowledge was gained. Sorting and sacking just before shipment made spoiled potatoes easier to find. Doing the work under the trees instead of in the field was far more comfortable for the men and brought them closely under the foreman's supervision.

Sorters dumped their buckets into sacks and one man faced the sacks, filling them to the limit, inserting a card labeled "California Burbanks," and sewing them up. Five sacks were weighed at once, aggregating ordinarily over 550 pounds. In loading on the wagon each sack was rolled over to detect "leaky" spots, and laid on their sides not over two deep. At the shipping station they were stood on end in double-decked refrigerator cars, so no sack rested on another.

The buyer's agent occasionally visited the sorting gang, but, as Mr. Swall said, "he is no more anxious to get perfect potatoes in the cars than we are."

Spanish Clover or Dakota Vetch

To the Editor: I am sending you specimen of a plant unknown to me. What are its botanical and common names, and what are its properties as food for stock? Is it valuable for hay, and is there a cultivated variety of it? I think it a valuable plant, as it grows on badly worn land in the foothills, and cattle appear to relish it.—James W. McCord, Hanford.

[Answer by Professor Kennedy.]

At this season of the year you frequently find in the very dry places and sometimes even in the stubble fields green plants. More commonly these plants represent one of the sticky tar weeds which are of no value for stock. Occasionally, however, we are delighted to find a green spreading plant with leaves not unlike that of alfalfa, which on close examination proves to have flowers yellow, blotched with red, shading to a light purple. These small blossoms have the same structure as that of the common garden pea. It interests us for three reasons—one because it is a legume, another because it grows during hot, dry summer weather, and third, because stock seem to be quite fond of it. The plant is quite widespread. In California it is usually spoken of as one of the Spanish clovers, whereas on the prairies of the Great Plains region it is known as Dakota vetch or prairie birdsfoot trefoil (Lotus Americanus). The plant does not yield sufficient for one to consider it as a hay crop, but for native pasture lands it is certainly admirable. It is rarely that one is able to secure seed on the market. As it is an annual, it must be sown each year or sufficient seed must be left in the ground to produce plants for succeeding years. P. B. KENNEDY,

Grass and Forage Plant Investigations, University of California.

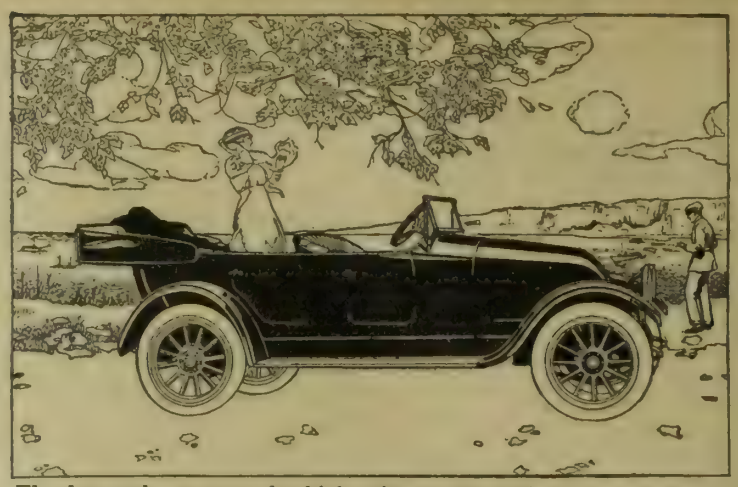
THE MISCHIEVOUS WEED.

Weeds are expensive things to have anywhere; they rob crops of food and moisture, many of them are natural food for all kinds of insects, which when they have devoured the choice parts of weeds attack adjacent crops. Weeds may also support plant diseases that would otherwise die and they induce mildews and rusts by reducing air and sunlight around the plants.

WORTH OF BARNYARD MANURE AND OTHER FERTILIZERS.

An interesting experiment, conducted with a view to ascertaining the market value of ordinary barnyard manure as measured by the cost of commercial fertilizers, has just been concluded by the Experiment Station at Wooster, Ohio. The tests show that eight tons of manure reinforced with 320 pounds of acid phosphate has been as effective in increasing crop yields as the same quantity of acid phosphate mixed with 480 pounds of nitrate of soda and 260 pounds of muriate of potash, in tests covering twenty years. Nitrate of soda now costs nearly four cents a pound, and muriate of potash 20 cents. At such prices the eight tons of manure has had a replacement value of at least $70. This information is worth pondering over and acting upon.

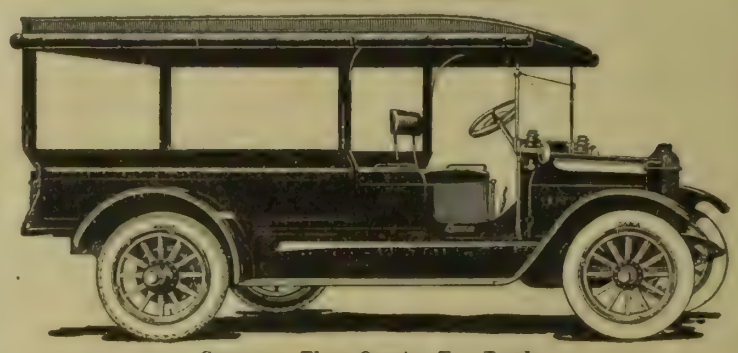
The Franklin—A Thrift Car



The low upkeep cost, the high mileage per gallon, the economy of Franklin operation means an annual saving of hundreds of dollars to Franklin owners.

The recent national demonstration of Franklin economy in which 179 Series 9 stock Franklin automobiles averaged 40.3 miles to the gallon of gasoline, proved conclusively the economy of the car.

Commerce Trucks



Commerce Three-Quarter Ton Truck.

Commerce trucks include equipment today that others will feature a year hence. Glass front, spot light, Pierce governor, bumper, starting and lighting system.

One ton trucks have solid tires.

Three-quarter ton equipped with pneumatic tires.

ONE TON CHASSIS, $1540.
THREE-QUARTER TON, $1350 COMPLETE.

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1220 Post St., S. F.

Field and Garden Suggestions

[Written for Pacific Rural Press.]

CABBAGE FOR INTERCROP.

Intercrops of fall and winter vegetables will be needed by citrus growers this year to help pay expenses while trees are on vacation. Such crops are cabbage, cauliflower and lettuce, where conditions are suitable. C. L. Columbia of Orange county tried cabbage last winter, but due to the peculiar weather many of the plants seeded without heading, and a few were heading last July.

He planted two rows of seed in the orchard last September. They did fine till frost checked them. All were transplanted from the seed-rows except enough to fill them out. These two rows did finely until cold checked them, when all went to seed. They would have been a month ahead of the others, which did nothing much until weather warmed up this spring.

LEARNED BY EXPERIENCE.

Seed should be planted late in July or in early August, believes Mr. Columbia, in order to raise an early winter crop, having the plants well along before cool weather comes.

"I wouldn't advise anybody to raise cabbage unless he has a pump to irrigate it when the cabbage needs water, which is more frequently than the usual orange irrigation. In transplanting, do not allow the roots to dry. I puddled them as they were taken up and watered them soon, so they never dried and the plants never wilted."

LASSEN COUNTY PROBLEMS.

To the Editor: We have plenty of water for irrigation from October 15 to January 15. Our land has just been cleared of the brush and leveled. It is from four to eight feet deep, heavy soil, rich in lime, underlaid by sand. Rainfall is very light, varies from 2 to 10 inches per year. Would it be advisable to let water stand practically all over the land for these three months? Land takes water rather slowly in most places. Wheat, rye and oats do well here. In summer the air is very dry here. In your opinion could a profitable crop of grain hay be raised under such conditions? The idea is to water in winter as stated, and when spring rains are over, or as soon as possible, get land in shape and seed grain. Which grain would be likely to do best under these conditions? Could any grain be seeded in fall under such conditions?—Subscriber, Stacy, Lassen county.

[Answered by G. R. Wales, Milford.]

As to the conditions of soil and water described by your correspondent, I will say he can plant rye in the fall and it will make a fine growth. He might also get a fair crop of some hardy wheat if seeded in the fall.

As to putting water on land and letting it lie under water all winter, I should want to first try that on a small plat before I took much stock in it. If your correspondent has water and plows his land good and deep, he might get a stand of alfalfa if he can get it through the first season.

POTATO MARKETS AND PROSPECTS.

Did Central California potatoes rot in the ground this year for lack of markets that would repay cost of production? The answer is by one of the leading shippers of that section:

"No potatoes rotted in the ground for lack of markets. None were sold or given away for hog feed that were fit for market. There were 35,000 acres of potatoes in the Delta last year and 28,000 this year. The lowest price this year was $1.25, and that was for only a few of poor grade grown around Sacramento, where potatoes cannot remain long in the dry, hot ground after maturing without getting dark streaks. These cheap potatoes contained a lot of knobby ones, small, cut, or forked ones that had to be sorted out. These culls were sold for hog feed at 25 to 35 cents per sack. We are paying right now $2.70 to $2.85 to the growers for marketable potatoes. Oregon will have about 3,000 carloads more than last year. Washington will have about the same as last year, and we don't know definitely about Idaho."

HYDRAULIC MANURE DISTRIBUTION.

Easiest distribution of cow manure to hillside alfalfa is practiced by E. H. Webb, who milks an average of 60 cows in San Diego county. Stanchions in the milk barn are provided for only 24 cows, so the rest are driven into an adjoining "reception yard" to await their turn. Both the yard and the barn have cement floors, which drain to a vertical inlet to a 10-inch sewer pipe. A reservoir on the hill gives 20 feet of pressure both to faucets used for flushing the pavements and direct to the sewer by a 6-inch pipe opening into it at the vertical inlet. The inlet may be capped when pressure water is carrying manure out through the sewer. The sewer pipe runs 200 feet around the hillside at slight slope. From the end of the pipe an open ditch is plowed on a true grade and the delivery point is changed every day or two. The odor is hardly perceptible and this gravity system is very satisfactory. A grade of 6 inches per hundred feet keeps the manure afloat in the open ditch with very little water.

CITRUS FRUITS HARD HIT.

J. R. Downs of Redlands, commercial agent of the Southern Pacific, who has just made a careful canvass of the citrus district, says that, although the damage to the navel crop by the hot wave was very heavy, it will not be as bad as first expected. The sweet seedling and Valencia trees were not nearly so hard hit as the navels and the oranges will run to larger sizes.

IRRIGATE SWEET CORN FREQUENTLY.

During hot summer weather sweet corn must be watered twice a week, even while picking, in order to make it of best quality, according to A. Puccinelli of Sacramento county, one of the largest growers there.

TRANSPLANT CABBAGE NOW.

It is now time to transplant cabbages for Thanksgiving heads. Set them directly from the plant boxes into puddled holes without allowing the fine roots to die.

A Bigger Yield From the Same Field

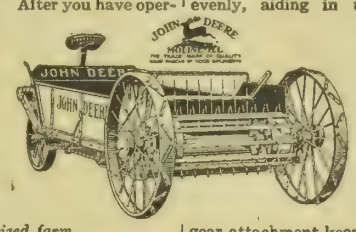
From any field that you have been manuring by the hand method you can get a bigger yield if you use the spreader method—and save much time and labor.

A good spreader tears up the manure into small particles and spreads it evenly. The manure goes farther. It can be worked well into the seed bed so that the plant roots get all of its valuable plant food. *Wasting manure is like wasting money—a good spreader makes every particle of manure count.* A Newton County, Ind., farmer testing the spreader and hand methods of applying manure on two ten-acre tracts found that the *spreader method gave 120 more bushels of corn, 140 more bushels of oats and 9 more tons of clover.*

The John Deere Spreader

The Spreader with the Beater On the Axle

has special capabilities for increasing your crop yields. Its exclusive features make it the ideal implement for the best method. Ask any owner of the John Deere Spreader about the way it increases crop yields and saves time and labor. After you have operated a John Deere Spreader of your own for a year, you will fully appreciate how much these gains really mean. *You'll find that the Spreader with the Beater on the Axle more than pays for itself in one year from the gains it gets on even a fair-sized farm.*



The beater on the axle construction *eliminates all chains, clutches and scores of other trouble-making parts. Does away with half the types of castings otherwise necessary. Does away with adjustments. Puts upkeep at minimum. Makes the John Deere Spreader exceptionally long-lived.*

Beater is all steel—practically indestructible—runs on roller bearings, aiding light draft. Beater teeth spirally arranged—tear up manure perfectly and distribute it evenly. Deliver manure close to the ground—wind does not affect spreading.

Revolving rake feeds manure to beater evenly, aiding in uniform distribution. Shock - absorbing spring relieves spreader and horses of sudden strains.

Spreader only hip-high to top—easy to load. Big drive wheels—light draft. Ball-bearing apron drive—apron travel frictionless. Simple gear attachment keeps weight of load from making apron race when spreading up hill.

Easy to operate—only two levers—one lever determines number of loads spread to the acre; the other starts and stops the spreading. It's so simple, a boy can operate it.

Wide-spread attachment for extra wide spreading.

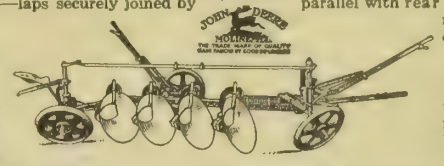
Write for booklet on the John Deere Spreader.

A Special Plow for California Orchards

Plowing conditions in California orchards demand special plow construction. A serviceable plow must stand the severe strains occasioned by the soil conditions and operate close to the orchard trees.

John Deere California Orchard Tractor Disc Plow

meets these conditions admirably. Heavy lap-beam frame—laps securely joined by heavy bolts — *no sagging — discs always in alignment.*



Discs best quality steel — *disc bearings oil-tight and dust-proof — scrapers made to stand severest strain.*

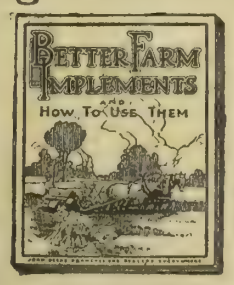
Double setting of discs permits use in very hard, dry ground as well as in loose, trashy soil.

Special "Z" land axle brings land wheel parallel with rear disc beam, permitting plowing close to trees.

Special adjustment on front furrow wheel, causing it to set inside line of front disc so that *plow will work close to trees* when soil is being thrown to them. Beam has special shape to permit working close to trees.

Write for free booklet on this plow.

Big Book Free



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America must produce more food. Labor-saving implements will play an important part in increased crop production.

This book tells all about a full line of labor-saving farming implements. Tells how to adjust and operate many of them. A practical farm implement encyclopedia. Worth dollars. Illustrates and describes the following machines: Walking and Riding Plows, Tractor Plows, Disc Plows, Disc Harrows, Spring Tooth and Spike Tooth Harrows, Corn and Cotton Planters and Drills, Listers, Alfalfa and Beet Tools, Grain Drills and Seeders, Riding and Walking Cultivators, Lister Cultivators, Mowers, Side Rakes, Loaders, Sweep Rakes and Stackers, Hay Presses, Grain and Corn Binders, Corn Cutters, Stalk Cutters, Kaffir Headers, Manure Spreaders, Portable and Inside Cup Elevators, Corn Shellers, Wagons, Farm Trucks and Buggies. This big book will be sent *FREE* if you state the implements in which you are interested and ask for Package X-1520.

Uniformity in Implement Manufacture

means much to you. You want to feel safe that every implement you buy is up to standard. Getting implements whose quality and workmanship is up to standard is a matter for your serious consideration.

Specialization — different factories for different classes of tools, each directed by specialists pre-eminent in their particular line—control of all the processes in the manufacture of implements from the leading raw material used to the finished product; and rigid adherence to exact duplication of trial implements whose qualities have been fully tested in actual field work, all combine to make John Deere implements uniform in quality and design.

JOHN DEERE, MOLINE, ILLINOIS

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

GREATEST TRACTOR DEMONSTRATION EVER HELD IN THE SOUTHWEST.

It is truly said that "competition is the life of trade"—and it applies just as truthfully to the different phases of ranching. In the business world the man who comes out on top is the man who gets the maximum of profit with the minimum of effort and expense. How does he do this? The answer is simple. He makes a careful survey of all methods and appliances that are adapted to his particular line of business, and straightway puts the ones most suitable to him into active commission. Now it stands to reason that the farmers and ranchers are just as long headed as any business man, and the majority of them are not going to sit back complacently and let a few "wise ones" get modern equipment and subsequently get the biggest share of the money the country is waiting to pour into the coffers of the enterprising farmer.

In further recognition of the sound-headedness of the farmer, no one expects him to buy a tractor, or a new plow, or a modern gas engine, or any other equipment, without first looking over the entire market, and when possible seeing an actual working demonstration of the product given. It is not often, though, that a man can see all of the best models of the above mentioned equipment in action at one and the same time, but that opportunity will be afforded him this fall from September 18 to September 22 when the Traction Engine and Implement Dealers' Association of Southern California give their second annual demonstration.

The demonstration is to be held on the Vail property on Telegraph road, two miles east of the end of the Stephenson avenue car line. The plans are much more extensive than last year and include, besides demonstration of tractors and farm implements, a large and interesting exhibit of automobiles, motor trucks, and accessories, furniture, food products, a complete line of electrical appliances and motors, and many other articles that have an especial appeal to the farmer and rancher.

Purchasing agents and master mechanics are sure to find both the exhibit and demonstration of untold value and interest, and so will road construction contractors, as tractor engines are being employed to good advantage in that line of work.

Those who attend the demonstration and depend on the street cars will be met at the end of the Stephenson avenue car line by auto busses which will take them direct to the grounds. It will be possible for a man and his family to spend the entire day at the grounds, for there are to be rest rooms for the ladies and an excellent cafe in connection with the demonstration. Don't fail to make your plans fit in such manner that you will be able to be with us for all five days.

BUY YOUR TRUCKS EARLY.

The Government is looking about with the idea of ordering some 70,000 trucks. This means that the farmer, the factory owner, the merchant of progressive tendencies ought to get his order in now, to assure him of his vehicle.

Users of light trucks need not worry, however, with the "attachment" company on the job. Utilization of the pleasure car chassis permits the quick change from a touring car to a ton truck, as is the case with the Smith Form-a-Truck. This firm is not handicapped so long as the pleasure car makers continue to produce their machines, for an output of 40,000 this year is predicted by the production manager of the Smith Motor Truck Corporation.

However, with Uncle Sam casting about to locate enough trucks to supply his tremendous army, chances are that many makes of trucks will be put into use, and that the man who needs a commercial power vehicle will do well to make his bid while he still has a chance of having his efforts rewarded.

VINEYARD TRACTOR STEADY WORKER.

The little 4-horse-pull wheel tractor used to work steadily from 4 a. m. till dark and did all the work on 40 acres of vineyard two years without a change of gears, for J. T. Onstott of Sutter county. He used to work it from 4 a. m. to 6 a. m., when the hired man would plow till noon. Mr. Onstott would get breakfast and work around until time to hitch up to the buggy and take out a supply of gas at noon. The hired man would drive the buggy in for dinner while Mr. Onstott worked the machine. Then the man drove it till supper time, when Mr. Onstott would take the job till dark. It did all the work four horses could have done and required a gallon per hour of distillate besides a little oil. It handled 20 inches of plows at the first plowing without a rest. It took a six-foot disk anywhere and did all the cultivating and harrowing. The present year it has been used among young trees in which horses also are used. Mr. Onstott notes that because it can be carefully driven there is much less damage to trees from the tractor-drawn tools than from the horses. "For 20 or 30 acres I wouldn't want a better outfit," says he.

FRONT TRACTOR WHEELS SLIDE AT TURNS.

A trouble noted when trying to turn on soft ground with a certain tractor is that its front wheels do not have weight enough on them and they do not grip the ground strong enough to turn well pulling plows and cultivators. The trouble seems to be in the hitch being too high and too far back of the wheels on which most of the weight rests. The downward pull of the load pivots the tractor on its drive wheels. It might be possible to hitch nearer the axis of these wheels so the load would have less effect on the front end.

Keep in mind the tractor demonstration at Los Angeles, September 18-22.

Reduce the Cost of Production on Your Farm

THE GREATEST EXHIBIT OF

Farm Tractors and Farming Machinery

EVER HELD ON THE PACIFIC COAST

at

VAIL RANCH

SEPTEMBER 18, 19, 20, 21, 22, Inclusive

The purpose of this demonstration is to show the Farmer and Orchardist the various sizes and types of Tractors and Tractor-drawn machinery, and to demonstrate that they are adapted to your use. An opportunity will be afforded to witness the operation of various Tractors and Farming Implements under all working conditions. Every man or woman who, at any time, anticipates being in the market for Tractors or Farming Tools, or is in any way interested, should attend this demonstration. Every convenience for the public will be provided. Make your arrangements now to be with us on the above dates.

Reduced Rates on All Railroads

Have been allowed of one and one-third fare for the round trip. Vail Ranch is seven miles east of Los Angeles, two miles east from end of Stephenson avenue car line. Auto busses from car line direct to grounds. Watch for future announcements.

Traction Engine and Implement Dealers' Association of Southern California

SPREADS TREE PRUNINGS.

[Written for Pacific Rural Press.]

With the practical impossibility of obtaining enough fertilizers hereafter during the war, it is a serious act to waste anything that would serve. Tree prunings are rich in the plant foods needed by trees, yet they are usually hauled out to the road and burned, where the plant food and humus they could have supplied are forever wasted.

There is a growing tendency to chop the prunings fine in the orchard so that they rot within a year or two and never do interfere with cultivation unless other trash on the cultivators collects the short pieces.

The Bloomington Fruit Association in San Bernardino county assembled a prunings cutter some years ago, but did not make it heavy enough to be fool proof. The machine was loaned to members of the Association, who abused it in various ways, but principally by feeding it too heavily. That machine is now in the discard, but while it was operating W. S. Conley was one who used it. At last the slowness of the machine led him to build one of his own. He took the 6-horsepower gas engine from his wood saw, put it on the front of a wagon truck, belted it to a four-knife ordinary heavy feed cutter on the same truck, took off two of the knives and chopped his own brush. It soon developed that the arms to which the removed knives had been fastened would catch pieces of wood and chug the machine, so he sawed them off. A 4-horsepower engine would do all that the machine could stand. Anything above 6 horsepower would add unnecessary weight to the load. The 6-horsepower engine takes five or six gallons per day of distillate.

Aside from his own orchard, Mr. Conley has been chopping the prunings for many of his neighbors. "I never chopped for a man once but what he called me to do it the next season. However, it is hard for the average fruit grower to see that the humus and fertilizer are worth the extra cost, though I would chop the brush in my own five acres if I had to do it by hand," says Mr. Conley.

The cost of chopping and spreading is about twice the cost of hauling the same brush to the edge of the grove and burning it. For the machine, team, two men and boy $11.50 per day of nine hours was charged. For himself and the machine the cost was $7.

The brush is piled in the row between trees so at each stop that from two trees could be chopped. One man pitches brush onto the table beside the force feeder. Mr. Conley feeds it, big end first, at such a rate that the engine keeps going without severe straining. A heavy flywheel helps run the cutter when big brush is put in. Wide stiff forks have to be split apart so they will feed. Anything up to an inch in diameter is chopped by the machine into pieces 1½ to 2 inches long on an average. The inside of the hopper should be tinned to prevent brush gouging it out, as Mr. Conley's has been.

STATE FAIR TO FEATURE AGRICULTURE AND LIVESTOCK.

(Continued from first page.)

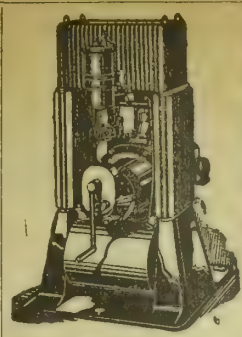
urious as the one at San Francisco later. This year's exhibit will be better and will include several new makes. No tractor demonstration will be held, but tractors of most California makes and several from the East will do stunts on Tractor Field. Henry Ford has been asked by telegraph to show one of his tractors.

WOMEN'S INTERESTS.

It is well to remember the conveniences and entertainment afforded by the women's building, completed last year, the classes for women's and girls' handiwork and cooking, the floral, forestry, bee, textiles, manufactures and fine arts departments which will be of special interest to women.

It is well to remember that a careful study of the livestock and other exhibits at this Fair will lead to use of better-paying livestock and poultry, improved tools, better farm power, and better methods of farming gleaned from intercourse with other visitors to the Fair, all of which must needs increase our efficiency in producing the foods required to win the war. A broadened view and a satisfaction with the food producer's vocation will come that will lighten the labor of the years to follow.

It generally takes two men two days to overhaul H. M. Thayer's tractor in Sutter county, taking everything to pieces once or twice per year. He knows the machine pretty well, having had it five years. The overhauling primes the tractor for steady work when the rush season comes.



Uni-Lectric GASOLINE-ELECTRIC UNIT LIGHTING SYSTEM

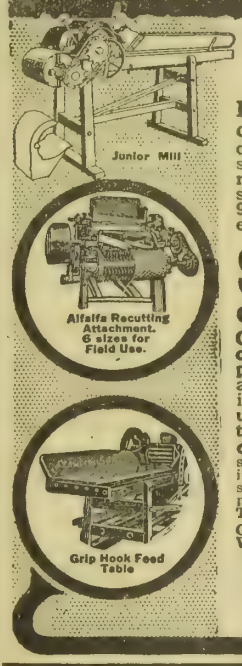
Electric Light for Your Farm

Uni-Lectric lighting plant generates standard 110-volt direct current; operates from one to fifty lights, electric motor, electric iron, vacuum cleaner, electric toaster, force pump, churn, washing machine, etc. No Batteries—No Switchboard—and a better machine for less money. High speed gasoline motor, generator and automatic governor, all complete in one small, compact unit. Uses standard lamps and fixtures. Simple, easily installed, dependable, economical. Costs less than other systems to buy and to operate.

Write to-day for full description and low price.

KARL A. HEDBERG ELECTRICAL ENGINEERS 104 Clay St., San Francisco, Cal.

This Silo Filler Makes Alfalfa Chop



Write NOW For Wonderful New Smalley Book FREE

Learn how thousands of farmers are fattening hogs, cattle, sheep and poultry with alfalfa chop made quicker, easier, better than ever before! Learn how they're selling their A1 hay, milling off-grades for feed—how they're making simply great combination feeds from clover, rice, straw, bean straw, pea vines, oats, rye and corn stalks—600 to 900 pounds per hour with Junior Mill and 6 to 8 horsepower engine. This mill cracks peas, corn or velvet beans.

Smalley Silo Filler (Seven Sizes)

Chain Drive — Force-Feed Grip Hooks

Grip hooks do the work of human hands. They catch the corn—automatically push it under the paddle roller and powerful, swift revolving, bevel edge knives set like a lawn mower do the rest. No grinding, no pounding. Turns out ensilage, clean-cut, fine, uniform, unbeatable in richness. Increases tonnage! Saves time, money! Two men's labor with large outfit!

Chain Drive forever does away with belt wear, belt slipping. That means power saved! Blower operates independently of knives. Let your fan spin fast or slow—speed of cutter shaft is unchanged—more power saved! A saving of 1-5 to 1-4 in power alone. Think of it! Two machines in one!

Get all the facts. You want an outfit—need one. Write NOW for sample of chop and FREE book, to

PACIFIC IMPLEMENT CO. General Agents, San Francisco, Cal., or Smalley Mfg Co., Dept. 41, Manitowoc, Wis.

FREE

$1150

Lowest Price for Tracklaying Tractor and You Need to Order Now

Horses are 143% higher than during past decade. Feed is 100% higher. Labor is more scarce. There's a *double need* now for tractors. Don't take chances. Tractor material is becoming harder to secure and higher in price. If you expect to have a tractor between now and spring, order now for future delivery at present price—and thus be sure of getting this tractor.

Note These Features:

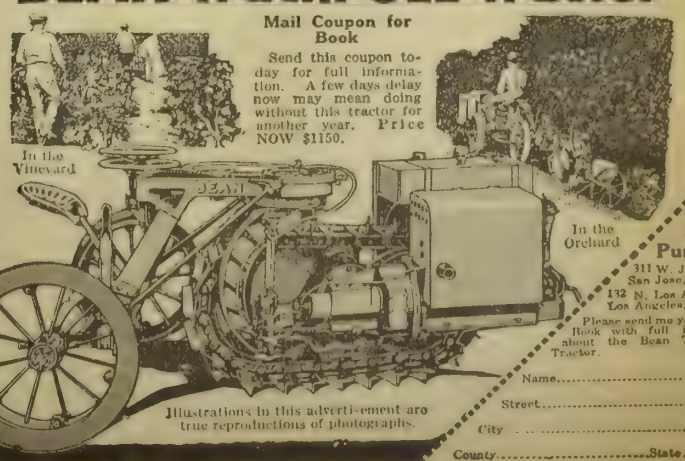
1. Pulls instead of pushes itself over the ground. All power goes to *pull*.
2. Can be "gee-ed" and "haw-ed" out of holes and soft places like a team.
3. Has full-power pull on turns as well as on the straight-away.
4. Turns clear around in a 10-foot circle (5-foot radius).
5. Plows or harrows as close up in the corners of fields as a team.
6. Plows as close to vines and trees as a team.
7. Goes under branches of trees that no team can get under.
8. Pays for itself in what it saves.
9. Light weight—3100 pounds—on long track surface. Less weight to square inch than man's foot.
10. Simple 4-cylinder automobile type engine. Burns engine distillate.
11. Runs stationary machinery up to 10 h.p. when not working in fields.

If you attend the Tractor Meet to be held in Los Angeles, by the Tractor Engine and Implement Dealers' Association, on the Downey Road, Sept. 18th to 22nd inclusive, be sure to call at our exhibit and watch the the Bean TrackPULL Tractor work under actual field conditions.

BEAN TrackPULL Tractor

Mail Coupon for Book

Send this coupon today for full information. A few days delay now may mean doing without this tractor for another year. Price NOW $1150.



Illustrations in this advertisement are true reproductions of photographs.

Bean Spray Pump Co.
311 W. Julian St. San Jose, California
132 N. Los Angeles St. Los Angeles, California

Please send me your Tractor Book with full information about the Bean TrackPULL Tractor.

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NORWALK TIRES

Norwalk Tires embody those lasting qualities which make for utter satisfaction. They give thousands of miles of perfect service without appreciable wear. Guaranteed 6,000 to 7,500 miles. Ideal for country roads. Ask for folder.

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LICHTENBERGER-FERGUSON CO.

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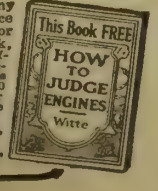
NORWALK

FREE Before buying any engine at any price be sure to write for my new free book, "How to Judge Engines." Tells the difference between good engines and unreliable engines. Witte Kerosene Engines 2 to 22 H-P. Sold direct. No dealers. 90 days' trial; cash or easy terms; 5-year guarantee—Ed. H. Witte

Witte Engine Works 2863 Oakland Avenue, Kansas City, Mo. 2863 Empire Building, Pittsburgh, Pa.



General Agricultural Review

Field Crops.

The bean crop in Lake county has been damaged by the hot weather.

Warehousemen in Yolo county are taking precautions to guard their granaries.

Threshing machines are at work in Lake county. The grain crop is much better than was expected.

The harvest will begin in Colusa about September 1, giving the grower time to secure the crop before the rains.

Planting for late potatoes is undisturbed by the early potato disappointment in prices in Los Angeles county.

The Pacific Northwest in 1917 will produce 7,165,000 bushels of corn as against 3,500,000 last year, it is said.

The cotton crop of the United States this season is estimated at 11,949,000 by the Department of Agriculture.

Andrew Hall Wightman has bought the Robinson ranch, adjoining Independence, for $34,500. The ranch consists of 158 acres of alfalfa.

Advices from New York say that the Government has purchased 50,000 pounds of red Manchurian beans at 9¼c per pound, duty paid, in double sacks.

Fifteen acres belonging to Benj. Quigley of San Luis Obispo county produced this season 66 tons by balers' weights of first-class barley hay with no weeds in it.

Ventura county has 75,000 acres of lima beans in open fields and 10,000 intercropped in orchards, as summarized recently by Horticultural Commissioner A. A. Brock.

The Sespe ranch in Ventura county has interplanted 150 acres of citrus trees and 30 of walnuts with bluepod white beans, according to Assistant Manager H. F. Pressey.

Harvesting of sugar beets has commenced in the San Fernando Valley. The first shipment was made last week from Owensmouth, and was one car and was billed to Chino.

W. E. Barnard, Eastern manager for the Rice Products Company of America, announces a plan to establish a mill and packing plant either in Sacramento or San Francisco.

About 3,000 acres have been planted to mustard in Lompoc Valley this year, as against about 2,500 last year. No other section of the United States produces mustard commercially.

H. L. & E. H. Murphy of Perkins were offered $2.25 per cental for barley in the field last week, but replied that they would rather buy than sell. They are erecting a 100-ton silo.

The fact that beer has been excluded from the proposed bone-dry nation proposition has raised the hopes of the hop growers to a point that assures them of a good figure for their crops.

The Swall Land Company harvested 5,000 sacks of potatoes from the home ranch, northeast of Tulare. Two crops were grown in a prune orchard, between rows of trees, on about 75 acres.

A hundred experimental plots to determine whether use of lime will pay are planned by Sacramento County Farm Adviser Carl Williams. Tests of the red soils have seemed to indicate deficiency.

Three of the eleven prisoners who were recently sent from the Nevada penitentiary to work as harvest hands on the ranch of the Plymouth Land and Livestock Company in the Smith Valley have escaped.

The yield of hops in Mendocino county this year will be large, but somewhat short of former years, as the war and poor sale prospects caused many acres heretofore planted to hops to be laid out in other crops.

It is said that there are 4,000 acres of tepary beans growing around Owensmouth. The first of this year's crop were harvested last week on the G. W. Clemson ranch near Owensmouth. The beans were very fine.

Beet growers for the San Joaquin Valley Sugar Company and the Pingree Sugar Company of Visalia and Corcoran have been notified that these companies have decided to pay a bonus of one dollar per ton above contract price this year.

Rows of green Sudan grass, planted at intervals in large grain fields on the Drexler tract, southwest of Stockton, checked what promised to be a very costly barley fire. The fire burned forty acres and stopped when it reached the Sudan grass.

The New York and Pacific Hop Co. has contracted with White & Terry of Sacramento county for the crops of 1918, 1919 and 1920. In 1918 160,000 pounds are contracted for at 10c per pound, and the same price is guaranteed for 100,000 pounds in 1919. In 1920 100,000 pounds are contracted for at the price of 11c per pound.

Deciduous Fruits and Nuts.

The first peaches and grapes are being packed at Dinuba.

The best fruit crop in the history of the Tulare section is being picked by orchardists.

It is estimated that the total apple output of Washington, Oregon and Idaho will be little short of a year ago.

Plum harvesting is about finished in Sacramento county. The season has paid well.

The 1917 apple crop of Montana, Idaho, Washington and Oregon has been estimated at 23,000 cars.

The Exeter cannery opened last week. About 300 people will be employed this year and the company reports no trouble in getting all the help they need.

Up-to-date cutting and drying houses are being completed at Finley, Lake county. Large cutting sheds have been built at Kelseyville also.

The State Horticultural Commission plans to enforce rigidly the new apple law prohibiting the sale of wormy or diseased apples to the people of California.

Retail dealers who have raised the price of glass fruit jars were denounced by the Department of Agriculture at Washington, it is claimed. There is no shortage of jars.

In the vicinity of Gilroy foggy weather is credited with causing the foliage on fruit and forest trees to be denser this year than usual and to have been decidedly beneficial to the fruit crop.

Thirty-five hundred 30-pound lug boxes of Royal Ann, Black Tartarian and a few soft red cherries were shipped this year from eight acres of old bearing trees by L. H. Schuyler of Lompoc.

Owing to the warmer condition of the weather in the Watsonville district, Bellflowers in various sections of the valley have been maturing rapidly and fruit men say they will probably be ripe by September 1.

The apricot season in the Banning district has closed and the peach season there is opening. The Banning cannery has contracted 1,000 tons of cling peaches of the late kind and will operate until October 1.

Plans for the national introduction of Sunsweet prunes and apricots to the jobbing and retail grocery trade have been formulated by the advertising department of the California Prune and Apricot Growers, Inc.

Arbuckle almond growers state that the crop there will run from 85 to 110 per cent. D. S. Nelson, secretary of the Arbuckle-College City Almond Growers' Association, figures on the association handling about 150 tons this year.

It is announced from Santa Barbara that Jos. Sexton, 75 years old, father of the walnut industry in California, is dead. In 1867 he secured 120 pounds of walnuts in San Francisco, they having been imported from Chile. These he planted in his nursery and developed sixty young trees, maturing a crop of soft-shell walnuts. These he crossed and secured the present commercial walnut of California.

Citrus and Semi-Tropical.

The citrus plantings in Tulare county include 1,161 acres of grapefruit.

Prominent orange growers state that the orange crop in Tulare county will be light this year and in some of the southern parts of the State there is only a 10 per cent crop.

The Kingsbury Laboratories of Redlands shipped last week to the None-Such Mince Meat Company of Syracuse, N. Y., a car of dried orange peel. The demand for dried orange peel is said to be constantly growing.

Avery Hoyt, field deputy of the State Horticultural Commission for Southern California, is visiting Florida to spend a month investigating the methods of controlling the citrus cancer in that State, upon which more than a million dollars already has been spent.

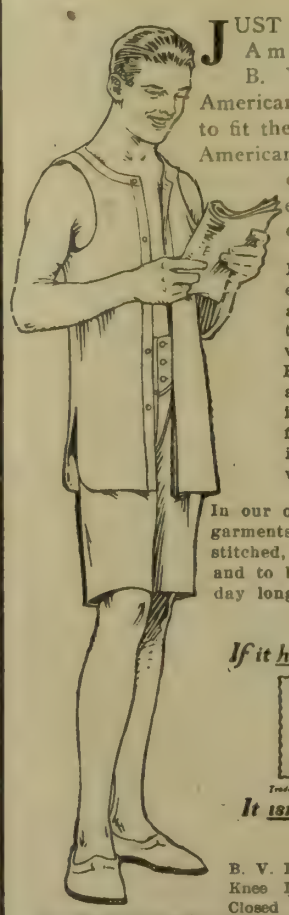
Prices for cyanide are a little higher this year. Last year a tree 14 to 16 years old, requiring 8 ounces cyanide, cost 15 cents for covering and 16 cents for chemicals. This year the cost is the same for covering and 17 cents for chemicals. This is an increase of about 3 per cent for this size tree.

Professor C. M. Chase of the Citrus By-Products Laboratory, Los Angeles, is busy now testing California grapefruit as to acid content as compared with the Florida standard of 7 to 1. This is the second season in which tests have been made and it will be another year before it is finished and the final result will be known. Enough has been learned, however, to say that California grapefruit is being gathered too early in the season. It has been found that the Imperial Valley and Arizona grapefruit is much milder than the California.

Grapes.

The basic wage for men employed in the plants of the California Associated Raisin Company is now 30c

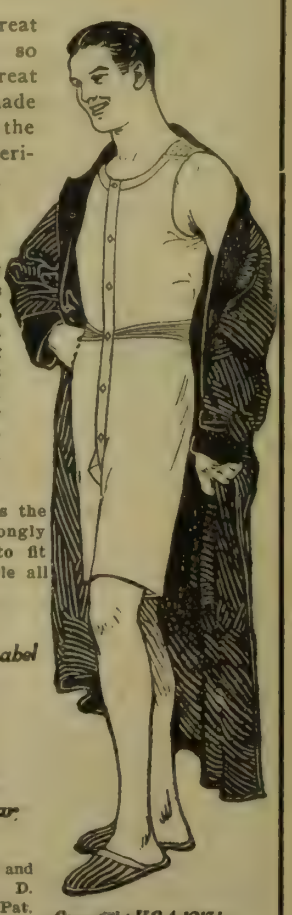
American Institutions—
Baseball and B.V.D.



JUST as Baseball is the great American Game, so B. V. D. is the great American Underwear. It is made to fit the American climate, the American figure and the American idea of personal efficiency through cool comfort.

In our own modernly equipped Cotton Mills at Lexington, N. C., the Nainsook from which Loose-Fitting B. V. D. Undergarments are made, is produced in a scientific manner from selected cotton to insure durability in wash and wear.

In our own B. V. D. Factories the garments are skilfully cut, strongly stitched, accurately finished—to fit and to be cool and comfortable all day long.



If it hasn't this Red Woven Label

MADE FOR THE B.V.D. BEST RETAIL TRADE

Trade Mark Reg. U. S. Pat. Off. and Foreign Countries

It isn't B.V.D. Underwear

B. V. D. Coat Cut Undershirts and Knee Length Drawers, B. V. D. Closed Crotch Union Suits (Pat. U. S. A.).

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The B. V. D. Company,
New York.

an hour. This is about 2½c over the old scale.

Grape growers and wine makers of the State met today (August 11) at Lodi to decide on the initiative measure they are to put on the ballot in November, 1918.

The grape and olive are to be a special subject of instruction at the short courses at the University of California Farm at Davis between October 29 and November 3.

Experiments show that the Feher Zago vine is more vigorous in "alkali" soil than the commonly grown table and raisin varieties of grapes and more highly tolerant of alkali. This variety is, however, inferior in other classes, its vigor and productiveness being its most valuable characteristic.

Fruit contractors in the Fresno district will charge 5 cents for picking small trays of Muscat raisin grapes, according to announcement made by the organizer of the Agricultural Workers' Union, who reports that the contractors have agreed to use union help in the vineyards. An additional one-cent charge will be made for picking large trays of Muscats. A charge of 4 cents per tray will be made the grower for picking Thompsons and Sultanas. A charge of price and a half will be made for Sunday work.

Miscellaneous.

Sonoma county crops are all in splendid condition.

Santa Clara county has decided that a farm adviser is not needed at the present time.

State Market Director Harris Weinstock has been reappointed for a term of four years by Governor W. D. Stephens.

CALIFORNIA LAND SHOW.

"Land cultivation, food conservation—our slogan," was adopted by the executive committee of the California Land Show, last week. It is the announced purpose of the officers of the big exposition which will be given in San Francisco this fall (which enterprise is fostered by the San Francisco Real Estate Board) to bring together the potential farmer and the productive lands and to assist in educating both the farmer and the city dweller in using to the best advantage the products of the State.

The cultivation of the soil will be treated from an educational standpoint through the medium of lectures, moving picture demonstrations and replicas of big industries. The conservation of food will be in able hands and it is planned now to open a bureau co-operating with National Food Director Herbert Hoover. There will also be a culinary department, where California products of all kinds will be experimented with and new and wholesome dishes evolved. For new and tested recipes for the use of prunes, dried figs, rice, oranges and raisins a special list of prizes is being arranged. Livestock is to be one of the added features of the show and many blue ribboners will compete for special awards.

THE VINTAGE FESTIVAL AT ST. HELENA.

The stage settings for the spectacular allegory, "Back to the Soil," which is to be the leading feature of the St. Helena Vintage Festival to be given August 31, September 1, 2 and 3, will be very beautiful. The huge tent which will shelter the exhibits is in position. It will give 10,000 square feet of space.

During the past year the mining of magnesite has become one of the leading industries of Napa county. The festival management has been promised a very unique exhibit of this mineral. Voting for the queen has begun. There are several candidates.

Specialists in Specimen Stock for Landscape Work.
Hardy Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.
WRITE FOR PRICES
COTTAGE GARDENS NURSERIES, INC.
EUREKA, CALIFORNIA

FRUIT CROP REPORT FOR JULY.

[Written for Pacific Rural Press.]

The monthly fruit crop report compiled by the State Horticultural Commission from reports of County Horticultural Commissioners and of two Farm Advisers indicates damage to fruit crops.

ALMONDS.

The Horticultural Commission's State average for almonds is 59 per cent of normal. Following percentages are for counties which normally produce 11 or 12 per cent of total State tonnage: Butte, 15 per cent of normal; Contra Costa, 70 per cent; San Joaquin, 100 per cent; Yolo, 50 per cent; Sutter, with a little less production than the others, 65 per cent.

APPLES.

The State average is figured at 90 per cent of normal. Santa Cruz, with over half of the normal State tonnage, has a full crop, with trees propped. Sonoma, 16 per cent of normal State tonnage, reports an 80 per cent crop. Monterey, with over 12 per cent, has a 75 per cent crop.

FIGS.

The fig crop is heavy in Fresno, Merced and Tulare counties, which produce respectively 53, 9 and 6 per cent of the State crop normally.

LEMONS.

While the State average on lemons is placed at 39 per cent, overindulgence in lemonade is not suggested, for most of the fruit we could see on the trees during July wasn't much juicier than cotton.

OLIVES.

Butte and Los Angeles, which normally produce 14 per cent each of State tonnage, report crops this year promising 65 and 25 per cent respectively. Riverside and Tehama, 11 per cent each, report 30 and 50 per cent crops respectively. The State average is 45 per cent.

ORANGES.

The heavy heat damage is reported to have left 39 per cent of the coming crop as a whole. San Bernardino's production, usually 31 per cent of total State normal, will be only 20 per cent. Los Angeles, usually 26 per cent of State normal, 50 per cent of county normal this year. Riverside and Tulare normally produce 14 and 13 per cent of the State crop respectively, but they report 13 and 65 per cent of normal crops. Orange county normally contributes 10 per cent to the State total, mostly Valencias, and she has four-fifths of a crop in view for next year.

PEACHES.

The State crop of peaches is figured at 88 per cent. Fresno reports 90 per cent of her normal 29 per cent of the State crop. Other counties normally ranging from 9 per cent down to 5 per cent of total State crops report in order of usual production: Tulare, 100 per cent; San Joaquin, 100 per cent; Placer, 70 per cent; Kings, 95 per cent; Santa Clara, 80 per cent; San Bernardino, 100 per cent.

PEARS.

Sacramento county normally leads with 18 per cent of the total pear crop and she reports 120 per cent of her normal. Santa Clara and Yolo, normally 9 per cent of the total, have 65 and 75 per cent of their own normal crop. Lake with 8, Placer with 7 and Contra Costa, Solano and Sonoma with 6 per cent each, report respectively: 100 per cent, 50 per cent, 70 per cent, 100 per cent and 90 per cent of their own normal crops.

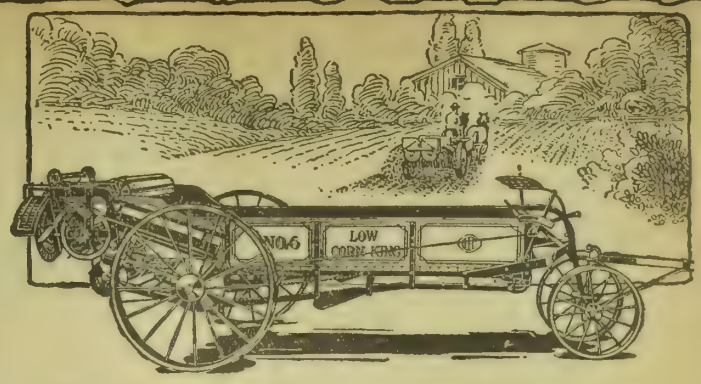
PLUMS AND PRUNES.

Placer, Santa Clara and Solano, which together are credited with 73 per cent of all the plums usually produced, report 35 per cent, 72 per cent and 75 per cent of normal crops.

Santa Clara and Sonoma produce 67 per cent of total prunes, while Tulare and Napa are credited with 4 per cent each. Their reports are respectively 72 per cent, 70 per cent, 100 per cent and 100 per cent.

WALNUTS.

Orange, Los Angeles, Ventura and Santa Barbara produce 98 per cent, and the total average for them is about 83 per cent of normal.



Settle the Spreader Question

THE farmer who uses a **Low Cloverleaf, Low Corn King** or **Low 20th Century spreader** these days is the man who makes the most money. His land increases in value when regularly fertilized. His crops grow better in quality and larger in yield when supplied with available plant food. Of all the spreaders on the market, the **Low Cloverleaf, Low Corn King** and **Low 20th Century** come nearest to doing this work as it should be done.

It is a long jump from the ordinary machine to the modern low spreader with its double beater and wide spread. Every farmer who knows the value of good spreading is buying one of these wide spread machines. As a matter of fact, no farmer can afford to buy any other kind, because the saving of time and labor and the better job of spreading done by a **Low Cloverleaf, Low Corn King** or **Low 20th Century** makes them worth more than ordinary spreaders.

Complete information about these machines is worth money to you. Drop us a line at the address below and we will show you very plainly why it will pay you to buy a **Low Cloverleaf, Low Corn King** or **Low 20th Century** spreader.

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Crawford, Neb. Denver, Colo. Helena, Mont. Los Angeles, Cal.
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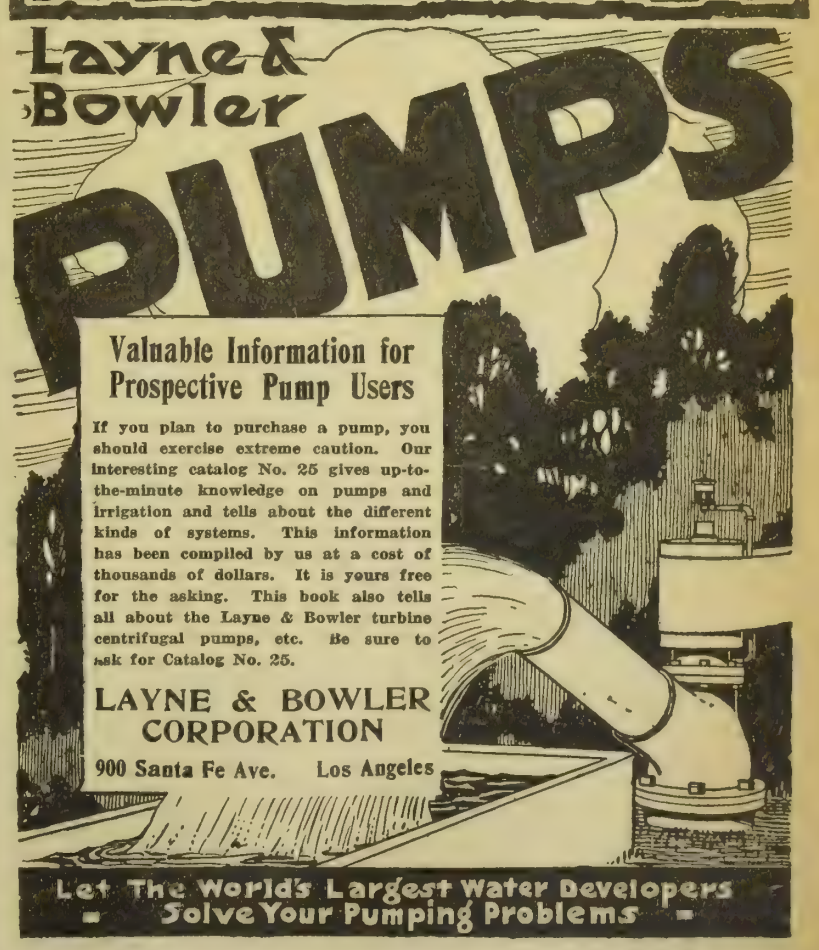

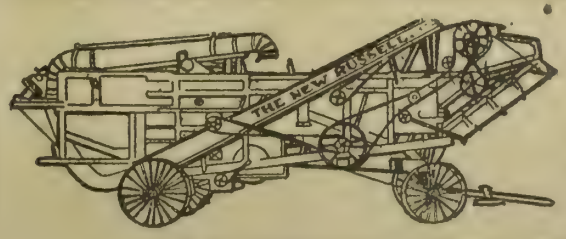

RUSSELL
2-cylinder
THRESHER
Guaranteed to thresh both
Beans and Grain
Built specially for California work
A. H. Averill Machinery Co., San Jose

Blood and Records Give Grade Cows Victory

[Written for Pacific Rural Press.]

The result of fourteen years' use of registered Jersey bulls and twelve years of cow testing records showed up in June when J. W. Coppini of Humboldt county won the $25 monthly prize offered in the State Dairy Cow Competition by the Pacific Rural Press for highest butterfat production by five grade cows in one herd headed by a purebred sire.

The prize was won in competition with eleven other breeders in all parts of California. Mr. Coppini's cows averaged 1260.6 pounds milk containing 67.599 pounds butterfat, and had been in milk an average of 65 days. His best producer was Lady Mac, 13 years old, 85 days from freshening. She gave 1,527 pounds of milk containing 73.296 pounds fat during June. She was one of Mr. Coppini's highest producers in May. Lady Mac is a first Jersey cross on a Durham cow, big, red, fine dairy build, with a big bag, but short from hips to pin bones, which are wide apart. The others of the winning five are three-quarters or more Jersey. The average for the five cows entered in May for the prize was 77 pounds butterfat. An eight-day test for the entire herd of 21 cows showed 5.1 per cent butterfat.

The influence of purebred efficiency is shown in the fact that Mr. Coppini has 10 registered cows on official test for Register of Merit records and State Dairy Cow Competition prizes. He raised his present herd bull, and that bull's sire and dam, picking always for uniform high production, as shown in cow-testing records.

RECENTLY LEARNED TO FEED.

Two points of major importance have in the past year or two impressed themselves on Mr. Coppini as never before. One is the great economy of feeding concentrates to cows whose breeding makes them capable of high production. The other is the need of "priming the cows while they are dry."

Cows should be brought up on concentrates, he thinks, because he sees the increased concentrate-eating capacity of the cows when they have had concentrates the previous season, and he knows the increase in profits per cow, according to the quantity she eats.

Succulence previously had been the mainstay and is still generously supplied in the form of clover-ryegrass pasture from early spring until June or July, fresh cut clover and ryegrass until it dries up, beets and carrots in the fall, and beet pulp when only hay and concentrates are available.

In June he was feeding the 21 cows about 40 pounds of beet pulp soaked with about three buckets of water from noon till 3 p. m., when perhaps 20 pounds cocoanut meal were added with one-half to a bucket of bran, and all dampened. This furnished two concentrate feeds for the herd. Each cow was fed about the same quantity, for it would take too much time to feed strictly according to quantity of milk, and Mr. Coppini observes that some of the best producers eat less than others. The aim is to feed all that the cows will clean up when they have all the succulence they want.

In May cocoanut meal was fed alone, about two pounds per cow. This was not relished very long; so later in the month it was mixed with bran. Their capacity for cocoanut meal was noticeably greater when they had become accustomed to it previously.

PRIMING DRY COWS.

Dry cows should be fed as well when dry as when milking, Mr. Coppini has become convinced after years of doubting. The dry time is recuperation time for another lactation period as well as to mature the calf that is to come. If a cow must be steadily thinned and weakened by giving all her strength to the calf, she will be unable to do her best in the milking afterward; for her own system is not prepared for greatest production.

N. California Guernsey Breeders Organize

At an informal luncheon given by A. J. Welch at the St. Francis Hotel, San Francisco, Saturday, August 4, an organization of the Guernsey breeders of Northern California was completed. Nearly 500 head of registered cattle were represented and there is promise of probably a hundred or more from smaller herds in the territory covered by the organization.

It was decided to call the new organization the Northern California Guernsey Cattle Club, and its purpose declared to be "to foster and promote the interests of the Guernsey breed; to guarantee the integrity of the breeders and their cattle, and to encourage and push publicity."

Officers were elected as follows: President, B. E. Nixon, Yountville; vice-president, W. H. Saylor, San Francisco; secretary, A. J. Welch, San Mateo. Prof. G. H. True was elected honorary member of the club. The officers, together with M. H. Tichenor and M. A. Harris, will constitute the executive committee. Messrs. Tichenor, True and Welch were selected as a publicity committee.

Another meeting will be held this week to work out a plan of campaign, and active work for the good of the breed will be under way in the very near future.

The club membership is composed of practical, hard-headed men, and there was evident a determination to do for the Guernseys here what similar organizations have accomplished for the breed elsewhere. And they are going at it in such a way that much good will result to the magnificent breed they represent.

COWS LIKE ALFALFA SILAGE.

[Written for Pacific Rural Press.]

"Our cows lick up the juice that runs from the alfalfa silage. We fed 180 tons last year and the silo is full of it now. Some of it was burnt to a crisp, but the cows preferred it to hay and held up with their milk. We gave eight or ten pounds per feed twice a day with alfalfa hay." This is the experience of C. S. Collins, who is operating an 84-cow dairy on the J. B. R. Cooper ranch in Monterey county.

The alfalfa was of the first crop, mixed with some ryegrass, clover, filaree, weeds, etc. It was mostly siloed in the morning, having been cut the previous afternoon. If very green, very little water was added; but if wilted, about four or five gallons of water per minute was run in through a hose.

PLANK-FLOORED BARNYARDS.

[Written for Pacific Rural Press.]

That plank flooring of muddy barnyards is economical where milk production depends on cows' comfort as well as on feeds and breeding, seems indicated by the many planked barnyards we have observed in Humboldt county. One of these was floored with two-inch plank about the silos and barn entrance by John Hansen about 1913. This was such an improvement that the rest of the yard was floored in 1916. It was all in fine shape in 1917.

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
GEO. P. ROBINSON CO.
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Travelers Hotel Building, Sacramento.
LIVESTOCK BROKERS.

Acme Herd Jerseys
QUALITY COUNTS
STOCK FOR SALE
Chas. M. McLouth, Orland, Cal.

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Expert Livestock Auctioneers
Purebred Stock Sales a Specialty
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Dutchland Sir Pietertje Creamelle's
Ten First Daughters in Milk have average records of 20 lbs. as two-year olds or younger
Two of These are California Champion Two-Year Olds

PAULINE INKA DE KOL CREAMELLE
Senior yearling record: Milk 423.4, Butter 24.43 lbs., Test 4.62 per cent.

MARIE CLOTHILDE PONTIAC CREAMELLE
Junior 2-year-old record: Milk 391, Butter 22.52, Test 4.6 per cent.

This wonderful record is convincing proof that this young herd sire transmits his big production and high test breeding.

You Need Some of His Blood in Your Herd

To bring up your butter fat production and increase your profits.

I am offering a few young bulls sired by him, out of big producing dams, and just ready for service, at reasonable prices.

WRITE OR CALL AND SEE THEM.

F. STENZEL
SAN LORENZO, CALIFORNIA
Breeder of High-Test Holsteins.

KING PONTIAC ORMSBY SEGIS

HIS dam Christeria Overton Mechthilde made 31.70 pounds of butter from 463 pounds of milk in seven days.
HIS sire King Pontiac Netherland Segis is one of the wonderful sons of the greatest sire of the breed King of the Pontiacs.
HIS dam and sire's dam have an average test of 5.09.
HIS blood makes him one of the foremost sires of the coast.
HIS story is a great deal longer and we will gladly tell you more.
HIS future is bright as he is being bred with over twenty A. R. O. cows with some of the most wonderfully bred heifers in the state.

GOTSHALL & MAGRUDER
RIPON, CALIFORNIA
THE HOME OF THE STATE CHAMPION TWO YEAR OLD
Write for descriptive booklet about some of the animals we are offering for sale

Don't Get Panicky Over High Feed Prices

[Written for Pacific Rural Press.]

There seems to be a disposition at this time on the part of many who have hogs on the farm to sacrifice them, and a reluctance on the part of others to begin the breeding and keeping of hogs, no matter how much the keeping of hogs is "indicated"—and they should be "indicated" much more generally than they now are.

The reason for this threatened curtailment of pork production is, first, the high price of feed at this time and the seeming certainty that it will go yet higher; and, secondly, the diminishing supply of farm help.

And no one at all advised will minimize the importance of either of these factors in meat production; far from it. But the stockman is not the only one affected; in fact, he probably feels the help shortage less than most any other class productively engaged. And the feed problem may not prove as much of a menace as some think it will; for, while it is soaring, pork is soaring, too. Barley at 2¼ cents looks high, and is high, yet live hogs at 15 and 16 cents is certainly seductive. There is a wider spread right now between the cost of feed and the price of pork than there was when both were low in price, and this spread is all in favor of the grower. So the high price of feed is not a real good reason for either going out of pork production or refraining from entering it.

As a matter of fact, this should be about the right time to enter the swine breeding business, if one is not in it, or to remain in if already in. When everybody else rushes north it is a right good plan to start in the other direction, as there will be more room and opportunity in the south.

If the high price of feed and the scarcity of help scare out as many as now seems probable, it will not be long till the "sure thing" will happen, namely, still much higher prices for pork, and then the man already in and with something to sell will reap ample reward for his use of a little ordinary common sense.

Admittedly, it is not good sense to rush into anything at any time simply and solely because that thing happens to be high. Contrariwise, it is good sense to go into a line of production when the product thereof is low. This would seem to reason against our contention above, but it does not. The high price of both feed and pork is caused by artificial conditions—by universal war—and not because there is a speculative "bulge" on. And the prices will remain high as long as war lasts, and likely for some time after peace comes. At least there is no immediate chance for any sudden decline.

So everything indicates that this is a good time to remain in pork production if one is already in, and about the right time to get in, provided there is any reason why one should ever be in.

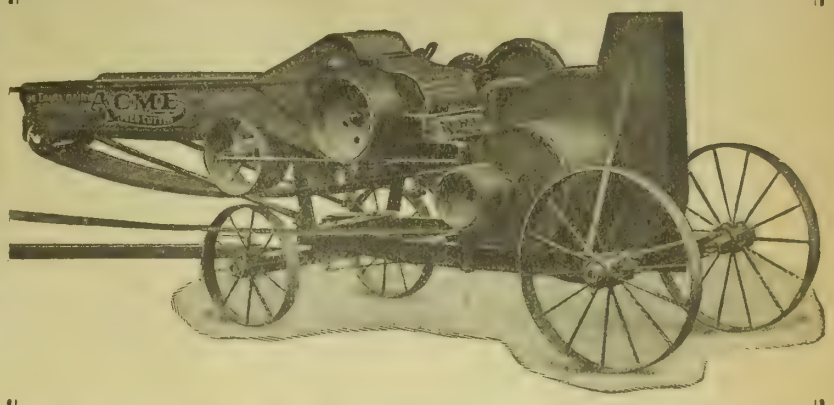
KING OF THE PONTIACS 39037 (202 A. R. O. Daughters; 115 Proven Sons).
At 13½ years of age sold for $10,500 at the Stevens Brothers' dispersion sale, Liverpool, N. Y., May 15, 16 and 17, seventy-two of his daughters selling at the same sale for $89,325, an average price of $1,241 a head. "King" has nineteen daughters that have made from 30 to 44 pounds butter each in 7 days, and 113 other daughters with records of between 20 and 30 pounds in 7 days.

STATE VACCINATES CATTLE.

Free immunization of cattle against anthrax is being practiced by the State Veterinarian's force as a livestock sanitary measure. There have been serious outbreaks of anthrax in various counties in the past two or three weeks and inspectors have been busy cremating carcasses and immunizing exposed animals. The new serum-spore method is being used, and is considered by State Veterinarian Chas. Keane so much better than the common vaccination that he is encouraging its use by removing quarantine sooner after vaccination where the serum-spore method is used.

BUY YOUR ACME FEED CUTTER NOW

Make Sure of Having it When You Need it.



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The Only Steel Frame Cylinder Cutter on the Market.

FILLS THE SILO—CUTS DRY FEED—MAKES ALFALFA MEAL.

Alfalfa Meal mixed with skim-milk makes the finest kind of Hog Feed. Alfalfa Hay, when run through an Acme Cutter, takes less room in the barn and goes farther in the feeding of stock because the coarse as well as the fine hay is entirely consumed as feed.

CUT YOUR FEEDING COSTS WITH AN ACME CUTTER.

Send for Catalog and Prices.

DE LAVAL DAIRY SUPPLY CO.

61 BEALE ST., SAN FRANCISCO, CAL.

Do You Want Long Distance Backing?

We have a son of the California State Champion three-year-old for sale. Born October, 1915; sired by PRINCE ALCARTRA KORNDYKE, whose dam is TILLY ALCARTRA.

The Dam of this young bull is not a fifty-pound cow, but she has to her credit 21,208 pounds milk and 860 pounds butter in one year, which is the largest record ever made in California by a Junior three-year-old.

If you are in the market for a bull, it will pay you to visit our ranch and see what we have to offer—at prices that will surprise you.

J. S. GIBSON CO., Box 97, Williams, Cal.

"THE NAME GIBSON INSURES QUALITY."

THE "IOWA" SILO Best for California

Designed and introduced by the Iowa State Agricultural College under the supervision of Prof. J. B. Davidson, now on the faculty of the University Farm at Davis, Cal. Over 1500 of these Clay Block Silos built each year in Iowa.

Reference:

UNIVERSITY FARM, DAVIS, CAL.

Construction: Hollow clay blocks, 4x8x12 in., of same quality clay as the famous Denison interlocking tile, burned to extreme hardness. Reinforced with steel wire laid in mortar joints and tied to the vertical steel rods in the reinforced concrete door jambs.

We also furnish drain tile and clay blocks for all kinds of farm buildings.

Silo on Lewis Moreing Ranch, Lathrop

BEST BECAUSE:

It makes the best silage, protects against air, moisture and temperature. It is permanent, everlastingly proof against time, storm, decay, fire and vermin.

It cannot crack, collapse or blow over. Distinctive in appearance, it will add to the value of your farm. Cost but little more than the temporary kind and the first cost is the only cost.

Requires no painting, adjusting or repairs. Can be extended at top for water tank of same construction.

Our present capacity is very limited. So if you want a silo this season fill out the coupon and mail to us at once.

Cannon Phillips Co.,
920 Forum Bldg., Sacramento.

Please send me full particulars on the Iowa Silo.

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Name .....

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Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Interruption of milk sugar imports by the war has caused a creamery company to install a milk sugar plant at El Centro.

J. B. R. Cooper of Salinas is using on his big dairy herd the bull King Segis Pontiac Emperor, recently bought from A. W. Morris & Sons.

A recent advance of a cent a quart, making the price of milk 12½c, will cost New York consumers $7,200,000 a year. The advance is the fourth since last October.

The retail price of milk in Los Angeles has been raised to 11c a quart and 6½c a pint. Increasing costs of production and distribution is given as the cause of the raise.

The Helm ranch recently sold a young Holstein bull to S. B. Otter of Fresno. The animal is the son of the famous Colantha Johanna Lad and Belinda Paula, a family of 30 and 38 pound cows.

Nine dairies distributing milk in Fresno have made an increase in the retail and wholesale price of milk and cream. The retail price of milk is now advanced for pints from 5c to 6c, quarts from 10c to 11c, half pints of cream from 15c to 20c, and pints of cream from 25c to 35c.

Chas. T. Wrightson of Fresno writes that he has a cow that will be four years old the last of December, 1917, that has produced six calves up to July 30, 1917—one the first time, two the second, and three healthy, perfect bull calves this time, all the same size, and the mother looks fine.

Jersey breeders of Stanislaus county have made arrangements to hold a consignment sale of 76 head of registered, high-testing Jerseys late in September. Those consigning cattle are Guy H. Miller, M. W. Brady, Fred B. Wulff, Riverina Farms, Modesto; W. J. Hackett, Jno. A. Orr, Ceres; O. J. Ames, Oakdale. The cattle will be tuberculin tested and subject to retest by purchaser.

Beef Cattle.

W. S. Walters of Healdsburg has just received a young Hereford bull from Iowa.

The Hearst Ranch of San Luis Obispo county has been shipping steers to Portland and Seattle.

Many feeder cattle have been shipped from San Luis Obispo county to farmers of the Central West. One shipper took 800 head from San Miguel alone.

Mrs. Martha M. Cooper and G. F. Silliman have purchased a carload of registered Hereford bulls and will place them on their ranch near Sur in Monterey county.

The San Juan Ranch of about 70,000 acres, east of Paso Robles, has sold itself short of stock, so that what remains is in good condition, due to plenty of feed.

Meat packers in the East are having record runs of cattle. The excessive dry weather has burned up pastures all over the Southwest and cattlemen are forced to dispose of their stock.

John Work & Son of the Independence Ranch, in San Luis Obispo county, have been shipping some good young steers. The first carload delivered last month averaged over $100 per head.

T. T. Miller of Los Angeles, who is building up a herd of purebred registered Shorthorns on his ranch near Compton, says that his cattle, while all from the Middle West, are doing well and he expects to have a nice show herd at the California fairs this fall.

Henry W. Lynch, president of the California Cattle Association, says: "The cattle supply of the State is most encouraging in spite of the fact that the shipments to the East from the California herds this year are the largest on record. Six thousand head a month, or 30,000 for five months, have gone to the Eastern packers. We produce 20,000 beeves a month. So about one-third have been shipped East."

Ralph W. Bull and Arthur Hebron have been appointed by Governor W. D. Stephens members of the cattle protection board created by the last Legislature. The State Veterinarian, Dr. Charles Keane, is the other member of the board, which has control of the cattle-raising industry to protect breeders and owners of cattle from theft, provide for registration of cattle brands and licensing of dealers.

Of the grazing receipts available this year for National Forest administration, cattle furnished approximately $900,000 and sheep $570,000. On account of the feed shortage faced by the livestock industry throughout a great part of the West last spring, and because of the needs of the nation for meat, wool and hide production, the stock were admitted early and up to the full limit of the carrying capacity of the ranges.

Swine and Swinemen.

The Janss Investment Co. will show purebred Hampshire and Duroc-Jersey hogs from their Conejo ranch at the California State Fair this fall.

The Janss Investment Co. will show purebred Hampshire and Duroc-Jersey hogs from their Conejo ranch at the California State Fair this fall.

Dr. H. J. Hammond of Sacramento will show his six-months Berkshire boar, Star, at the State Fair, along with one or two of the pigs which the judge at the 1916 Fair advised him to bring again. Star is sired by Grand Leader 2nd. He will stand high in his class.

Two swine were sold recently by Haden Smith to W. O. Pearson of the Swineland Stock Farm. One was QQ's Model Colonel, grand champion, bred by exhibitor, and the winner of first prize for yearling boars at Chico. The second was Marigold II, a sow which was the grand champion at the San Francisco Exposition.

Livestock Miscellaneous.

Douglas M. Longyear of Los Angeles has bought the Inyo Syndicate livestock ranch of 2,000 acres in the Owens River Valley for $100,000 cash.

The County Assessor puts the number of livestock in Imperial county as follows: Mules, 3,560; horses, 11,270; beeves, 12,465; and ostriches, 2,011.

L. H. Freeman of Los Angeles has bought of Jack Wilson the Weed Oaks alfalfa, hog and cattle ranch of 1,200 acres in the Tehachapi district in Kern county for $75,000.

A CURIOUS PARADOX IS THE HORSE MARKET.

Horse values look pretty good in the market quotations appearing in stock journals, but the rural horse owner who consigns surplus horse stock on commission to our auction marts will find a gap between the credit balance in his statement of account and the aforesaid quotations that the average intellect cannot straddle. If a farmer has a horse good enough to meet the critical requirements of a buyer who will pay the price quoted, he will not care to sell him, and if the horse offered doesn't come up to perfect type specifications no one with the price will buy him. So there you are!

REGISTERED JERSEYS TO BE SOLD.

The California Breeders Sales and Pedigree Company, Sacramento, announce that leading breeders of registered Jerseys in Stanislaus county have entrusted to its management a consignment sale of select animals from their herds, the sale to be held at Modesto late in September on a day to be announced later. The offering will consist of 75 head, containing a large percentage of fresh and heavy springing cows and heifers, a limited number of bred and unbred heifers, and about six bulls. In selecting the animals to be offered in this sale the company meets with hearty co-operation on the part of the Stanislaus county breeders, who permitted them to reject animals for no other reason than slight blemishes, and the result is an offering of registered Jerseys that should meet with the approval of anyone in the market for real good Jerseys. The contributors to the sale are Guy H. Miller, Modesto; W. J. Hackett, Ceres; Jno. A. Orr, Ceres; O. J. Ames, Oakdale; Riverina Farms, Modesto; W. M. Brady, Modesto; Fred B. Wulff, Modesto. All animals in this sale are tuberculin tested and sold subject to tuberculin retest by the purchaser.

CATTLE BRAND REGISTRATION.

Registration of 20,000 odd cattle brands used by cattlemen of California will be the first big task to be undertaken by the newly appointed cattle protection board created by the last Legislature.

CALIFORNIA BREEDERS' SALES AND PEDIGREE COMPANY — PUBLIC SALES OF PURE BRED LIVESTOCK

CLEAN YOUNG JERSEY COWS

Will form the bulk of the offering to be made at public auction by the Jersey breeders of Stanislaus County, California, on a day yet to be named late in September.

70 REGISTERED FEMALES
6 REGISTERED BULLS

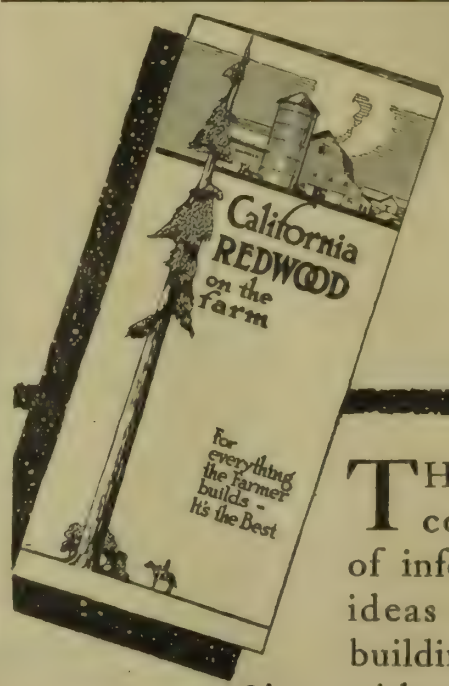
will be contributed from the herds of Guy H. Miller, M. W. Brady, Fred B. Wulff, Riverina Farms, Modesto; W. J. Hackett, Jno. A. Orr, Ceres; and O. J. Ames, Oakdale.

A large percentage of fresh or heavy springing young cows will be found in this sale. Also a limited number of bred and unbred heifers. Also 12 Register of Merit cows, many daughters of Register of Merit dams, and some of the most notable families of females ever sold in the West.

Everything over six months tuberculin tested and sold subject to tuberculin retest by the purchaser. Write for catalog.

Sale under management of

California Breeders Sales and Pedigree Co.,
SACRAMENTO, CALIFORNIA
Col. Ben A. Rhoades, Col. Cy N. Clark, Auctioneers.



Send for this free book

THIS free book contains a lot of information and ideas about farm buildings and farm construction, with especial reference to

California Redwood
Resists rot and fire

Read "California Redwood on the Farm" and learn—
Why Redwood is the *only* safe wood to use.
Why it lasts longer than any other wood.
Why it requires no paint.
Why it is best for barns, silos, houses, interior finish, roofs, water troughs, drains—everything on the farm.
Every farmer should have this book before building even a hen coop.
Write today for your copy of "California Redwood on the Farm." It's free. Please give name of your local lumber dealers.

California Redwood Association
772 New Call Building, San Francisco, California

Ask for the Child's Story of the "Big Trees" of California—there's a copy for every child in the nation.

DO YOU FEED SCRUB STOCK?

Along with the high prices farmers are now realizing for their livestock comes the high-priced feed necessary to make the stock ready for market. The greater cost of maintenance of breeding animals and the fattening of market animals must be followed by a satisfactory return on the market, else the breeder and feeder must cease to produce and feed. Returns that completely overbalance the cost of production in fattening are not to be had from inferior animals. No manufacturer would attempt to make an inferior, low-grade product from high-priced raw materials in this time of expensive labor and working equipment. Regardless of this fact, the farmer, who in truth is one of the world's greatest manufacturers, sometimes overlooks this particular point and feeds scrub animals on high-priced feed. This kind of practice is gradually eliminating a certain type of livestock farmer, thus giving the better class of breeders and feeders an opportunity for greater returns from the better class of livestock they produce.

COMFORTABLE HOGS MAKE BEST GAINS.

Farm animals must be comfortable in order that they do as well as possible. This is especially true of swine, since no farm animal suffers as much from extremes of heat and cold as the hog. Most men prefer to feed hogs in the spring and fall, for they say the hogs gain more at these times on the same feeds than during summer and winter. This is perhaps in a large measure true only because they are more comfortable.

Sacramento Valley beekeepers report that the yield of the hives this year is above the average both as to quantity and quality.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

Poland-Chinas.

MAKE BIG MONEY with our famous Big Type Poland-Chinas; prolific breeders; profitable feeders; grow rapidly, fatten quickly; prices reasonable; satisfaction guaranteed; send for free illustrated book, "Hogs for Profit"; packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, R. D. 5, Box 647, Los Angeles.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS—Three extra fine boars, one large and two medium type. W. Bernstein, Hanford, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS—A few gilts left at $15 each. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

IMMUNIZED NORMANDY BERKSHIRES—Good type. Breeding stock, any age, for sale at all times. Cast iron guarantee. Arlington Smith, Visalia, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

REGISTERED BERKSHIRES—Geo. M. York, Modesto, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 third. Prices $20 and up. Haden Smith, Woodland.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 631-637 Brannan street, San Francisco.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

REGISTERED DUROC-JERSEYS — Service boars from prize-winning stock are money-makers. They grow faster. New England California Corporation, Ripon, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13 Taxpayer; boars ready for service out of a daughter of Lambs American Beauty. F. M. Barney, Hanford, Cal.

RANCHO RUBIO DUROCS—Nothing to sell at present; a fine bunch of gilts and a few extra good service boars for this fall. Elmer Lamb, Ceres, Cal.

DUROC-JERSEYS — Herd boars. E. N.'s Colonel and Tulare Boy. Sweepstakes winner at Fresno, 1915. Choice breeding stock. J. P. Walker, Visalia.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first-class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

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LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

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BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN-FRIESIAN CATTLE—J. M. Campbell, Escalon, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

A. R. O. HERD OF HOLSTEINS—Alex. Whaley, Tulare, Calif.

Jerseys.

FOR 30 DAYS—JERSEYS—Pedigreed bull calves, not registered, $25; registered, $50. Service bulls, $100, from producers. Tested registered cows, $150, with yearly records. Horses. N. H. Locke, Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

Guernseys.

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PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

GEORGE WATTERSON—Breeder registered Herefords. Bishop, Cal.

D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM — Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

WANTED—Twelve to eighteen breeding ewes. State full particulars, whether or not registered; where animals may be inspected; price per head. Advertiser, 508 Crocker Building, San Francisco.

J. R. BLOOM—Breeder of Shropshires. Yearling rams for sale. J. R. Bloom, Dixon, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

HORSES AND MULES.

FOR SALE OR TRADE—One registered Missouri jack and four jennets; would trade for tractor. Mist Central Mercantile Store, Mist, Cal.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

PIGS AND HOGS FOR SALE—Pedigreed Duroc Jerseys and Berkshires. Weanlings. One large Berkshire Gilt 14 months old, will farrow in 2½ months. One 14 month sow and 4 pigs, weanlings. Bargains. Write for what you want. Garden City Sanitarium, San Jose, Cal.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal—the best California calf raiser. Geo. H. Croley Co., Inc., 631-637 Brannan st., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FREE FEED FOR STOCK—Acorns for hogs, grass for cattle and sheep; get State and Government land; new booklet free. Joseph Clark, Sacramento.

Two Notable and Instructive Hog Sales

CARRUTHERS' BERKSHIRE SALE.

The first sale of Berkshires held by W. M. Carruthers at Mayfield, Cal., last year, made the highest average of any sale held in the United States during 1916. The second annual sale, just held, made an average of $175.00 per head, which is the record for swine sales for 1917 so far. And it does not seem at all likely that it will be broken, inasmuch as the sale season may now be deemed closed for the year.

Owing to the peculiarly uncertain conditions prevailing right now, there was not a large attendance, and there were not quite enough bidders to take the whole offering. But up to the point when the buyers present had satisfied their wants, good, wholesome prices were maintained. There was evident no special disposition on the part of the bidders to take advantage of the limited demand. The buyers were not bargain-hunting, but bought what they could handle and paid a reasonable price. And let it be understood that there was no withholding of hogs to force prices. Mr. Carruthers drove in hogs as long as anybody wanted to bid on them.

The offering was all that has been claimed for it, and the hogs were sold in the very "pink" of sale condition—neither over nor underdone. The sale was well managed and the comfort of the visitors was well looked after.

L. E. Frost of Chicago was master of ceremonies, and he introduced Prof. C. F. Curtiss, dean of the Iowa Agricultural College and president of the National Berkshire Association, and also a practical farmer and breeder. Dean Curtiss spoke at some length, urging the necessity for "better livestock and more of it"—much more of it. It is his expressed opinion that there has never been a time when the prospects for the stockman, but more especially for the producer of good, purebred stock, were anywhere near as bright as today. Incidentally, he stated that California today was producing as good Berkshires as are produced anywhere in the world, and a little later demonstrated the sincerity of this remark by becoming a liberal bidder on many of the best individuals offered. Good, practical, common-sense remarks were also made by C. N. Talmadge, Newport, Wash.; F. A. Brush of Santa Rosa, and A. B. Humphrey of Escalon—all well-known Berkshire breeders.

It will be noted from the appended sales list that the buyers represent a vast territory—Iowa, Washington and Oregon being represented. This indicates that California is now widely recognized as a producer of the best class of Berkshires.

The main bone of contention was the yearling boar, Mayfield Champion, which was finally knocked down to C. N. Talmadge of Newport, Wash., at $1175.00. The fight for possession of this young hog was spirited, a large number of breeders contending. He finally went to the Silver Birch herd, supposedly the oldest herd of purebred Berkshires on the Pacific Coast, north or south.

The three-year old sow, Rookwood Lady 100th, proved the main attraction among the females. Dean Curtiss stated that he had never seen one that was better and that he was not prepared to say that he had seen one quite as good. Here, too, there was a very interesting, many-sided fight, bids coming from many sections. It looked for a time as if she was to leave California, but F. A. Brush of Santa Rosa kept nodding his head to the auctioneer till he became the possessor of this matron at $585.00. And barring accident, she should prove a good investment at that.

Col. Lloyd L. Seeley of Whitehall, Ill., conducted the sale from the block, assisted by L. E. Frost in the ring.

FEMALES.

Rookwood Lady 100th—F. A. Brush, Santa Rosa	$585.00
Rookwood Lady 89th—F. R. Steele, Grants Pass, Ore.	80.00
Rookwood Lady 83rd—H. L. Murphy, Perkins	105.00
Rookwood Lady 84th—F. R. Steele	80.00
Rookwood Lady 79th—Chas. Turner, San Jose	140.00
Silberfa Duchess 17th—A. M. Foster, San Francisco	200.00
Winona Mistresspiece 7th—John M. Ratto, San Francisco	105.00
Penrith Belle 2nd—Chas. Turner	115.00
Mayfield Rival Lady—A. B. Humphrey Escalon	200.00
Mayfield Lady 10th—F. A. Brush	310.00
Mayfield Laurel 10th—H. L. Murphy	105.00
Mayfield Laurel 11th—H. L. Murphy	125.00
Mayfield Baroness—V. A. Scheller, San Jose	110.00
Mayfield Baroness 2nd—F. M. Woods, Menlo Park	80.00
Mayfield Nellie 3rd—Merrill & Son, Morgan Hill	90.00
Mayfield Duchess 3rd—Chas. Turner	265.00
Mayfield Laurel 15th—H. L. Murphy	205.00
Mayfield Laurel 16th—V. A. Scheller	100.00
Mayfield Duchess 4th—V. A. Scheller	55.00
Mayfield Duchess 5th—W. H. Saylor, San Francisco	105.00
Mayfield Lady 16th—C. F. Curtiss, Ames, Iowa	75.00
Forest Grove Lady 4th—C. F. Curtiss	95.00
Forest Grove Duchess 11th—H. L. Murphy	65.00
Forest Grove Nellie 2nd—J. M. Ratto	70.00
Forest Grove Laurel 14th—Merrill & Son	105.00
Forest Grove Baroness 2nd—F. R. Steele	95.00
Forest Grove Frances 4th—Chas. Turner	80.00

BOARS.

Mayfield Champion—C. N. Talmadge, Newport, Wash.	1175.00
Mayfield Rival 24th—C. F. Curtiss	150.00

GRAPEWILD BERKSHIRE SALE.

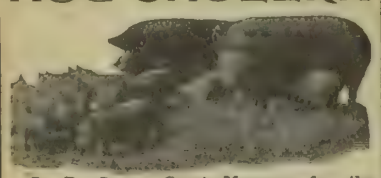
One would be warranted in drawing several kinds of conclusions from the first public sale held by A. B. Humphrey at Escalon on August 2. The conclusion arrived at would likely be colored wholly or in great part by the viewpoint taken by the "concluder."

If one takes the viewpoint that high averages is the only indicator as to whether or not a sale is a success, then the conclusions in this case would likely be gloomy, or at least badly colored in that direction. The average was not high when compared with that made by some breeders, and there were no high spots in figures at any time, as appended detailed list will show.

If the observer views the sale solely from the point of the good of the breed ultimately, the conclusions will be much more favorable, and if one considers but the interest of the buyer, ignoring all other factors, then and in that case the conclusion would be entirely favorable.

The average per head was $82.60. It could have been considerably higher than that without injury to the buyer. This much must be conceded by all thinking people who were present at the sale. Yet it is more than likely, too, that in the long run this average, low though it now seems, will prove highly beneficial to the seller. For the hogs were bought on a basis in every case, so that they will make money for the buyers, if given just the least chance so to do. Many of the young sows sold could be used simply to raise pork for market and make good returns on purchase price; while, if

HOG CHOLERA



L. B. Green, Coast Manager for the Stock Yard Serum Co., the Dorset & Niles System, is a Serum man of several years' experience and only wishes he could say something that would be convincing to the skeptical hog raisers of California of the successful results obtained by the use of this Serum. Three years ago the Morris Packing Company realized the wonderful losses in hogs by cholera throughout the United States and they became interested in hog cholera preventive, and convinced of its worth got behind the Stock Yard Serum Company and said: push it along. We want to save every hog, as we need them in our business. Today they have the largest output of any serum company in the United States—why—the results.

L. B. GREEN, Mgr.,
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(Cut this out for future reference.)

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Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes.
Sure to please.
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will give the kind of service you want and should expect to get from the pipe you buy.
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made from clear, air-dried redwood, are the highest quality possible to produce. They are built by experts, on carefully designed lines, and you will make no mistake in specifying "REMCO" when placing your order. We have specialized in the manufacture of Remco Pipe, Tanks and Silos for more than a quarter of a century. We no longer experiment—WE KNOW HOW THEY SHOULD BE BUILT TO GIVE LONG LIFE AND SATISFACTORY SERVICE, and we build our products in that way.
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For many years at widely separated show rings, under many different judges of varying type ideals, my Poland Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.
Young stock, $30 Up.
M. BASSETT,
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The World's Grand Champion Hampshires
Pure-Bred Hogs give more weight for less money in the shortest time.
Sows, Boars, Gilts, bred and open, from the World's Champion Hampshire Stock. All ages for sale.

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GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
Hauser Packing Co. Los Angeles

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
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Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

used as producers of breeding animals for registration, each one of them should prove highly remunerative. And of this profit Mr. Humphrey will ultimately get a part, for there is nothing that makes for the lasting success of a breeder more than fully satisfied customers.

It has been and is now the hope of Mr. Humphrey to build up around Escalon a Berkshire center, and to this end he endeavors to induce the ordinary farmer to become a breeder. He planned this sale for the purpose of inducing his neighbors to take advantage of the good blood he has brought into the country at great cost in money and pains, selected the offering with that point in view, and fitted it for the same purpose.

The offering was composed of young animals—some of them but pigs—and all of them had been raised just as the average farmer should raise and keep his breeding herd. None of them had been fitted in the sense the professional fits his animals for sale or show. The hogs have had ample alfalfa pasture and enough of grain only to keep them thrifty and fit for hard use in the breeding herd, and that is exactly the condition breeding hogs should be in when turned over to those who are inexperienced in the purebred business. That this offering will go out and make good does not admit of question, and the one disappointing feature is that those nearest the Grapewild herd did not seem to appreciate what was offered, for the list does not show that any of the animals sold stayed at Escalon, but they are going into Washington, Oregon, Southern California, etc. One of the elements which tended to keep down the price was that many of the gilts were bred late, and quite a number were sold open.

The attendance was fair—principally from a distance. Many of the breeders who were at Mayfield the day before journeyed to Escalon and most of them bought. Sale was held in a special pavilion erected for the purpose. The same force which conducted the sale the day before at Mayfield officiated here.

Before the sale short speeches were made by several—principal among which was Dean Curtiss of Ames, Iowa. He dwelt with particular stress upon the importance to agriculture of more livestock, quoting several "horrible examples" of what farming minus livestock will do to a country, and warning California particularly that it was high time for her farmers to wake up to the fact that rich as were the soils of this State they cannot always be abused without resenting it. A detailed sales list follows.

FEMALES.

Sunnybrook Maid 9th—E. L. Thompson, Tipton	$150.00
Escalon Artful Belle 4th — Homer Hewins, Jr., Calistoga	200.00
Escalon May—Jos. Levy, Manteca	100.00
Escalon May 2nd—C. N. Talmadge, Newport, Wash.	70.00
Escalon May 3rd—Jos. Levy	100.00
Escalon Premier Belle—Jos. Levy	100.00
Escalon Jennette 2nd—Jos. Levy	165.00
Escalon Topsy—Geo. H. Stengel, San Gabriel	75.00
Belle Linden 2nd—T. G. Meckfessel, Hanford	50.00
Belle Linden 3rd—T. G. Meckfessel	50.00
Leader's Artful Belle—Homer Hewins, Jr.	90.00
Fashion's Lassie 2nd—T. G. Meckfessel	60.00
Fashion's Pride 2nd—T. G. Meckfessel	60.00
Escalon Blossom—T. G. Meckfessel	65.00
Escalon Dorothy—L. Cole, Oakdale	50.00
Pilot Queen—Geo. H. Stengell	60.00
Duke's Victor Belle 7th—Napa State Hospital	80.00
Escalon Rose 2nd—Jos. Levy	40.00
Fashion Model—F. R. Steele, Grants Pass, Ore.	45.00
Fashion Model 2nd—L. Cole	35.00
Fashion Star Princess—F. R. Steele	45.00
Fashion Star Princess 2nd — F. R. Steele	45.00
Leader's Artful Belle 3rd—F. A. Brush, Santa Rosa	150.00
Escalon Bernice — W. M. Carruthers, Mayfield	100.00
Escalon Bernice 2nd—W. M. Carruthers	100.00
Leader's Combination Belle — Napa State Hospital	70.00
Escalon Missie—C. N. Talmadge	75.00
BOARS—NOT CATALOGUED.	
No. 45—C. N. Talmadge	105.00
No. 46—Jos. Levy	75.00
No. 47—A. E. Green, Hood	75.00
No. 48—Napa State Hospital	75.00

SHEEP AS FAIR EXHIBITS.

Sheep make one of the most attractive and interesting features of live stock exhibits where exhibitors and fair managers co-operate.

1. Keep fleeces as clean as possible. All dung tags should be washed out or trimmed off.

2. All foreign material, such as straw and burs, should be picked out of the fleece.

3. The fleeces of the medium wool breeds of sheep should be thoroughly carded out and the stringy ends of wool trimmed so as to present a smooth and attractive fleece.

4. The feet should be kept trimmed so the animal can stand naturally. Long "sled runner" toes are unnatural and frequently develop foot trouble.

5. Sheep that are to be exhibited should be taught to stand by frequent and patient handling at home for a few weeks, so that when the judge undertakes to examine them they will not be continually twisting and pulling away.

REGISTRATION OF CATTLE BRANDS COMMENCES.

Business is active under the Hide and Brand law enacted by the past Legislature. Execution of the law is in the hands of a cattle protection board, of which the State veterinarian is a member ex-officio. The other two members were appointed August 1 by the Governor. They are Ralph W. Bull, a prominent cattleman and slaughterer of Arcata, and Arthur Hebbron, a well-known cattleman of Salinas. The board has met and elected Mr. Bull as president and Mr. Hebbron secretary. The office will be that of State Veterinarian Charles Keane at Sacramento, who has been authorized to make necessary arrangements for starting the work, but several weeks will pass before all the machinery for enforcement of the law will be in working order. Meanwhile, to avoid inconvenience to cattle shippers, inspection prior to shipment will be waived until further notice.

BRAND REGISTRATION.

Dr. Keane expects some 20,000 brands to be registered under the law, and advises cattlemen to apply for registration at once. Ownership of duplicated brands will have to be decided on proper establishment of priority within each district.

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DAVIS, CALIFORNIA

Breeder and Importer of

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The Famous Glide Merinos.

My purebred range-raised yearling Shropshire and Merino rams are now ready for inspection at my place.

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On July 4th he wrote us that he had heard of the book and to send him a copy to his address, C. O. D., at Los Angeles. On July 11th he wrote us:

"I am in receipt of a package with charges of $2.03. If this is the book I wrote about, it is too expensive for me. I have not opened it. The package is at your disposal."

Later, on the same day, he writes:

"Wrote you this morning, offered to return Guilford's book on hogs. Began reading it, wouldn't part with it now for twice the money. Many thanks.—M. McC."

California Hog Book, Price $2.00 Postpaid

Pacific Rural Press, Publisher

525 MARKET STREET SAN FRANCISCO

VETERINARY QUERIES

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

[Subscribers wishing an immediate reply should send money order for $1.00. No charge for questions answered through this department. Name and address of subscriber must accompany each query.]

Spayed Sows Ruptured.

To the Editor: About six weeks or so ago we had some sows spayed. The operations were successful, insofar as none died. Now almost everyone in varying degrees has a swelling at site of operation. Have not felt the pouch, but it is evidently not hard. This no doubt will take off from their value in fall when ready to sell. What should I do about it?—R. D. K., Island Mountain.

These sows are ruptured, due to faulty healing of the abdominal openings. Ordinarily they will give no trouble, but spoil the appearance. It seems to the writer you have been very short-sighted in having this done with the present shortage in the pig crop and the high prices which will persist for a long time to come.

Bad Milk—Bloat.

To the Editor: What can I do for a cow that has been fresh for about three weeks, whose milk was thick and had a bad odor at first, some of which is now good? Two teats give a brown waterish-looking liquid. Also, I have a cow that is bloated or puffed up all the time. I think it is indigestion of some kind. —I. B., Orland.

Give one ounce formalin in one quart raw linseed oil once a day for five days. For the chronic indigestion give fluid extract nux vomica, fluid extract gentian root, fluid extract cascara sagrada (of each one ounce), and Fowler's solution, enough to make 12 ounces. Dose, one tablespoonful on grain three times a day.

Shoats Lack Mineral Matter.

To the Editor: I have some shoats about ten months old. They seem in fairly good condition, but will stand for a half hour at a time and eat dirt. What is the cause of this? I put out charcoal and salt for them, but they didn't seem to eat it. They have plenty of fresh water and salt and a good place to wallow at all times; also a barley field to run in. Do you think they have worms?—D. H. G., Flournoy.

These pigs lack mineral matter. Give the following—one large tablespoonful to each 200 pounds live weight of pigs: Wood charcoal, sulphur, sodium sulphate, black antimony, of each one pound; sodium chloride, sodium bicarbonate, sodium hyposulphite, of each two pounds. Mix all together.

Swelling on Cow's Udder.

To the Editor: About six weeks ago a hard swelling appeared on the front portion of a cow's udder on front teat. I applied liniment and bathed with salt water, bringing swelling down over night, but a hard lump still remains about the size of a fist just above the teat. Curdled milk comes at next milking, and lump remains. This is repeated in about two weeks, and now the third time. The cow is to be fresh in six weeks, giving about a gallon of milk at a milking. Do you think I will have the same trouble after calving?—A. B., Chico.

Give one ounce formalin in one quart raw linseed oil daily for five days. Paint swelling twice a day with tincture iodine.

Would Suspect Tuberculosis.

To the Editor: What is the matter with my cows? I have one that eats all right, but when she chews her cud it balls up on each side of her face until she can't chew. Two other cows eat only enough to keep them alive, and they dry up in three or four days. I also have three cows that have a small swelling under their jaws just back of their teeth. It spread all over the face and broke. Two other cows breathe hard. They get all the good alfalfa hay they can eat, right fresh from the field, after being cured in the shock. Will wild parsnip cause this trouble?—E. B. C., Visalia.

Wild parsnip is not considered poisonous. Have all your cows tested for tuberculosis.

A Case of Rheumatism.

To the Editor: I have a cow that is stiff in her forelegs; can hardly get around, and is getting thinner all the time, although she has a good appetite. She eats alfalfa hay and is in a small pasture of grass and sweet clover. The trouble is like rheumatism. What can I do for her? She has been milked for five months. This is her first claf.—J. W. D., Bishop.

This is rheumatism. Give two pounds Epsom salts, then the following three times a day: Urotropin, 1 dram; sodium salicylate, 1 dram; and fluid extract colchicum, ½ dram.

Ringworm.

To the Editor: I have a cow with a large lump on her neck about the size of a dollar, and several small ones. It seems to be on the skin and looks like a wart. Not much hair on it, and is very rough. Seems to be itchy. She has just come fresh, and I would like to use her milk. Could this affect her milk in any way?—J. J. S., Maxwell.

This is ringworm. Remove the scabs with warm water and soap and paint daily with tincture of iodine.

Pig Paralysis.

To the Editor: I have eight little pigs about nine weeks old that are so weak on their hind legs they cannot use them at all at times. They got this way when they were about two weeks old. Could you please tell me if there is any cure for these pigs? What is the cause? —M. G., Chilcoot.

This is pig paralysis, for which no remedy has been found as yet. Some outgrow this trouble. You might try potassium iodide in five-grain doses twice a day.

Lump on Horse's Jaw.

To the Editor: About three years ago large lumps appeared between the jawbone and up to the ear of my horse. These lumps kept enlarging till now there is considerable swelling up to the left ear. The swelling is firm and doesn't seem sore. The animal eats well, but does not keep in good condition; is very nervous when riding him.—R. A. G., Coulterville.

Give this horse one dram potassium iodide in solution on his grain three times a day.

Neat's Foot Oil.

To the Editor: Can you tell me how to make neat's foot oil and how many beef hoofs are required to a gallon of oil?—W. P. G., Middletown.

Will some reader kindly answer?

Sore Spot Near Udder.

To the Editor: I have a cow that has a sore place on her body near her udder. When it first appeared there was a spot about an inch in diameter with a dry scab on it. When the scab came off it left a sore place, and I have been unable to cure it. The cow is in fine condition and eats well. What can I do?—A. P. M., Calistoga.

Paint the sore once a day with tincture of iodine.

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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

STUDY FEEDING AND CULLING CLOSELY.

It will be noticed that in all the formulas that have been given recently (and all of them from reliable sources), there has been nothing said about some articles of commerce that are used as poultry food. This could not have been an accident. Yet there are some of these feeds that have their admirers, and there are other articles of feed that, while not ranking high in food values, have a place as fillers for the man who has nothing better; and in this capacity they are useful. But when we use them, we ought to know it and not be feeding these fillers unconsciously and paying a big price for them.

FEED RESIDUE WAS COCOANUT.

Recently I have been feeding one of the highest priced mash feeds in the State, and my hens never cleaned it up; but a short time ago I happened to feed them more than their usual allowance and the result was that they picked out what they wanted and left some waste. For a little while I could not identify this waste; it did not look like bran, and yet it seemed coarse, so I took it in the house, put it in a pan and set it in the oven. When I opened the oven door I knew in an instant that the waste was ground cocoanut.

Now I have known lots of people that fed cocoanut, both ground and in the cake, so it must be of some value, but, as stated before, it does not appear to be quoted as an egg producer; and as I supposed I was buying feed that would produce eggs, I can't see why a lot of filler should be foisted on me.

ALFALFA MEAL.

Alfalfa meal is used by many as a filler, and it has good protein value; the best way to use it is to scald it, then mix with your mash feed until just crumbly. If your hens have not been used to it, feed very sparingly at first until they come to like it, which they will do, and even if you feed dry mash, now that the molt is on, it will pay to give a small quantity of moist mash about noon.

BEET PULP.

Another feed that is a good filler is beet pulp, and this, too, must be fed moist. It has no great food value, but it must have some or it would not increase the cow's milk or help fatten stock. This it does, and there is plenty of proof of it. So, if a man has a bunch of hungry growing chickens, that are getting in trouble with neighbors, fill them up with beet pulp moistened, then mixed with ground barley or just plain bran; either one will make a good addition and give the food value to the mass. And for molting hens I don't know of any better green succulent food, that helps grow feathers so quick, as mangel wurzels. Give them top and root both, and your hens will eat every bit. Now mangels are beets with the natural amount of sugar in them—not so much as is found in the sugar beet. At any rate, the sugar factory only extracts the sugar because it has no use for any other element in the beet.

It is not always possible to feed just what we would like to feed, nor what we know is good. Everybody must feed that which their finances will buy and that which they can get the most conveniently, though this sort of feeding does not bring the highest percentage of eggs at a given time. But there is one good thing connected with the poultry industry — chickens are the quickest to respond to good feed and treatment of all domestic animals. So many times these cheap feeds may help tide over a tight place; then when opportunity comes feed well, and in a few days the hens will respond and begin to pay you back.

CLOSE CULLING IMPERATIVE.

Sometimes it is advisable to sell a part of the stock to feed the others, and that is the best plan if the flock has not been culled. This is no time to keep a lot of worthless hens. Cull, and cull hard; keep nothing but the best layers. If you don't know the best, spend some time watching them or get somebody in who can tell you how to cull. There is no better way to tell than by the Hogan system or the trapnest, but there are some symptoms common to all fowl that give indications of a hen's capacity, and nothing but watching and observing the hens will teach you how to cull outside of the proper knowledge. Prof. Dougherty showed the poultry school students a way of telling by the color of the vent. He said in the breeds having a yellow skin, such as white Leghorns, that heavy laying draws on the color, first from the wattles and ear lobes, second from the legs, and third from the inside the vent, where there will be a ring of yellow in a hen that is a poor layer. So much for that, but what he did not tell was how to know whether that yellow-skinned bird had not been mixed in the course of two or three generations with a white-skinned breed.

FEW PUREBRED LEGHORNS.

There is always more than one side to any theory, and of this side we can venture to say the bulk of white Leghorns consist in California, and perhaps everywhere else. They have been crossed with White Minorca to increase the size of egg; and with the black Minorca and Houdan for increase of size in both body and egg; so how are you going to classify all Leghorns as "yellow-skinned" fowl?

Barring a few in the fancy, I would venture to say that purebred Leghorns are a myth, but we all love to hug myths.

There is one thing that Walter Hogan ought to be given great credit for, and that is he taught the poultrymen that culling could and should be done systematically.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

FEEDS AND FEEDING.

(Continued.)

BARLEY—N. R., 1:8.2.

Barley is a good feed, and whether fed whole, cracked or rolled, makes little difference. The fiber tends to give it the desired bulkiness. However, it must be fed in greater quantities than wheat or corn, as it is less concentrated. We have used this grain for a number of years, having raised it on the ranch; the only fault we found was the hens showed a tendency to become too fat, and if this was not curtailed the egg production, of course, would eventually be materially reduced. The best results were obtained by feeding it as a scratch food and using all-wheat millstuffs and beef scrap as a mash. No corn but some oats are fed during summer months. During the long, cold winter nights a small portion of corn is scattered in the litter. It was thought for a while barley would sell for less than two cents per pound, but within the last few days the price has been above that mark. The Central California Poultry Producers are buying barley, but we do not know what their price will be to their members.

CORN.

The nutritive ratio of corn differs with the locality where it is produced, the average being 1 : 9 . 2. Corn is the most easily digested grain that is fed to animals, is more freely utilized, and is therefore the most economical grain fed. It is a concentrate, highly carbonaceous, and is usually fed with some high protein food, such as meat scrap or soybean meal to equalize the ration. The mineral matter is in the seed coat. The economical way is to purchase it cracked in particles about the same size as wheat kernels, as the fowls eat all the corn kernels first when they are not cracked. Eastern corn is cheaper in this State during October and November. The futures on corn, however, at the present time are very high. This, together with freight, will put America's greatest crop in the same class as wheat.

OATS—N. R. 1:6.2.

The only fault we find to most oats, particularly the red and black varieties, are that they have too much husk. The Oregon white oat is generally plump and is an excellent feed. In addition to the nutrient content, it contains an alkaloid, which is a stimulant of especial value in feeding growing chicks. The Canadian and Australian experiment stations use whole ground oats in the mash with excellent results. Oats are the best grains to sprout; their root system is tender and is relished by all fowls.

NON-SACCHARINE SORGHUMS.

Kafir corn is not palatable, having a bitter seed coat. It also has a caustic effect on the system. Egyptian corn or "Gip" has a mild laxative effect, and is an excellent food. Milo is also good. Either milo or "gip" corn may be substituted for Indian corn in most instances.

RICE.

Cracked rice is very good for young chicks in light quantities. It is very fattening; the nutritive ratio being 1:11. Paddy rice is considered as good as the polished kind. Rice was fed to considerable extent in the Sacramento Valley last winter, but we understand the results were not favorable.

DON'T KILL THE LAYING HEN.

We have seen farmers, when they wanted a chicken for dinner, rush out, grab the first hen that came along, and without any examination cut her head off. Nine times out of ten that hen when drawn would be found to be laying. He had killed one of the best hens and did not know it until too late. There were plenty of drones on the place, no doubt, but how can they be picked? That is a puzzle to many.

First, a hen that does not lay is not as active as one that does. She is fat and contented without rustling, all the food being turned to fat and meat, while her active sister has to have a lot of eggs. A laying hen generally always has a soft red comb, which is pliable; the non-layer's comb is more often hard and of not as bright a color. The plumage on a layer is ruffled and not as well kept as her useless sister.

The above are external indications and do not always hold true, but act as a guide to culling.

The layer is wide between the pelvic bones, generally from two to four fingers, according to season and type of bird. The distance between the pelvic and keel bone or abdominal capacity is as a rule wider on the layers than on the drones; that is, provided your birds are of the laying type, and most farmers' hens now are of this type since day-old chicks have become so popular.

You will notice the abdomen or that part of the hen between the pelvic and keel bone on a non-layer, especially on one that has finished laying, is not as soft and fluffy as the abdomen of her rustling sister.

EXCESSIVE WHEAT IN POULTRY RATION DANGEROUS AND COSTLY.

Feeding tests at the Ohio Agricultural Experiment Station demonstrated that an excessive amount of wheat is not only costly but dangerous poultry feed. Fifty pullets fed a ration 81 per cent of which was wheat averaged 90 eggs per year and 26 pullets died. A similar lot of 50 pullets fed the same except an equal amount of other grain was substituted for wheat produced an average of 95 eggs per year and only 4 pullets died. A year later two lots of 50 hens were fed these same rations for 24 weeks. Those fed the wheat ration laid 1,590 eggs and 22 hens died. Those fed the other grain ration produced 2,845 eggs and all lived. In another test some hens were fed an average of 1.6 pounds of meat scrap for each hen per year and these laid an average of 92 eggs per year, while another lot, given an average of 11.6 pounds of meat scrap, produced 141 eggs per hen. The gain was about five dollars for each dollar added to the cost of feed.

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

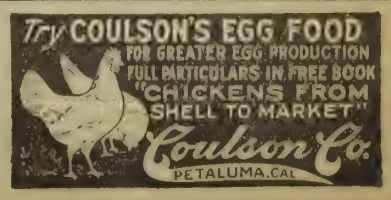
INCUBATORS—For Essex Model Incubators at factory prices, write Geo. H. Croley Co., Inc., Poultry Supplies, 631-637 Brannan st., San Francisco.

"EASTMAN'S BRED-TO-LAY" Barred Plymouth Rocks, August chicks and eggs. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

BRONZE TURKEYS — Albert M. Hart, Clements, Cal.



Mrs. Best's Letter.

MATERIALS AND STYLES IN DRESS WEAR.

My Dear Friends: One of the garments every woman needs, to be reasonably well dressed, is the one-piece dress. Their popularity shows no sign of abating, for the stores are showing many new fall styles. There are some colors shown, but the popular one is navy blue and the popular material is serge. Some of these dresses are made with a full pleated skirt and others with peg top draped skirts and still others with tunics. The waists are all simple, with long sleeves and open neck—many of them with silk collar and cuffs. Some also are very tailored, while others are handsomely beaded and embroidered. Soutache braid continues to be seen a great deal—some of these blue serge dresses have quite elaborate designs on yoke and girdle of black soutache braid, and one very stunning model had a combination of gold and black braid.

A very sweet little white crepe had soutache braid in white applied in three bands on the skirt and on the cuffs and collar as well as the girdle. A very pretty dark blue Georgette crepe blouse had two strips of soutache braiding in a soft tan down the front on either side. This braid was the color of a soft square collar that formed a little vest in front.

On one of the new suits the pockets on the skirt and coat were outlined with soutache braid of the same color, put on in a straight line instead of the curved designs most generally used.

Collar and cuff sets are very popular and are worn with suits as well as dresses. The satin collar is very good style and one of the popular models has deep points at the back from which hang tassels.

So far the fall suits show quite a tendency to military lines—high in the throat and braid trimmed and a general severe air.

Quite in line with this are the new blouses for street wear that are high in the neck, buttoned straight down the front with no ornamentation but clusters of fine tucks. These blouses need a stock collar of ribbon to finish them. This ribbon should be about two and one-half inches wide, fitted to the neck and fastened at the back with snappers or hooks and eyes. If preferred, a small bow may be made for the front and sewed on. You will find this more tidy than putting a longer ribbon twice around the neck and tying it each time.

It looks now as though by fall the low-necked blouse would be used only for house wear, but it has been so popular that it will be hard to give it up.

The pretty lace jabots with attached collar make it possible to wear the low-necked blouse and have the effect of a high-necked one.

Tam-o-shanters of white velvet, with very narrow brim, are shown for girls, and also the soft felt hat in many different shades called crushers are good mid-season hats.

ROSABELLA BEST.

HOW TO PEEL FRUIT WITH LYE.

All that is necessary is a good iron kettle, big enough to hold plenty of water, a wire basket with a side handle if possible, to hold the fruit, a 10-cent can of lye and a little alum.

To 9 gallons of cold water add ½ a 10-cent can of lye and ½ ounce of alum; bring to a boil. Have kettle large enough that it is not over two-thirds full of water—to prevent splashing when the fruit is plunged into the kettle.

When the mixture is boiling, lower the fruit into it in a wire basket or a cheesecloth bag.

Let the fruit remain 2 minutes in the hot lye solution, then put it through two cold water baths to thoroughly remove the lye and in the second bath of cold water rub off with the hands any small pieces of skin that may yet cling to the fruit.

Keep the lye solution hot for use, but when it turns dark make a fresh solution, as it has lost its strength.

THE HOME CIRCLE

FRESHLY HULLED CORN.

In the last century hulled corn was one of the delicious and wholesome foods and it is now meeting with favor again and is prepared in many homes. It is a wholesome, economical and nutritious food and has a high food value.

To prepare it, dissolve half a 10-cent can of lye in a quart of water and dilute to 3 gallons in a large kettle. Put in 4 quarts of shelled corn and keep slightly below the boiling temperature until the hulls have started to break. Then put into a large pan of cold water and rub with the hands thoroughly to loosen the hulls. Take off the hulls and scum from the water; add fresh water several times during the simmering. Stir well with a wooden spoon. Change the water five or six times and wash and rub until the corn is white and clean. Keep it in cold water over night, then wash four or five times with hot water.

HOW HAMS ARE CURED.

After the hogs have been killed, and the meat thoroughly cooled, the fresh surface is sprinkled with fine saltpeter until the surface is white. Fine salt is then rubbed over the surface and the hams are packed in bulk not deeper than three feet. In ordinary weather, let them remain for three days. The bulk is then broken and the hams resalted and repacked. Each ham should remain in bulk at least a day for each pound of weight. The hams are then hung and slowly smoked for thirty or forty days with hickory or red oak bark. When the smoking is finished, they should be peppered and hung in canvas bags to guard against vermin. Hams cured as directed improve with age and are considered at their best when one year old.

MACARONI AND MEAT.

Cover ½ pound of macaroni with boiling salted water, boil until tender and drain. Have ready 1 cup beef, chicken or rabbit chopped fine. Arrange in buttered baking dish macaroni and meat in layers, pour over all any left-over gravy or use thin white sauce made by melting 2 tablespoons butter in saucepan, stir into it 1½ tablespoons flour, ½ teaspoon salt, pinch pepper, stir into smooth paste, add slowly 1 cup milk, let come to the boiling point and pour over meat and macaroni and bake 30 minutes. Fish may be used instead of meat.

SOOT ON CARPETS.

If soot falls on the carpet or rugs, do not attempt to sweep until it has been covered thickly with dry salt. It can be swept up then without leaving a stain or smear.

With Nearly 40 Years' Experience in the Furnishing of Southwestern Homes, Barker Bros.' Great Store Daily Proves Its Supremacy in Dependable Merchandise, Wonderful Assortments, Splendid Values, Helpful Service.

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AN "UPSETTER."

My dog is called an Irish setter.
He cavorts from place to places,
Caroms into chairs and vases.
Crashes into desk and table,
Smashes all that he is able.
Sad but true.
Hence I think it would be better
If we called him an upsetter!
Do not you?

—Lampoon.

CHILDREN'S PLAY DRESSES.

Children should be sensibly clothed for play, says an exchange, for there are few of them who enjoy being dressed up unless on special occasions. And it is positively cruel to punish youngsters for soiling their clothes when turned loose to have a good time.

There is trouble ahead for the mother who expects to dress even one small child daintily in white from top to toe and get it through an hour's time without a smooch somewhere unless compelled to sit meekly in a chair. Far better to accept results as they come than be constantly nagging about its clothes. White stockings, just now so popular for little folks, look nice, but as to keeping them clean, there's the rub. And what child can be expected to preserve their immaculate condition for any length of time beyond when the impulse comes to get down on its knees somewhere where there is sure to be dirt?

Little girls' drawers have always been the cause of much work for mothers. Sensible parents are now making full gathered bloomers like the dresses and doing away with white drawers entirely for everyday wear. This also makes a petticoat unnecessary. Nighties are made of crinkled crepe for the summer, either white or figured. Pink and blue in solid colors are also pretty for this use. Many grownups use them, too. They wash easily and require no ironing if carefully hung by the hem to dry.

Where there are two or three children to provide for, white makes a lot of work for someone to do.

In the average home everything falls to mother's hands in making and laundering. It is more sensible in such cases to draw the line at white hose except for special occasions and be content with black or tan. A pretty gingham or chambray should likewise be substituted for the white dress.

STRING BEAN RECIPE WANTED.

Editor Home Circle: Will some reader of the Press please send, through the columns of your paper, a recipe for preparing string beans similar to cucumbers for winter use? Specify the amount of salt to be used and whether water has to be added.—Mrs. J. F. P., San Jose.

The city youth secured a job with Farmer Jones. The morning after his arrival, promptly at 4 a. m., the farmer rapped on his door and told him to get up. The youth protested. "What for?" he asked, rubbing his eyes. "Why, we're going to cut oats," replied the farmer. "Are they wild oats," queried the youth, "that you've got to sneak up on 'em in the dark?"—Circle and Success.

ON THE WRONG END.

The lightning bug is brilliant
But it hasn't any mind;
It blunders through existence
With its headlight on behind.

Good Health.

[By H. E. Pastor, M. D.]

Buttermilk or Sweet Milk—Which?

It all depends. Sweet milk is the form in which it is furnished by nature, and primarily it is more wholesome and nourishing. One would hardly think of giving the young babe a buttermilk diet. Buttermilk seems more in order after the digestive apparatus has been subjected to long abuse, and when putrefactive and poison-forming bacteria have found lodgment along its course. It is contended by some dietitians that the curds in buttermilk are mechanically broken into very small particles and that this gives it a great advantage over whole or sweet milk, which they claim forms hard, leathery curds in the stomach difficult of digestion. The fact is that if fresh, sweet milk is taken into a sweet stomach, of either child or adult, a soft curd only is formed by the action of the hydrochloric acid of the gastric juice, and this is as nature intended it should be. This item is not intended to decry the efficacy of buttermilk where stomach and intestines have become foul with disease-producing bacteria, which contaminate nearly all foods passing through the system; and this is unfortunately the condition of many of us who have reached adult years. But as we remarked in the beginning, as between sweet milk and buttermilk, it all depends. If your digestive tract is as it should be, sweet milk is the better. Otherwise fall back on your sour milk alternative and get the benefit of the lactic acid. However, it is well to remember that what is one man's meat is another man's poison, and to govern yourself accordingly. Some people are so constituted that they cannot tolerate milk of any description, while others drink it copiously and enjoy abounding health.

To Enjoy Long Life Make It Worth While.

Various theories have been put forward from time to time in the way of general rules for prolonging life beyond the usual span. These rules are formulated, generally speaking, by one-idea people. One theorist will tell you that in order to perpetuate life into advanced years it is necessary to confine yourself to a vegetarian diet; another to a raw food diet; another, like Metchnikoff, will tell you that a sour milk menu is necessary to the attainment of a ripe old age; still another will tell you that long life depends upon the daily use of olive oil, or the substitution of distilled water for ordinary spring or well water, and so on ad infinitum. In regard to all these and other theories of the kind something may be said in their favor, but it can hardly be maintained that the prolongation of life beyond the average period is dependent solely upon adherence to any one of them. In the main, longevity depends upon the proper general care of oneself physically, mentally and morally; and the main difficulty with most people is to know what "proper care" is. Broadly speaking, one should cultivate an optimistic and cheerful frame of mind. A life of idleness should be avoided; devote some time to some useful occupation, if for only a few hours a day. Eat moderately and drink temperately, and live as near as possible what we have come to term the "simple life." And above all, don't worry. Some people order their life in a manner to induce worry; sometimes, indeed, it is thrust upon one. In any event, sidestep worry when you can and you have taken a long step toward lengthening life; and when you have succeeded in doing this, make your life worth the living.

Canned Goods and Fresh.

There is an enormous increase in quantity of canned goods put up from year to year in California, and we have now reached the active season in that line. It may be timely, therefore, to say that with the improved processes now in use in putting up the various fruits and vegetables that form the bulk of our canned output consumers have nothing to fear. The processes are, as a rule, sanitary and the food so treated wholesome and nutritious, though they rarely retain the flavor and character of the fresh article. Canned goods have come to stay, and they serve a good purpose, for they relieve the glut at the ripening season and enable us to enjoy these luscious articles of diet at seasons of the year when nature fails to provide them. There is no reason in the world for not using them when put on the market by reputable food purveyors. Canned goods are as safe as fresh, and in some cases safer.

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ANNUAL INVASION

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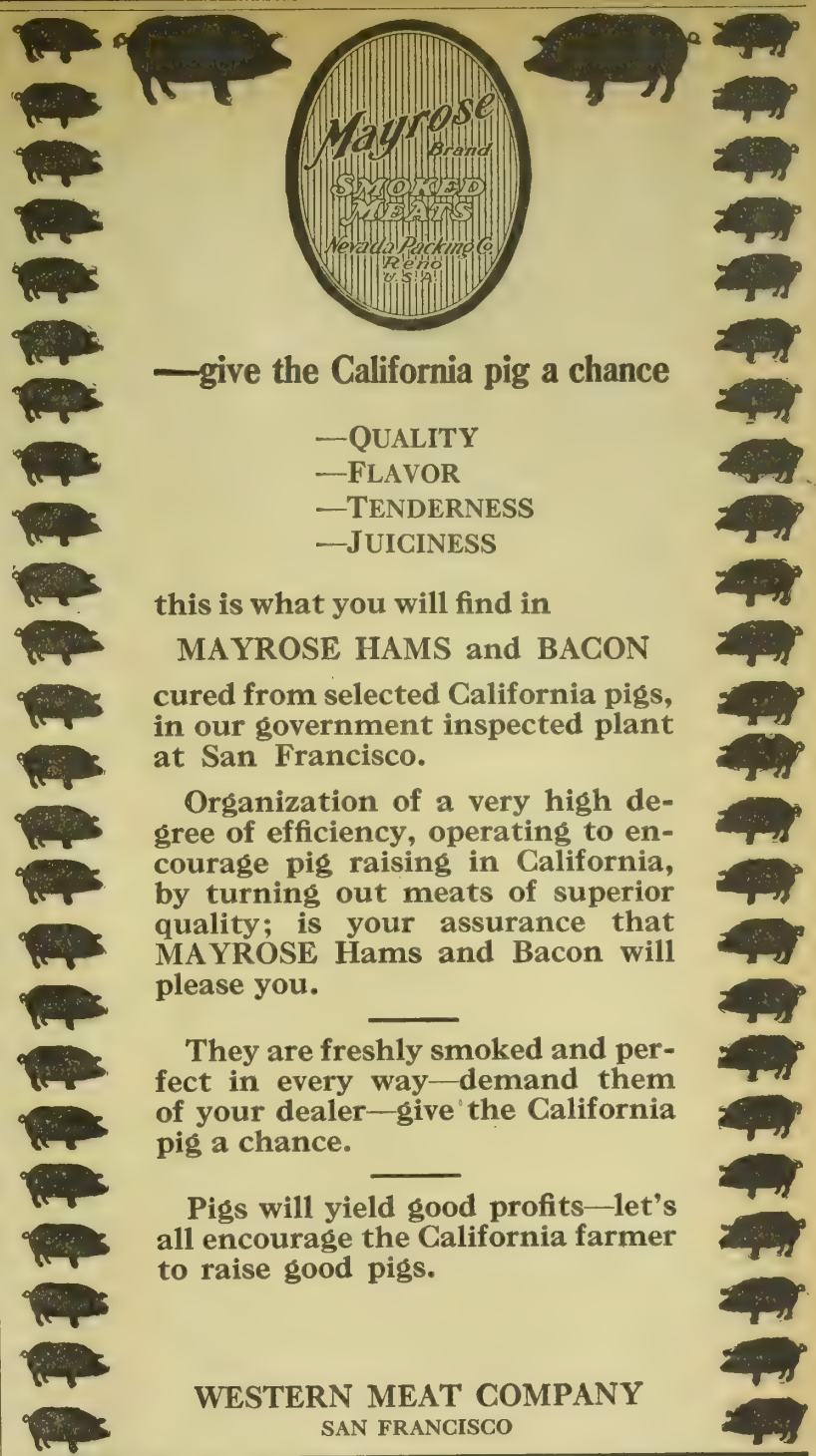

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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, August 8, 1917.

WHEAT.

The sudden jump in values of grain came as a surprise to buyers and holders alike in this market. Conflicting reports of volume of the harvest, light receipts and disinclination of holders to part with stocks were the contributing causes to this most decided uplift of the market. Very few samples are offered, and the bullish tone of market will probably hold for awhile.

Sonora wheat	$3.75@3.90
Northern Club	None offered
California Club	None offered
Northern Bluestem	$4.25@4.30
Northern Red	3.90@4.25
Russian Red	None offering

BARLEY.

Lively speculation in futures continues and the market is very excited. There is not much offering and good lots are taken up eagerly at top figures. Choice feed advanced sharply, being assisted in its upward trend by small arrivals. Indications do not point to any material drop at present.

Shipping, per ctl	Nominal
Brewing	Nominal
Choice Feed, per ctl	$2.45@2.50

OATS.

Oats have responded to the raises in barley and wheat values, coupled with the many inquiries for seed oats for next crop. Advances in the Texas oat market have served to strengthen the local market, as Texas is a large shipper of seed oats to California. Both white and red have risen several points, with advantage in price lying with red.

White Feed, per ctl	$2.65@2.70
Red Feed, per ctl	2.75@3.00

BEANS.

The bean market is quiet. There is some little demand, which has had the effect of stopping further material declines during the past week. However, unless a livelier shipping demand develops during the coming month, present prices cannot hold but will have to be adapted to meet values of the new crop. New crop should begin to appear within sixty days. Limas and red kidneys weakened Wednesday.

Bayos, per ctl	$ 8.25@ 9.25
Blackeyes	8.00@ 8.25
Cranberry beans	10.50@11.00
Horse beans	4.00@ 4.50
Small whites (south)	14.00@14.75
Large whites	14.00@14.75
Pinks	9.00@ 9.50
Limas (south, recleaned)	11.00@11.50
Red kidney	11.25@12.50
Mexican reds	9.50@10.00
Tepary beans	None offered
Garbanzos	6.00@6.25

CORN.

Firmness in corn continues to force up values, aided by limited arrivals from the East and high prices of California stocks. Small shipments of milo maize are arriving, which find a ready market at high figures. A few offerings of brown Egyptian are in evidence, but no white. California sacked is now arriving in sufficient quantity to be quotable.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, per ctl., bulk	$4.25@4.35
California, sacked	4.25@4.35
Milo Maize	4.00@4.25
Egyptian	None offered

HAY.

The past week's receipts aggregated 2,085 tons, against 1,785 tons for the previous week. Most of this arrived by water, cars being almost unavailable. A good deal of hay is necessarily piling up at railroad stations, awaiting cars. We are advised by the railroads that the car shortage will be more acute as the season progresses. The market situation is governed by car supply, and, if transportation were more available, larger receipts would materially affect prices. Arrivals at this point consisted chiefly of choice grades, stock hay being scarce and in good demand. Trade in the city is very dull, with no improvement showing in export trade. Some new straw arrived, but owing to its being pressed in heavy bales was sold by the ton instead of bale.

Wheat, No. 1	$17.00@19.00
No. 2	15.00@17.00
Tame oats	18.00@19.00
Wild oats	13.00@16.00
Barley	13.00@16.00
Alfalfa, new, first cut	13.00@16.00
Stock hay, new	10.00@12.00
Straw, per bale	Nominal

FEEDSTUFFS.

A very heavy demand for almost all lines of feedstuffs, exceeding the supply, has again caused some sharp raises. Rolled barley advanced $5 and other lines in proportion. Cracked corn advanced more out of sympathy with the grain market than from causes of supply and demand.

(Per ton, San Francisco.)

Beet Pulp, per ton	$38.00@40.00
Alfalfa meal, per ton	26.00@28.00
Bran, per ton	40.00@41.00
Oilcake	50.00@55.00
Coconut cake or meal	38.00@39.00
Cracked corn	83.00@84.00
Middlings	50.00@52.00
Rolled barley	53.00@54.00
Tankage	None offered
Rolled oats	$56.00@58.00
Rice middlings	None offered
Rice bran	$30.00@33.00
Shorts	43.00@45.00

POTATOES, ONIONS, ETC.

Tomatoes now are coming in lug boxes and find ready sale. Wax beans have advanced owing to smaller shipments. Other lines move well, with supply and demand evenly balanced. Potatoes are not arriving in large quantities, owing to labor troubles, but prices remain firm. There is still considerable shipping to Arizona and Texas, which prevents any surplus stocks of any magnitude from accumulating. Sweets are arriving in quotable quantities and fetch 5 to 6 cents.

Asparagus	None
Peas, per lb	4@4½c
String beans, per lb	2@4c
Wax beans, per lb	3@4c
Hubbard squash, per dozen	40@65c
Summer squash, per box	75c@$1.00
Cucumbers, per box	50@75c
Celery, per lug	Nominal
Tomatoes, per lug box	$1.50
Potatoes, Salinas	Cleaned up
Oregon	None
New, per ctl	$2.50@3.00
Sweets, per lb	5@6c
Onions, yellow, per sack	$1.00@1.25
Reds	85c@$1.10
Garlic, per lb	2½@3½c

POULTRY.

Trading was lively Wednesday, with most lines moving off well. It is reported that a carload of Eastern stock is on the way, but the market remains unruffled and firm at last week's quotations. Dealers consider that it will take heavier shipments of Eastern stocks to affect this market unfavorably.

Turkeys, live, per lb	20@22c
do, dressed, large, per lb	None
Broilers, 1½ to 2 lbs	26@27c
do, 1¼ lbs	26@27c
do, under 1 lb	26@27c
Fryers	27c
Hens, extra, per lb., colored	20c
Small leghorn	15@16c
Smooth young roosters, per lb. (3 lbs. and over)	23c
Old roosters, per lb	12@13c
Geese, per lb	12½c
Squabs, per doz	$2.50@3.00
Ducks	15@18c
Old	12½c
Belgian Hares (live)	10@12c
do (dressed)	12@14c

BUTTER.

All through the week there was not a single drop below last week's high water mark. Heavy Alaskan orders had a sustaining effect on the market. However, prices are abnormally high and many dealers predict that after Alaskan orders are satisfied the market will soften.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43	43	43	43	43	43
Prime firsts	42	42	42	42	42	42

EGGS.

Reports state that there are eggs in transit from the Middle West, destined for this market. While this report has not been confirmed, there is no improbability about the story. Our market is tempting to Eastern operators. Dealers are not selling to local buyers in such quantities as they were and it is thought by some that after the flurry in export trade is over there will be decided slump in values.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	41	42½	43½	43½	43½	43½
Extra 1sts	40	40	43	41	41	41
Extra pullets	36½	36½	37	37½	37½	37
Ex. 1sts pul	36	36	36	36	36	36

CHEESE.

Some demand for export sent prices of flats up. Young Americas are unaffected and remain at former prices. Offerings are not very plentiful, which is the main reason of the apparent firmness of the market.

Y. A.'s	24c
Fancy California Flats, per lb	23½c
Monterey cheese	8@18c

DECIDUOUS FRUITS.

With customers returning from their vacations, there is considerable activity in fresh fruits, which move freely. Only in pears does there seem to be any overloading, though they have not shown any decline. Cantaloupes are becoming plentiful and are weaker. Currants have advanced. Most watermelons coming in now are shipped from Turlock and Livingston.

Apples, Gravenstein, per box	$1.25@1.75
Pears, per box	75c@$1.50
Cantaloupes, per crate	$1.00@1.75
Currants, per drawer	$1.00
Cherries, per drawer	$1.00
Apricots, per box	75c@$1.50
Peaches, per box	50c@$1.00
Figs, per box	50c@ 1.50
Plums, crates	50c@$1.00
Watermelons, per crate	$3.50
Grapes, Malaga	$1.00@1.25
do, Seedless	1.00@1.25

CITRUS FRUITS.

Lemons seem to be going out of sight, owing to the tremendous demand from the sweltering East. If it were not for this unprecedented demand, values would hardly touch $4. As much as $10.50 is said to have been paid recently in the East for a box of fancy. Standard lemons are falling off in quality, as shown in last shipments. Oranges show no change.

Oranges:	
Valencias, fancy	$3.50
Valencias, choice	$3.00@3.25
Lemons:	
Fancy, per box	$8.50
Choice	7.50
Standard	5.50
Lemonettes	$5.00@6.00
Grapefruit, fancy	3.50@3.75

DRIED FRUITS.

News came today that a communication had been received from the California Peach Growers' Association to the effect that, supplementing their circular letter of last week, they had decided to withdraw from the market all peach futures. This action renders the local market unreliable as to prices until there is more development.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop	9@9½c
Apricots, per lb	13@16c
Figs, black, 1916	None
do, 1917	5¾@ 6¼c
do, white, 1917	6½@ 6¾c
Calimyrna, 1917	10 @11 c
Prunes, 4-size basis, 1917	6 @ 6½c
Prunes, 1916	None
Pears	8 @10 c
Peaches, 1917	8 @ 8½c

BERRIES.

Strawberries are arriving again very freely and Banners have weakened. Raspberries are scarcer, commanding higher prices. Logans are falling off in supply. All lines, however, move well, with good demand.

Strawberries, Banners, chest	$6.00@ 8.00
Longworths	8.00@ 9.00
Blackberries, per chest	4.00@ 5.00
Raspberries, per chest	10.00@12.00
Loganberries, per chest	5.00@ 7.00
Gooseberries	None

HONEY.

Prices of honey, especially extracted, are above the ideas of buyers. This is still the case, although there has been a decline in extracted of 2½c. There seems to be no doubt of a good crop of honey, despite pessimistic predictions, and values will necessarily decline.

Comb—	
White honey	14@15c
Light amber	12@14c
Amber	10@12c
Extract—	
Water white, per lb	10@12c
Light amber, per lb	9@10c
Amber	8@10c

HOPS.

The market is both active and strong, with futures quoted at a range of 20c to 21c. Growers' ideas of values are rather hard to meet, yet, as the yield is small this year, they may prove justified in their demands.

Baled, per lb	12@15c

LOS ANGELES.

Los Angeles, August 7, 1917.

BUTTER.

Receipts of week ending August 7, 357,250.
Receipts of same week last year, 310,200.

A firm market was had the past week. Receipts were only moderate and the cold storage stocks 183,342 pounds lighter than a year ago. In the face of the high price prevailing the consumptive demand held up well. Los Angeles market is now 4c higher than New York and 5c above Chicago. A firmness doubtless influenced by the government buying and light production.

We quote:

California extra creamery	44c
Prime first	43c
First	42c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	44	44	44	44	44	44
1916—						
Extra	26	26	26	26	26	26

EGGS.

Receipts (railroads) for week ending August 7, 1917, 1107 cases.

Receipts (railroads) for week ending August 7, 1916, 1782 cases.

Continuing selling off of hens by poultry raisers and moulting season caused a marked falling off in receipts the past week and higher prices. There was a noticeable falling off in the consumption at this advance, though the demand proved equal to the light supply.

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	38	39	40	40	42	42
Case count	36	38	38	38	41	41
Pullets	34½	36	37	37	38	38½
1916—						
Case count	29	29	29	29	29	29

POULTRY.

More coming in the past week and market hardly so firm. Broilers, fryers and hens all arriving more freely and fryers lower. Broilers and hens steady, demand fair. Ducks, geese and turkeys continue dull.

We quote from growers:

Broilers, 1¼ to 2 lbs	20@22c
Fryers, 2½ to 3 lbs	21c
Hens over 4 lbs	21c
Hens under 4 lbs	14@15c
Ducks	15c
Geese	12c
Roosters, 3 lbs. up (soft bone)	25c
Turkeys, heavy, 12 lbs. and up	29@30c
Turkeys, light	24@25c
Squabs, live, per doz	$3.00@4.00
Dressed	3.50@4.50

FRUITS.

Market over supplied with peaches and plums, sales slow and prices lower in many instances. Nectarines slow and lower. Apples steady and selling fairly well. Figs scarce and little higher, but few coming in. With better receipts lower prices looked for. Grapes selling fairly well, market steady. Quinces beginning to arrive and slow sale.

We quote from growers:

Apples, Gravenstein, per 4-tier box	$1.50
do, do, 4½-tier box	$1.00@1.25
do, Alexandrias, loose, per lb	2c
Peaches—	
Freestone, local, per lug	25@50c
Clings, Tustin, per lug	50@60c
Northern, per lb	1½@2c
Figs—Black, 2-layer	$2.00@2.25
Grapes—Malaga, per lb	5@6c
Plums—	
Burbank, per lug	20@30c
Tragedy, per lug	90c@$1.00
Satsuma, per lug	30@40c
Pears, per lb	2@3c
Prunes, per lug	75c@90c
Nectarines, per lb	3@3½c
Apples, green, per lug	30@40c

MELONS.

Market well supplied with home-grows and quality of offerings good. With better receipts the market showed weakness, but at the prices there was fair demand for both cantaloupes and watermelons. Casabas and honeydew melons dull.

We quote from growers:

Cantaloupes—	
Local, Pineapple and Tiptop, jumbo crate	$1.50@2.00
Pineapple and Tiptop, pony crate	60@70c
Columbia, jumbo crate	1.75@2.00
Paul Rose, standard crate	1.25@1.50
Watermelons, per cwt	1.00@1.25
Casabas, per lb	2@2½c
Honeydew melons, per box of 9-10	$1.00

VEGETABLES.

Market well supplied with most everything. Tomatoes coming in more freely and slow sale. String beans steady, but slow. Lima beans coming in more freely and lower. Corn steady and firm. Cucumbers firm and summer squash higher and in fair demand. Bell and Chile peppers dull. Egg plant lower and slow. Celery lower under the influence of poor quality. Potatoes higher but dull and weak.

Potatoes, per cwt	$2.25@2.50
Peas, Northern, per lb	7½@8c
Onions, Northern, per cwt	$1.10@1.15
String beans, wax, per lb	1½@2c
do, Kentucky Wonders, per lb	2c
Tomatoes, No. 1, local, per lug	70@75c
do, No. 2	25@30c
Summer squash, per lug	20@25c
Cucumbers, per box of 2½ to 3 dozen	15@20c
Green corn, per lug	40@45c
Cabbage, per 100 lbs	40@50c
Lima beans, per lb	3@3½c
Okra, per lb	5c
Bell peppers, per lb	4@5c
Chile peppers, per lb	3@3½c
Celery, per crate	$2.00@2.50

BEANS.

Market brightened up the past week and there was more doing than for some time. But while there was a better demand the tone was hardly so firm.

We quote from growers:

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., August 7, 1917.

Despite the heavy offerings of Bartlett pears during the past week all markets have ruled very strong and there are indications of a continuous ready demand. We anticipate a firm market to rule for the balance of the season, with slight fluctuations.

The movement of plums has fallen off, though the offerings are normal, but the demand remains very active and prices have ruled higher than for years on all varieties, a noticeable fact being that the fruit is carrying in excellent condition. The shipment of plums will continue for three weeks and will be practically out of the market before the Idaho crop of Italian prunes begins to move.

The inferior quality of the San Joaquin Valley Elbertas has not affected the market on peaches offered shipped from Placer county and Northern California points. The quality of the northern Elbertas is exceptional this year and the sizes running large. The demand is exceeding the supply and the market strong at from 65c to 75c, f. o. b. California. We anticipate a good demand but at lower prices on later peaches as Eastern markets will be affected by shipments from Colorado, New York and Michigan, which states report a normal crop.

Thompson Seedless and Malagas have begun to move from the Fresno district. The quality is excellent, though berries affected by heat are smaller than usual. Inquiries for Malagas are more numerous than in former years and we anticipate no difficulty in disposing of the entire crop at satisfactory prices.

Tokays in the Upper San Joaquin Valley are beginning to show color, but the bunches, though well-formed, are in some districts affected with beetle scar and undersized berries. The quality, however, will be excellent as far as fruit carrying is concerned. The Sunburn period has practically passed and though the recent heat has affected the crop on non-irrigated land, as a whole the harvest will be probably heavier than for several years. Unless something unforeseen happens and unless Eastern markets are affected by competition from New York, Ohio, and Michigan, which report very heavy crops of grapes, offerings should be disposed of without difficulty to good advantage.

The following prices have ruled for the week:

New York.—Bartlett pears averaged $2.68; Wickson plums, $2.10; Tragedy, $1.54; Diamond, $1.75; Burbank, $1.70; Duane, $1.30; California Red, $1.30; Malaga grapes, $2.47; St. John peaches, $1.25.

Boston.—Bartlett pears, $2.67; Tragedy plums, $1.65; Sugar, $1.70; Wickson, $2.02; Diamond, $1.45; Burbank, $1.27; Satsuma, $1.55; Crawford peaches, $1.15; St. John, $1.25; Foster, $1.10; Malaga grapes, $1.92.

Chicago.—Bartlett pears, $2.33; Wickson plums, $1.85; Tragedy, $1.81; Diamond, $1.81; Burbank, $1.95; Sugar, $1.74; Kelsey, $2.69; Malaga grapes, $2.00; Thompson Seedless, $2.41; Crawford peaches, $1.05.

Shipments from the State for the week ending August 3rd, by cars, as follows: 212 peaches, 269 plums, 571 pears, 21 grapes. Shipments of grapes do not include those from the Imperial Valley. Total number of cars to August 6th, 5,218. Total number of cars last season to August 6th, were 6,724.

Limas, per cwt	$11.00
Large white, per cwt	13.50
Small white, per cwt	13.50
Pinks, per cwt	9.50
Blackeyes, per cwt	8.00

HAY.

More life and strength to the market the past week than for some time. Receipts good, but as the government was in the market, and the crop is thought to be short, many buyers that have been holding back took hold and made good purchases and under the influence of demand the market was advanced all around and close was firm.

We quote f. o. b. Los Angeles:

Barley hay, ton	$21.00@22.00
Oat hay, ton	21.00@22.50
Alfalfa, northern, per ton	18.00@19.00
Alfalfa, local, ton	19.00@20.00
Straw, ton	9.00@10.00

HONEY AND BEESWAX.

Market is still dull. Eastern buyers keep out of the market on account of high prices and local buyers are taking hold slowly. Values weak at quotations.

We quote from growers:

Comb, per case	$3.50@4.00
Orange-water white	12@12½c
White sage	12@12½c
Light amber sage	9@10c
Light amber alfalfa	9@9½c
Beeswax	31c

COVER CROP SEED SCARCE.

[Written for Pacific Rural Press.]

Not over six carloads of melilotus seed are available from Sacramento Valley, according to one of the best authorities, who shipped as many as that to single customers last year. This year's crop is short on account of the early cold and dryness. The new seed has not been cleaned yet. Prices are high and going higher. However, there may be considerable seed in Arizona on which we have no report yet. Much of Arizona seed is mixed with alfalfa, from which it is commercially inseparable. Vetch is just coming in and prices on this are not made at this writing. Broad beans were widely planted, but the crop is not much on account of aphis.

Special Livestock Market Report

San Francisco, August 8, 1917.

CATTLE.—Beef cattle are still coming too freely for slaughterers to handle, though it is believed that this situation will not continue beyond two or three weeks. However, the market is not quotably lower. Only tops command the outside figures.

Grass Steers—	
No. 1 weighing 900@1200 lbs	8¾@9c
No. 1 weighing 1200@1400 lbs	8¾@9c
Second quality	8@8¼c
Thin undesirable	6½@7½c
Grass Cows and Heifers—	
No. 1	6¾c
Second quality	6¼@6½c
Undesirable	4@5½c
Hay-fed cattle ½c to ¾c higher.	
Bulls and Stags—	
Good	5½@5¾c
Fair	5@5¼c
Thin	4@4¾c
Calves—	
Lightweight	9¼@9½c
Medium	8¼@8½c
Heavy	7¼@7½c

SHEEP.—Lambs are arriving in plentiful supply at present, though but small shipments of sheep have been received. The prospects for sheep and lamb receipts during the next few weeks to meet the market demand are good. The retail demand for these meats, however, is self-limited, as few consumers care to meet the price. Quotations are stationary.

Lambs—	
Yearling	11½@12c
Milk	11½@12c
Sheep—	
Unshorn wethers	10@10½c
Unshorn ewes	8@8½c

HOGS.—Hog receipts are in sufficient numbers to meet the demand, though the quality is not up to standard, probably on account of being taken off the stubble before they are properly finished. Most of the sales, therefore, are made at the lower quotations.

Hard, grain fed, 100 to 150	13@13¼c
do, 150 to 300	14¼@14½c
do, 300 to 400	13¾@14c

DRESSED MEATS.

Steers—	
No. 1	14c
Second quality	12½c
Cows and heifers	12@12½c
Calves as to size, etc	12@16c
Lambs—Suckling	22c
do. Yearling	20c
Sheep—Ewes	18c
Hogs	12c

HIDES.

There is little doing in hides at the present time, as the margin between the price of raw hides and the market price of leather is too narrow to make speculation along this line profitable. A decline in wet salted hides and salted calfskins is looked for.

Dry—	
Dry hides, 10 lbs. and over	33@35c
Bulls and stags	28c
Kip	40c
Veal	42@45c
Calf	48c
Wet Salted—	
Cows and steers, all weights	21½@22½c
Bulls and stags	16@18c
Veal and calf	26@28c

Los Angeles, August 7, 1917.

CATTLE.—The market remains much the same as last week. The general run of cattle was in good supply and hardly so firm. The high price of feed continuing to force a good many cattle to market. Well "finished" steers were scarce and firm as ever. Calves in only moderate supply and fair demand at steady prices.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt.	8.00@9.00

HOGS.—More offering the past week and quality poor, mostly light weights of poorly fed hogs from California; and as dressed pork market is dull, killers lowered their bids on the general run of hogs 50c to $1.00 per cwt. Choice well finished hogs, however, continue to bring a premium over quotations.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs	$11.50@12.00
Mixed, 200@250 lbs	12.00@13.00
Light, 175@200 lbs	12.00@13.00

Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP.—There is an easier tone to the market. While prices were not quotably lower, under the influence of weaker Eastern markets killers got what few they needed with less trouble than for some time. California and Arizona furnished the supply and flock owners were more willing to sell.

Prime wethers	$ 9.00@10.50
Prime ewes	9.50@10.00
Yearlings	10.50@11.00
Lambs	13.00@14.00

North Portland, Ore., August 6, 1917.

About 1200 cattle, 900 hogs and 600 sheep came out of the cars here today to face a progressively strong market, which produced a raise in every department before the close.

CATTLE.—The string of cattle presented at the yards were not as smooth or as well finished as the cattle presented at the opening of last week. This was especially true in the steer column, which failed to draw any material advance in price. Common to medium steers advanced 15c to 25c. Cows advanced an easy quarter, and all other lines followed in the raise. The following quotations presented in cattle: Best steers, $8.50@9.00; good steers, $7.50@8.25; good cows, $6.00@7.25; ordinary, $4.00@6.00; heifers, $6.25@7.50; calves, $8.50@9.50; bulls, $4.50@6.00; stockers and feeders, $4.50@7.25.

HOGS.—The general run of hogs was better than last week, including several car loads of selected stock. The market advanced 10c to 15c with a sharp competition for the tops and an active market down the line. The following quotations presented in hogs: Prime heavy, $15.50@15.65; prime light, $15.60@15.75; bulk, $15.60@15.75; pigs, $14.10@14.75.

SHEEP.—The sheep market continued firm to strong with the prices quoted at the close of last week and an offering that was not sufficient to supply the demand. The following quotations presented in sheep: Yearlings, $8.75@9.25; wethers, $8.00@8.50; ewes, $3.50@7.00; Western lambs, $12.00@12.75; Valley lambs, $11.00@12.50.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
April 3	28.50	37.91	28.83	36.33
" 10	29.31	39.33	28.00	37.00
" 17	27.33	39.58	27.50	38.00
" 24	25.25	35.66	25.00	36.50
May 1	24.33	33.08	25.33	33.00
" 8	24.10	34.05	25.00	33.20
" 15	24.58	35.50	25.66	34.16
" 22	25.00	36.30	25.00	35.16
" 29	26.50	36.60	26.50	37.33
June 5	25.50	36.30	27.00	37.66
" 12	25.83	36.50	27.00	38.00
" 19	24.50	36.00	25.91	36.33
" 26	24.50	36.16	25.91	37.50
July 3	24.60	35.06	26.00	37.00
" 10	26.40	36.41	26.60	37.16
" 17	25.83	37.83	26.00	38.66
" 24	26.00	40.25	26.00	40.61
" 31	26.00	42.82	25.91	42.58
August 7	21.00	43.00	29.16	44.00

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
April 3	21.75	28.58	21.00	29.25
" 10	22.00	29.66	21.00	30.41
" 17	21.16	32.33	20.91	32.08
" 24	21.83	32.91	22.58	32.83
May 1	21.00	32.00	22.58	31.83
" 8	21.20	32.75	21.41	32.00
" 15	24.58	34.20	20.83	32.50
" 22	25.46	33.40	22.50	34.00
" 29	25.00	33.80	22.50	33.50
June 5	25.00	33.20	24.51	34.66
" 12	25.00	31.16	24.16	33.00
" 19	24.83	31.41	23.75	33.10
" 26	24.66	30.16	24.58	32.16
July 3	24.60	31.90	24.00	34.25
" 10	26.10	33.50	24.00	36.00
" 17	27.16	33.66	27.00	34.41
" 24	28.20	35.25	28.00	35.91
" 31	28.50	38.00	28.00	36.91
August 7	26.16	42.58	26.00	40.16

Special Citrus Market Report

Los Angeles, August 7, 1917.

Shipments of citrus fruits from November 1 to August 6: Oranges, 35,189 cars, and lemons, 6955 cars. Same time last year: Oranges, 27,610 cars, and lemons, 5967 cars.

There continues a want of interest in this market. Too much deciduous fruit offering, and it is selling cheap, for the good of the orange trade. Receipts at the East the past week not so heavy and latest sales there show that oranges are higher, but demand light at advance. This failed to influence the market in the West, which continues dull. Local packers still buying sparingly and have lowered their bids on Valencias to 1@1½c per pound in grove, picked. Grapefruit steady but dull at 1½@2c per pound in grove, picked. Lemons in lighter supply and higher under influence of a sharp advance East and better local consumption. Best bringing 3@4c per pound in the grove, picked, and the lower grades selling at 1@1½c per pound.

AUCTION SALES.

New York, August 6.—Thirty-five cars oranges, one car of grapefruit, and two cars of lemons sold. Oranges about 50c higher. Lemons lower on account of condition. Valencias averaged $1.80@5.15. Lemons averaged $2.35@7.40.

Boston, August 6.—Eleven cars sold. Market stronger and higher on oranges. Easier on lemons. Valencias averaged $2.05@4.30. Lemons averaged $3.95@7.40.

Philadelphia, August 6.—Eight cars sold. Market stronger and higher on Valencias; firm on lemons at prevailing prices. Valencias averaged $2.85@4.60. Lemons averaged $9.35.

PEAR CROP AND PRICES IMPROVING.

Pear crops and prospects are looking better. Due to organization and strong Eastern markets, canners who did not get supplies needed at $35 are now offering $40. The crop was expected to be smaller than last year, due to smaller sizes caused by the sudden intense hot weather following a slow-growing spring, but sizes are better than expected. Half of the crop has been shipped, Sacramento pears being all gone. There are plenty of cars and shook. Prices have ranged about a dollar a box above last year's.

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MISCELLANEOUS.

SECOND-HAND WATER PIPE and Screw Casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. Shecter Pipe Works, 306-8 Howard st., San Francisco.

AT LAST THE PERFECT SILO—The Star Round; no hoops; no bolts; no experiments; anyone can erect; close price. Address D. O. Lively, 215 Hobart Bldg., San Francisco.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero st., San Francisco.

TO FRUIT GROWERS—New, simple process for crystallizing figs and all other fruits. Instructions, terms, on application. Correspondence with fruit growers solicited. Monteith & Company, Santa Rosa, Cal.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smith's Cash Store, 106 Clay st., San Francisco.

WANTED TO BUY—CANARIES—1 Coolidge Place, off Jackson, San Francisco.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

CHAPERONE IN NEW YORK—Principal of school living in 4-room apartment hotel would share same and chaperone young girl student whose parents desire conscientious care for daughter. References exchanged. Correspondence invited. Write "Chaperone," 1364 Broadway, New York.

MAN WITH HELP IN FAMILY to milk and feed 50 cows. Work conveniently arranged. House, wood, garden, pleasant conditions. Reliable, permanent. Expert only. Pay proportionate. P. F. Barton, Escalon.

A PRACTICAL DAIRYMAN AND FARMER wishes to take a dairy on shares; must be close to school; references. Box 730, Pacific Rural Press.

COUNTRY LANDS.

SALE OR EXCHANGE—74 acres sandy loam, planted to alfalfa and beets; near factory and towns, on good road, near school. Splendid water, modern buildings, electric lighted, ornamental, shade and fruit trees. F. G. Easton, Manteca, Calif.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

WANTED—To hear from owner of good ranch for sale; state cash price, full description. D. F. Bush, Minneapolis, Minn.

HUMBOLDT STOCK RANCHES—Dairy land. C. E. Robertson, 105 Montgomery street, San Francisco, or Fortuna, Cal.

WANTED—To rent, a grain and stock ranch. Box 182, Vina, Cal.

SEEDS, PLANTS AND TREES.

WE BUY WEED SEEDS—Mustard, rape, anise, bitter clover, etc.; send samples; write us stating quantity and price. Globe Mills, Los Angeles.

SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar sts., Oakland, Cal.

AVOCADO SEEDLINGS in flats; write for prices. Newberry-Sherlock, R. D. 2, Pasadena, Cal.

Highest Prices
PAID FOR
Scrap Iron and Junk
OF ALL KINDS
Ship your Junk to the most reliable dealers in Northern California
SACRAMENTO JUNK CO.
SACRAMENTO, CAL.

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Hides, Leather, Tallow, Wool and Skins
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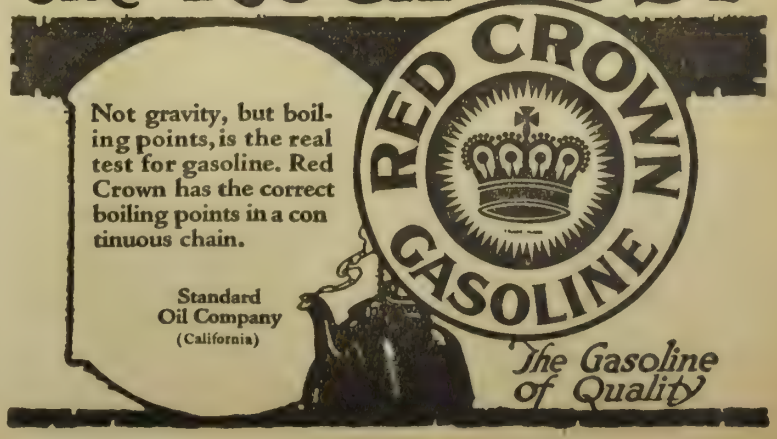
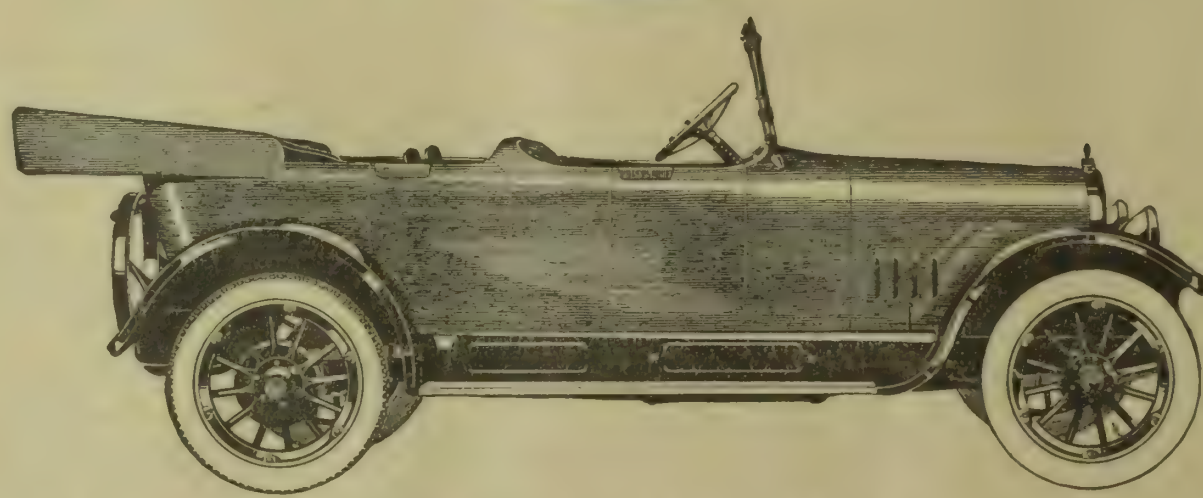
The Real Test



Seven Passenger

$1295

f. o. b. Toledo—Subject to change without notice



A New Wonderfully Balanced Six

Sturdy Light Weight—Abundant Power

This announces a brand new development in Sixes.

Here it is at last!

A popular priced *Light* Six with *weight and power in scientific balance.*

Think what that means.

Economy and durability in combination with six cylinder advantages at last an accomplished fact.

Don't ask any more why you can't get a durable light weight six with real six cylinder performance.

You can—it's this new Willys Six.

By scientific designing with the aid of our great experience in building Sixes, we have produced a *lighter car* without sacrificing sturdiness.

Its forty-five horsepower motor combined with its light weight, makes it a wonderful performer.

Quick as a flash on the getaway; speedy; surprisingly economical, yet with worlds of power and the sturdiness to support it.

Think what this means figured
—in greater gasoline economy
—in additional tire mileage
—in an easier car to handle.

Now let the Willys-Overland dealer demonstrate the wonderful performance of the New Willys Six—we want you to sense what this new balance between power and weight means in an economical, durable light Six.

We want you to know, too what a wonder the New Willys Six is from the standpoint of easy riding and easy handling.

Also we want you to know what a beatiful car it is—long, sweeping graceful lines—one of the year's most advanced models—a perfect beauty.

And the price!—$1295 complete!

It's the Six you've longed for—go in and see it now—before our dealers are loaded with orders for more Willys Sixes than they can get.

Motor 3½-inch x 5¼-inch
45 horsepower
4½-inch tires
120 inch wheelbase
7-passenger capacity
Finished in olive green

Catalog on request. Please address Dept. 1120.

Willys-Overland Inc., Toledo, Ohio

Willys-Knight and Overland Motor Cars and Light Commercial Cars

Vol. XCIV—No. 7

THE PACIFIC RURAL PRESS

Forty-seventh Year

SAN FRANCISCO AUGUST 18, 1917 LOS ANGELES

State Library

Bean Crop and Market Conditions Fine for Growers

[Written for Pacific Rural Press.]

THAT the California bean crop will be somewhat larger than last year and the prices nearly if not quite up to last year's mark in spite of recent declines, seems reasonably certain. While the Government is buying practically nothing but small whites, their demand for this variety is likely to find response in prices of other varieties. Seven proposals for bids to furnish an aggregate of 1,892,000 pounds for Government use west of the Missouri were received by bean dealers in two days last week. This heavy buying was expected to continue, probably in behalf of allies as well, because beans are of such high food value, non-perishable, and easily transported. The Government is allowing bean canners to operate temporarily and probably permanently, so this recent menace to the consumption of beans has been removed. Manchurian beans, which competed last season mainly with cranberries by selling a cent or two lower, are not likely to trouble the market this year on account of the high freight rate—$3.00 per cwt.

Crops by States.

A leading bean dealer who is ready to back his estimates gives us the following notes on crop conditions of beans in the United States. California last year produced about 360,000,000 pounds of all varieties, this being far greater than any except the preceding crop. Acreage planted this year was between 30 and 40 per cent in excess of last year; but much of this was planted by inexperienced people and on unsuitable ground. This fact, combined with heat damage in many districts and late planting on too-dry ground will make the crop this year just a little larger than last. Our crop of small whites last year was about 550,000 sacks. This includes the bluepods, which were extensively planted in Santa Barbara county in 1916 and occupy far greater acreage this year in Coast counties.

Our chief competitor in the United States is Michigan, whose normal crop is about 333,000,000 pounds. Last year they fell down heavily, and this year they had a long wet spring which discouraged growers. Late reports of damage by hot weather seem to have been overdrawn, for the wetness of the spring minimized the heat damage so there may be close to a normal crop, considering greatly increased acreage. New York produces a few million pounds normally; but wet weather discouraged planting and they will have not over 25 per cent of a normal crop. Colorado expects the largest crop in history, and New Mexico expects nearly as large an increase over last year. These are "pinto" beans which compete with our pinks on the markets. Beans are commercially new in Oregon, and the attempted crop will be short on account of bad weather. Idaho reports are too meager to estimate.

Holdover Bean Crop.

Before the 1916 crop came on, beans of all varieties had been cleaned out of California at extreme prices. Such prices continued through the 1916-17 season and most of last year's crop is gone. On August 1, 1917, there were in California warehouses 19,000,000 pounds of last year's crop. Of these, 6,300,000 pounds were in San Francisco and most of the remainder in Stockton and Sacramento.

Proportion Contracted.

Despite the heavy contracting in the Central Valleys and Southern California by people who furnished the seed, San Francisco dealers claim that only a small proportion of the total crop was contracted; and that by dealers who had contracts with eastern trade, so there was not so much speculation as at first thought.

Warehouses and Cleaners.

All beans must be run through cleaners, to take out dirt, pebbles, pods, etc. The whites are polished and where of uneven size are graded into "large" and "small" sizes. Garbanzos are often graded into six sizes. The capacity of cleaners is taxed to the limit during the last three months of the year, and are rushed to February or March. New cleaners are being installed, however, one of them at Sacramento, and some new warehouses are being erected, so there seems no uneasiness in regard to handling the crop. Car shortage will threaten many other products before it will affect beans, if at all. Due to increased cost of labor, warehouse charges may run two or three cents above the previous rate of 22 cents per ton per month.

Bean growing has been far more extensive in California than ever before. The crop promises to equal previous record crops, and prices seem likely to nearly equal previous records.

More Bags Unobtainable.

One of the largest bag manufacturers states that there are no bags in manufacturers' hands and no more burlap obtainable. Eighty-pound sizes were selling at 11½ cents August 8, being obtainable only from dealers. The shortage is largely due to manufacturers' reluctance to order burlap at the high prices without selling the prospective bags first, fearing a decline. It cannot be remedied now; for burlap ordered from India could not get here much before Christmas. The high price is due not so much to scarcity as to high ocean freight rates, which

(Continued on page 153.)

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L. H. STORGAARD - - - - Livestock

EDITORIALS

THE LONE RIDER.

AND so by succoring the distressed in peaceful countries laid waste by the Huns, and by his declaration of devoir and his mighty oath to strike off all fetters which the base ogre Hunkidori is essaying to forge upon the white limbs of the Great Lady Liberty of the World, the glorious young Californian Hoover won his spurs. And now he sits the saddle with brow marbled by determination and gaze uplifted toward his great emprise; with none astride beside him, neither afore nor aft, and with bridle-rein uplifted, arms aflap and spurs aclap, he waits but the word to ride forth and trample into earth all vices which unfit us to attain our Destiny—all Waste which impoverishes; all Extravagance which weakens; all Greed which robs and pampers; all to the end that America shall be strong in herself to do her duty to the world! And so the nation broadly lifts its voice: "Hurrah for Hoover and the great American principle of fair play between men and nations!" But the Californian asserts his right and joy to come even nearer to the Man of the Hour, and in the beloved vernacular cries to the flames on Lassen's Peak:

Rah, rah, rah! Rah, rah, rah!
Rah, rah! Hoover!!

WHAT WILL HOOVER DO?

MR. HOOVER'S undertaking, as defined by national law approved by the president since our last issue, extends far beyond our special field of thought and comment and with very much of it, as we now think, we shall have little or nothing to do. We shall remand much of his policies and methods to contemporary writers who give us the comforting assurance that nothing in the world shall go wrong with their consent. Without this guaranty we could hardly sleep of nights nor eat of days, for hatred of our own slacking narrowness. And yet though much of it will spill no ink for us, we owe it to the reader to state succinctly what is hovered in the plan which Mr. Hoover will pursue, under direction of the president. The new law then—

Creates a one-man food dictatorship.

Gives the government control of food, feeds, fuel, fertilizers, tools, utensils, and equipment required for the actual production of all such products, designated "necessaries."

Provides drastic penalties against hoarding and speculation, to prevent, locally and generally, scarcity, monopoly hoarding, injurious speculation, manipulation or private control affecting supply, distribution, and movement, or undue enhancement of prices.

Establishes licensing system giving President Wilson complete control over necessities.

Gives the president enormous requisitioning power for army and navy.

Authorizes the president to close exchanges and boards of trade if necessary to stop speculation in necessities.

Authorizes the president to buy and sell wheat, flour, meal, beans, and potatoes and at reasonable prices.

Guarantees a minimum price of $2 a bushel for No. 1 northern wheat of the crop of 1918, to last until May 1, 1919.

Prohibits use of foods in whisky-making and authorizes the president, if he sees fit, to impose similar prohibition on beer and wine-making.

Directs president to commandeer spirits in bond warehouses.

Appropriates $10,000,000 to enable the president to buy and sell fertilizer to farmers.

Appropriates $152,500,000 to carry out the purposes of the bill.

This is of course only a bare outline, but it will give for the time being an idea of the drift, and some of the specific matters carried, on this great new tide of American legislation. New influences and bearings of it will be clearer each day that we live in its flow. One can easily see that it does things which few if any expected to see accomplished during their lives in this country of personal freedom and initiative. It also does things in the public interest which many have long believed would be for individual and general welfare and have long striven to secure. On the whole it is a great experiment in government for this country and will doubtless demonstrate many things to be good and practicable which many have regarded either as unjust and bad or as good and impossible of attainment. The legislation is for the duration of the war and lapses by limitation, but what the experiment shows to be good and practicable will survive either in national or state enactments, no doubt. Great, then, as the undertaking promises to be to promote general prosperity and comfort during the war, and powerful as it may be in the actual winning of the war, it is our conviction that no matter how much this nation may be able to do for humanity, there will be a very appreciable gain to itself from the effort in the way of making this country a fairer place for human life and endeavor than it has ever been hitherto. Some passivist may count that an argument for the beneficence of war. It may be that and it may be true also, but it is not an apology for war. "For it must needs be that offences come but woe to that man by whom the offence cometh."

THE FALSE GOSPEL OF PINCH.

ONE of the beneficent influences which we trust the legislation above outlined will have, will be the direction of the public mind toward great and important popular undertakings and away from the false gospel of pinch which so many people are making a synonym of patriotism. We can see nothing in the present or future which can support the claim that Americans should be fed and clothed as though they were dwelling in a beleaguered city or a blockaded province. To dress from the rag-bag and to dine from the garbage-can might possibly be pinnacled patriotism under circumstances of general destitution to be bravely endured, but to fill the minds of the people with thoughts of it when they should be strong to do higher thinking, to be manifested in harder and more productive work, is a great mistake of judgment and method. It depresses those who need to be inspired and exalted and the sentiment of it, instead of generating new national force and confidence, will degenerate what we now have into patriotic hypochondria. It is very desirable to teach people rational dietaries and to explain to them the relative nutritiveness of foods that they may make wise substitutions and selections. And this is all that is necessary because relative prices will govern relative consumption more forcefully than all this tiresome lecturing and do it with less hardship to the producers—many of whom current hysteria threatens to ruin. Manifestly a prosperous people should eat well of foods which its tastes delight in and its digestion approves and make changes slowly and on the basis of experience, and the most rational suggestions of such changes are those which come from the sales-counter and not from the soap-box.

It seems to us a great mistake to bring all the pliable people into distress of head and stomach because perhaps one per cent of our population is gluttonous or epicurean. One-tenth of one per cent of righteousness would have saved Sodom from the burning and yet we are being blasted with hot air from the apostles of pinch, though ninety-nine per cent pure! It is a new and a bad thing in the world.

TWO GOOD THINGS TO HOLD IN VIEW.

TO our notion there are just two great things of immense and enduring value in the food administration which the war has brought upon us. One is the general drive for increased food production and the selective emphasis placed upon most necessary items of it. The other is the lifting of the increased product out of the reach of greedy manipulation and the assurance that both producers and consumers shall have their rights in what their hands set free and their jaws enclose. This has never been assured hitherto, and it is control of rights which the food-barons can never regain. Never again will the millions of this country allow the products of their toil and the essentials of their living to become the munitions of manipulators who add no value nor convenience to them. This is a result which producers have striven for for decades and enactments looking thereto have cropped out in the legislatures of many states, but they have never gathered force enough to resist the counter-attacks of manipulators and their professional economists who erected in the public eye those two old economic scare-crows, Demand and Supply, which are now coming to be recognized as merely bogy men and themselves creatures of manipulation, conjured up to serve greed of gamblers or to promote gambling among greenhorns for the advantage of those who profited by it. There is a chance now that we shall have two real factors to determine values, viz.: Production and Consumption, which will become very real things to reckon with if gamblers' motives and methods are eliminated.

One of the most hopeful manifestations in connection with this national action against food-gambling is the quickening of the American conscience to the evil of it. Even before any enactment was actually framed, the prohibition of such gambling was undertaken in the centers of its greatest activity hitherto. Possibly the motives of the great grain exchanges may be impeached; they may have decided to be good until the storm blows over. We are not a judge of that, but this fact remains, viz.: that while for years the prohibition of this form of speculation was claimed to be impossible by law or authority, it was actually stopped by the authority of the organizations which sheltered it and is now made unlawful by the Congress of the United States.

UNCLE SAM WILL TAKE THE WHEAT.

AS we go to press dispatches are bringing fragmentary details of the national administration of wheat and flour. It should be remembered always that legislation concerning minimum price does not apply to this year's wheat crop, but begins with the crop of next year—unless the war should get through the cleaner first, probably. The acute situation, however, opens at once and that has to be handled under other sections of the law which authorize the president to become the greatest food merchant this country has ever seen, and it will be done at once in the case of wheat and flour in this way:

All elevators and mills over 100 barrels' daily capacity will be required to take out a government license, and each and all of them shall agree that only reasonable and customary charges shall be made for warehouse service; that no wheat shall be stored for more than thirty days without the approval of the food administration; that certain information as to receipts and shipments shall be supplied regularly. The grain exchanges will suspend all dealings and quotations in future wheat. These regulations will come into force September 1st. The food administration proposes to open agencies for the purchase of all wheat at the principal terminals, carrying on its transactions with the usual dealers and is prepared to take the whole harvest if necessary in order to maintain a fair price.

The holding of wheat or flour contracts in larger quantities than is necessary for the ordinary course of their business, is unlawful under the act, and such cases will be prosecuted with vigor.

This seems to place all the wheat in the country, and all the flour-making also, after September 1, under the control of the government. No man, except a grower under his own cover or a true co-operative association of growers (but not

a stock-holding corporation of them), can hold wheat more than thirty days after September 1 without permission of the food administrator. This would of course cause values to slump on the grower, for no one would buy except for a month's trade or grinding. Therefore the government will buy the wheat as above stated, taking the whole crop if it should be offered for sale.

WHAT WILL BE THE PRICE OF WHEAT?

THAT is the point to be settled at once by the purchaser! That does not startle the grower as much as one might think, because the wheat-buyer has always fixed the price and the grower could take it or leave it. It is thoroughly irrational because it takes no account of the farmers' cost of production, but it has been the way of it ever since Joseph bought the fill of Pharaoh's warehouses on the Nile. Wonderful to relate, however, there has come a time when the grower may at least look in at the price-fixing, for the president has appointed a wheat price-fixing commission, names of the members thereof being given on page 155. This is the function of the commission:

Creation of a Wheat Control Board will be announced as soon as President Wilson has approved its personnel. This board, comprising officials of the food administration and leading men from the grain and milling industries, will be made responsible for putting into effect measures by the food administration for control of flour and wheat.

In fixing a price to be paid producers for wheat, the food administration will seek to give the farmer a fair price and at the same time name a figure which will permit the public to receive bread at a price much below that now prevailing.

It is gratifying to know that the commission of nine includes three who are acceptably representative of the farming interests because wheat growers are apprehensive that perhaps next year's minimum of $2 a bushel may be taken as the going price for this year's crop, though the price in Chicago is about $2.14, and they are not satisfied with $2 a bushel, because it does not take into consideration the enormous increase in price of all farm materials and help. They will try to have the Garfield committee investigate these questions before acting to control this year's crop.

BERKELEY LAND BANK RE-FITTED.

AS we anticipated two weeks ago, the Farm Loan Board has settled the rumpus in the Federal Land Bank at Berkeley, by accepting resignations of everybody and appointing a new set of officers. No officer nor director who was with the bank at its opening is now in its service. The following is the new list: W. H. Joyce of Los Angeles, president; A. C. Kuhn of San Jose, vice-president; A. W. Hendrick, secretary; Willard Ellis of Ogden, treasurer; J. H. Guill, Jr., of Chico, member of board of directors. Mr. Guill fills the requirement of the law that there must be at least one farmer on the board of directors. He is a dairy farmer with a fine dairy outfit. He is an agricultural graduate of the University, has done good and prominent work in the legislature. Mr. Guill is, in our judgment, the best thing that has happened to the bank so far—which is not saying as much as we would like to say for John; so we will add that he is also a good democrat!

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

How Can a Cheesemaker escape buying Water?

To the Editor: I am buying milk from different people by the gallon and making cheese. I suspect some of them put water in the milk. Would you kindly tell me some way to find out for sure if they really do?—Subscriber, Brentwood.

There are two ways to determine what you wish to know. One is the laboratory method of determining whether there is more than 87 per cent of water, by evaporation and weighing of the residue. The other is the practical method of making cheese of any suspected milk separately and comparing the careful weighing of the curd with the weighing of the curd of the same measure of the mixed milk, also made up separately. If you get less curd from the suspected milk, you are buying more water than you should. The determination of the butter fat in the milk is not an accurate measure of its value in cheesemaking, but it is generally employed because it is available. If the Babcock test shows that someone is supplying you less than 4 per cent of butterfat, you can tell him that it does not pay you to buy his milk. If you have no Babcock apparatus and no skill in the use of it, you can make an arrangement with a cow-tester, who probably visits some of the herds in your district, to Babcock all the lots of milk which you receive and tell you if any lot should be suspected. Then you will know whose milk to reject or whose barn to creep under before milking time to catch him in a heavy rainstorm with no covers on his cans, or see if he is always careful to bring the cans out of the wash house right side up.

Irregular Growth of Alfalfa.

To the Editor: I am cutting my alfalfa and find that three checks that are slightly lower than the rest have plants seven inches taller and all in bloom, while the check next is just beginning. What causes this? My impression has been that the drier the land the less height and quicker bloom.—Grower, Ripon.

Neither you nor we have enough facts about these checks and the soils in them to reach any conclusions. We do not actually know that more water ran down to those lower checks, though it seems rational to suppose so. We do not know that the lower checks do not have some way of losing moisture from or through the soil faster than the other checks and therefore cannot be sure that the plants did have more available moisture in the lower than in the adjacent checks. No general observation can be relied upon to determine the point. The water must be measured at application and the soil and subsoil must be carefully prospected and compared in retentiveness before any dependable data can be claimed. Therefore there is nothing in your observation to unsettle your impression that a plant will usually grow higher and mature later with more moisture to do it with. The question remains as to which bunch of plants actually had the more water.

When to Gather Tobacco.

To the Editor: Please inform me through your paper when is the proper time to gather the leaves from tobacco plants: before or after the bloom leaves the plants?—Subscriber, Walnut Creek.

In common practice the plant is "topped"—that is, the seed stem is pinched off at blossoming time. Then the plant is "suckered"—that is, the shoots which are forced out at the bases of the leaf-stems by the topping, are pinched off when three or four inches long. In these operations care must be taken not to injure the older leaves which are to make the crop. In two or three weeks after "topping" these leaves begin to change color or show spotted places of lighter color. When the leaf may be folded with the fingers without breaking it is ripe for gathering. Thus you see the bloom is not allowed to leave the plant naturally: it is pinched off and the plant then allowed to mature as shown by the leaf texture indicated.

Late Sowing of Sudan Grass.

To the Editor: Please inform me if Sudan grass can be successfully grown on adobe underlain with hardpan from two to four feet deep. This adobe has some silt. Will the fact that two crops will have been raised on the land interfere in any way? When are best times to water?—L. W. D., Chico.

It does not matter so much to Sudan grass what the soil is (providing it is fairly fertile) as does the amount of moisture it has to grow with. Nor does it matter how many crops have been grown if the land is still moist or you can replace the moisture by irrigation. The best time to irrigate the grass as late as this is before you put the seed in the ground and later as the growing crop seems to need it. But of course you will bear in mind that the first good frost will end its career not only for this year but forever, for it is an annual plant. For this reason there is little chance that you will get enough growth to pay for the cost of putting it in so late as this unless you can count on a long autumn free from frost.

Army Worms and Yellow Butterflies.

To the Editor: We have in our community what is called the "Army worm," and we have hundreds of small yellow butterflies. What relation are these two, if any? Is there any remedy to check these worms?—G. W. H., Ripon.

There are several caterpillars which are called "army worms" and quite likely to take to alfalfa. None of them have any relation to what we would call "a small, yellow butterfly," for they are all the progeny of grayish or brownish, thick-set moths about an inch long. There is no easy way to kill army worms on field crops. They can be poisoned with the arsenic-bran mash used for cutworms and grasshoppers. They can be kept out of a field by plowing a furrow with the land side next the field, because they cannot climb up the vertical side of such a furrow. Then another furrow can be turned over them and rolled down. When they are in a field of forage, stock can be turned in to trample them and fight with them for the grub.

Fertilizers for Strawberries.

To the Editor: Can you give me the name of good commercial fertilizer for strawberry plants?—J. W., Oakdale.

If you wish a general fertilizer to build up the soil, use, say, 500 pounds per acre of what the manufacturers offer as a "complete fertilizer." The formulas of reputable dealers are similar and the materials they use equivalent. This can be used when the plants are set. Afterwards, to stimulate the plants and to render more available what the soil already contains, you may give two scatterings of nitrate of soda along the rows—one when the new growth is beginning, another after the bloom has set. About 100 pounds per acre can be applied at each of these times. A good covering of stable manure at the beginning of the rainy season should be used in connection with the commercial fertilizers.

Sunburned Fruit Trees.

To the Editor: I have several hundred French prune trees this year which have made a good growth and are looking well, but the main trunk of nearly every one has recently broken out with an abundance of gum just at the surface of the ground which completely circles the tree, and when I remove it the bark seems to be dead. I have been splitting the bark up to the limbs, through which the gum continues to flow. Have you a remedy?—Grower, Paradise.

Your trees have sunburned for lack of whitewash, or other protection. In the foothills the heated soil is apt to cause gumming, particularly with prunes. You will probably have to replant, for such trees as you describe are seldom worth keeping. The bark "splitting" may help them to die sooner, but they were done for anyway.

Non-Bearing Almond.

To the Editor: I have an almond tree five years old which never has had more than a dozen nuts. The tree is thrifty and is on well-drained but gravelly soil. What can be the trouble? Does it need another one close by, or what?—Reader, Ontario.

It may need cross-pollination, or it may be a shy-bearing variety under all circumstances, or it may be a seedling which has not yet struck its bearing gait. You can determine the first point by getting some branches from a neighbor's tree and hanging them in your tree just as the blossoms are opening. If that brings you more almonds, plant a Drake's seedling near by, for that is a good bearer on its own account and a strong pollinator for other varieties.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., August 14, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.02	.13	60	48
Red Bluff	...	...	...	108	62
Sacramento	...	...	...	98	52
San Francisco	...	...	.01	67	50
San Jose	...	...	.01	86	48
Fresno	...	...	...	100	60
San Luis Obispo	...	.01	.03	78	50
Los Angeles	...	...	...	88	60
San Diego	...	...	...	78	56

How the Best Dried Pears are Produced

[Written for Pacific Rural Press.]

Drying pears in an ideal way from the standpoint of quality was described at the Napa Fruit Growers' Convention by Lake County Horticultural Commissioner Fred G. Stokes. We reproduce part of his paper, with additional remarks about pear drying in other districts.

Dried pears will this year meet a good demand at higher prices than usual, but it will be useless to dry them black and hard. Only light colored, pliable dried pears can compete with the abundance of other dried fruits this year.

The fact that practically all dried pears except those from Lake county are the fruits that could not be shipped fresh or sold to canners, makes drying of one's entire crop a matter of uncertain profit. Mrs. Nellie J. Barton of Los Angeles county turned her windfalls, etc., into very fine dried fruit for two seasons, but found it paid better to ship them fresh. In Contra Costa county, even with a handicap in freight and heat across the interior valley, they ship or can all possible and dry the rest. On the Sacramento river scarcely any are dried.

Lake county pears, according to Mr. Stokes, dry four or five to one and cost $35-$40 per dried ton for labor, sulphur, etc.; while in some other places it may cost $50 (as wages were last year) and a couple more tons of fresh fruit per ton dried, so Lake county's lack of railway transportation is offset on the one hand by cheaper cost of drying and on the other hand by premiums over market prices. Methods given below for Lake county are varied in other parts of the State, according to the grower's and drier's interest in quality.

DRYING CONDITIONS.

Climate during drying should be neither too hot nor too cool; and the less fog the better. Straw under trees on hard ground helps prevent bruising of windfalls and is used in most districts. Picking into canvas bags is advocated, so both hands can be used and the fruit not dropped far. Pick twice or three times to get mature but not overripe pears. Lift the pear until its stem breaks loose from the tree—do not pull it off. Stack in boxes in the shade. Haul to dry yard on spring wagons.

CARE OF THE FRUIT.

After weighing, cull out defective, sunburned, and wormy pears which ripen faster than sound fruit. Grade for size before drying; to save waste, labor in handling, or loss in box or bin due to uneven drying of pears of uneven size or maturity. Stack in boxes in the order picked, to insure uniformity of ripening. If boxes are scarce, store in straw-bottomed bins, not dumping any on those picked on previous days, and arranging bins so the first picked may be first taken out to dry. Cover with canvas sheets to keep temperature more uniform night and day for a week or ten days, when the fruit is ready to cut. It should be firm, not soft enough to mush in the fingers. Handle boxes and trays on trucks and cheap tracks to and from cutting shed and sulphur houses.

The fruit is cut into halves at 10 cents per 50-pound box by farmers' wives and daughters, not taking out cores or peeling them, but pulling off the stem and cutting out the calyx. Each can cut 20 to 35 boxes per day. Cut fruit into pans. Then spread it flat side up on pine or spruce trays about 3x8 feet. Redwood stains the fruit. Stack the trays 20 to 24 deep on trucks and put them in sulphur houses or "balloon hoods." Sprinkle the fruit with water as the trays are stacked.

SULPHURING.

Cement sulphur houses turn out fancier, more uniform pears with less sulphur. Balloon hoods are cheap but temporary. They consist of a light wooden framework covered with two or three-ply roofing paper. Set enough hoods in a continuous row under a runway like that used in a barn for a hay fork. A block and tackle moves on the runway to lift the balloons to put trays and sulphur in or to take them out. Terra cotta sulphur holders are used to prevent fires, but they burn the sulphur slowly. Sulphur is lighted by using a piece of sacking for a wick and allowing a little air at the start. Four or five pounds of sulphur is sufficient for a charge for a 22-tray balloon hood and is renewed at the end of 24 hours.

DRYING.

After 48 hours of sulphuring, the hoods are raised and the trays spread out on trestles, usually in the evening. Some rest only one edge on a trestle so the tray of fruit will face the sun squarely. They are left one-half to one day in the sun, after which the trays are stacked to finish curing. Longer exposure to sun discolors the fruit. Some people stack under a shed as insurance against rain. In stacking, inch strips are placed between the trays to insure aeration. If outside, they are stacked with one end a foot higher than the other and the top protected by a cover tray to shed rain. Place the stacks lengthwise east and west so the prevailing wind will blow directly through them.

Cure in the stack two to four weeks, boxing when the fruit is rubbery but not mushy. Stack boxes so air can circulate. This allows them to dry some more but prevents their spoiling.

Natural Bark Slitters

[Written for Pacific Rural Press.]

We have in times past seriously objected to the old practice of slitting the bark of young trees with the idea of promoting thrifty growth. We have no notion of carrying our conviction against this practice to the point of objecting to the behavior of young trees which slit their own bark, for we know of at least two experienced fruit growers of the Santa Clara Valley who are quite convinced that trees which do this are freer growers and more prolific bearers than others of the same variety which apparently center their efforts to keep their hide whole. One is Mr. Butcher, a well-known cherry grower, who has decided that one of his Royal Ann trees which burst its bark in long fissures is an ample and regular bearer, while the tight bark trees of the same variety are shy. And Mr. Butcher has tested his conviction by using buds from this tree and produced other trees which are free-bearers and bark-slitters like their parent tree. Leonard Coates of Morgan Hill carries the same conviction into practice in connection with the French prune. One of the improved types which he has on his trial grounds is a wonderful bearer of large prunes and a wonderful bark-slitter also — manifesting it from the main stem outward to the wood of the previous year's growth. It is very interesting to note how buds from such a tree put into a tree of tight-bark habit show their different behavior in contrast with that of the tree which is giving them sap and showing bursted bark, and bearing prunes also, on long switches which grew in 1916.

NATURAL VS. ARTIFICIAL SLITTING.

But there is this to say about the different methods of men who slit bark and trees which slit their own. The men usually believe in slitting to the wood and rejoice in the deep gashes they make. The trees which do their own slitting only burst the outer skin and make no gash at all, though the epidermis does roll back a little from the fissure. Perhaps if the human bark-slitters would imitate the natural bark-slitters there would be less objection to their practice.

NURSERIES NEED NEW GROUND.

A nursery where trees had been grown on the same ground many years was compelled to change the location of its seedlings because such a large percentage of their trees were condemned for root knot and crown gall. Since the change they have been turning out nice trees.

Have You Enlisted

in the fight to overcome the great world food shortage?

Do you want to "Do Your Bit" by making every acre of your land produce its utmost? If so you must feed your soil, i. e., increase the available supply of the elements required by your crops.

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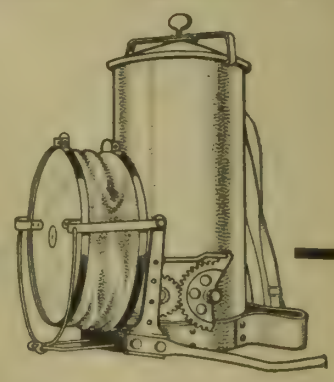

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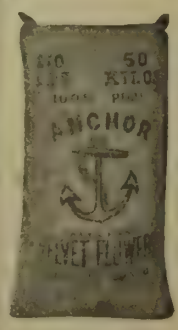

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

STANDARDIZED NURSERY TREES, BOXING, AND TERMS.

At the fifteenth annual meeting of the Pacific Coast Association of Nurserymen, held at Tacoma, July 11-13, 1917, it was unanimously voted that the standard charges for grading, boxing, and baling and the terms of credit be as follows:

That apple, pear, cherry, peach, apricot and almond trees be graded in Grade No. 1, 4-6 ft., Calip. 1-2 in.; No. 2, 3-4 ft., Calip. 3-8 in. Plums and prunes: Grade No. 1, 6-8 ft., Calip. 9-16 in.; No. 2, 4-6 ft., Calip. 1-2 in.; No. 3, 3-4 ft., Calip. 3-8 in. That all 6-8 and 4-6 ft. 1 and 2 year stock be tied 10 in a bundle and all smaller grades in numbers of 25. Smalls, including strawberries, in bundles of 50 each, except in case of extra large stock, which may be tied 25 in a bundle. Two-year and 6-8 ft. stock should be tied with 3 strings. Other grades of trees with 2 strings. Each bundle should be plainly labeled with number, variety and grade. Unless otherwise ordered, all boxes should be paper lined and charges made for same as per schedule, with a discount of 10 per cent if unlined.

Conditions for payment adopted and recommended are as follows: 60 days net; discount of 3 per cent for cash received with order and discount of 2 per cent for cash within 30 days. All bills become due and must be paid by June 1 or interest to accrue from then or any prior date of maturity.

C. A. TONNESON,
Secretary P. C. A. of N. Burton, Wash.

CITRUS FUMIGATION REQUIRED.

Heat has killed some of the citrus scale, but not all of them. Many branches sent to Los Angeles County Horticultural Commissioner William Wood's office have had quite a few live scale among them. Acting Manager E. G. Dezell of the California Fruit Growers' Exchange fears a tendency to let fumigation go on account of the light Navel crop and the reports that scale are dead. A. E. Barnes of the Fruit Growers' Supply Company, however, says that most everybody responded to their circular in January to order cyanide early, remembering the scarcity last year. Many ordered much more than they will need and have begun cancelling parts of their orders. The Supply Company insisted on early deliveries for fear of car shortage later, and the cyanide has been coming already in July. Orders for about 1250 tons have been booked by members of the California Fruit Growers' Exchange. Growers as a whole are thoroughly convinced that it is necessary to keep orchards clean, regardless of light crops.

LATE TOKAY IRRIGATION.

Irrigation of Tokay grapes is often desirable until a few days before they are ripe. Chas. Wells and R. D. Stephens II, both of Sacramento county, have practiced this on their shipping grapes for many years and both say no damage to shipping quality has ever resulted. Mr. Stephens has been giving his a heavy flooding before the river should get below his pump. Mr. Wells is waiting until later, when he will irrigate lightly. He has found that berries do not size up or color so well or so early unless irrigated. He throws two furrows toward each side of each row to prevent crusting, where cultivation afterward would be difficult.

MOIST SOIL MAY WILT TREES.

The proportion of water a soil will give up to plants determines plant growth, other things being equal, says Director J. G. Lipman of the New Jersey Experiment Station. Ten or 15 per cent of water in some soils will allow plants to wilt, while 3 or 4 per cent in other soils will be enough. The roots go after water which surrounds soil particles. But soils with a large proportion of peat permit plants to wilt even with a large proportion of water, which is held so tenaciously by the fine particles that plants can't take it away.

EARLY-SOWN COVER CROPS SUCCEEDED.

Early sown melilotus cover crops in Sacramento county last season did well; but most later-sown crops were failures, not having developed enough before the dry mid-winter. Vetch also failed, except where early sown, according to Farm Adviser Carl Williams, who hopes to make careful tests next winter of melilotus alba and indica, Oregon vetch, fenugreek, rye, etc., in co-operation with ranchers.

LOOSENING PRUNES FROM TRAYS.

In taking prunes from the trays or in turning them over late in a season when they dry slow or after a rain, George A. Fleming of Santa Clara and Tulare counties has found the most convenient tool to be a short-handled toothless rake, made by bending a heavy wire to the required shape. When drying is slow it can be hastened by loosening the fruit with this when it is two-thirds dry.

PEACHES NEED LATE IRRIGATION.

"For three years I got eleven tons of cling peaches per acre from eleven acres every year, but last fall I didn't irrigate after mid-September, and now I have just taken off about seven tons per acre," said F. P. Gage of Sacramento county last November. He irrigated last fall until late September, then disked and laid them by. Without fall moisture they could not develop strong buds.

RED-HEADED CATERPILLARS.

Some of our readers' prune, apple, and other deciduous leaves are being eaten by red-headed caterpillars beautifully striped white, black, and yellow and having a red hump. Spray the leaves about to be eaten with arsenate of lead, about 2 pounds of powder or 4 pounds of paste per 50 gallons of water. Neutral lead arsenate has less danger of burning leaves.

CHERRY DIE BACK.

Cherry trees die back mysteriously to the man who does not dig down at various places in the orchard late in summer to see how dry the roots are. Let's hope a post-hole auger will go through your dry dirt as deep as the roots ought to go.

Your own soil is full of potash now

There is no question about it. Chemical analyses prove it. Experiments with crops prove it. There is enough potash in your ground now to grow all the crops that you will ever plant. The problem is how to free it, how to make it available for the roots. Tillage will free the potash, completed by lime, decaying roots and green manure. Also will free large quantities of natural phosphorus.

The best way to release plant food is to blast the soil with

GIANT FARM POWDERS
STUMPING — AGRICULTURAL

Blasting is tillage, tillage of the most thorough and intensive kind known today, more effective than can be secured in any other way. Blasting followed by proper farm practices will release the potash. It starts in motion the processes that will free the potash and phosphorus in your soil and increase the nitrogen supply.

To get the ideal results in subsoil blasting, use Eureka Stumping Powder—one of the Giant Farm Powders. It has a disruptive, heaving, action—exactly what is needed for breaking up the subsoil or hardpan.

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This book — prepared especially for Pacific Coast farmers—tells how and why blasting provides drainage, gives increased moisture storage capacity, and FREES PLANT FOODS. We will send you a copy on request. Other valuable books—on Stump Blasting, Boulder Blasting, Tree Planting and Ditch Blasting—are also sent free. Mark in the coupon the books that you prefer. Mail it *today*.

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are in big demand at big pay—20,000 skilled engineers and Auto Machinists wanted right now in California alone —Big jobs—big pay—big future in the Automobile and Engineering lines—Get ready—What do you want to be? Day School or go to Night School—

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—Mechanical Engineer
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—Auto Ignition Expert
—Marine Engineer
—Structural Engineer
—Auto Truckman
—Industrial Chemist
—Chemist
—Gas Engineer
—Lathe Hand
—Radio (Wireless) Operator
—Electrical Engineer
—Mechanical Draftsman
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Check the course in which you are interested, cut out this ad, sign and mail to-day. Full information will come in the next mail. Or pay this big school a visit on any business day or on Mon., Wed. or Friday evening. See for yourself.

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1220 Post St., S. F.

Monterey Sugar Beet Harvesting

[Written for Pacific Rural Press.]

Sugar beet harvest in Salinas Valley begins about mid-August, when beets from the early fields test up to 18 per cent sugar in the factory laboratories, according to Assistant Agricultural Superintendent G. T. Scott of the Spreckels Sugar Company. He points out that 14 per cent is considered good in Michigan, while 22 per cent is often obtained here. The contract price this year is $5.25 per ton for 15 per cent beets and 35 cents per ton additional for each additional per cent of sugar. This makes 20 per cent beets bring $7 this year as against $6.50 last year.

There are some 15,000 acres of sugar beets in the Salinas district tributary to the factory, and beets have been shipped in from as far away as the Manteca district, San Jose, Pleasanton, and King City. All of the acreage is contracted before planting and the company furnishes the seed. According to Mr. Scott, 90 to 95 per cent of beet growers are either American citizens or capable of becoming so. Orientals do most of the hand labor, white folks the rest. About 10,000 acres in the Salinas district are operated by the company or leased to tenants. Another official of the company estimates that about 200 private outside growers are producing the rest.

INSECTS AND DISEASES.

There is only one serious sugar beet insect, and its accompanying disease is the only serious one of several that affect the plants. Dr. E. Carsner and C. F. Stahl of the U. S. Department of Agriculture, have offices at the factory, having been specially detailed about three years ago to study beet-leaf hoppers and the disease called "curly leaf", which seems to be the result of some disorder in the beet due to hoppers sucking the juices of the tops. The theory is that the insects inoculate beet leaves with a germ, causing the disease. However, only this insect can do it and all attempts at artificial inoculation have failed. All known methods of controlling beet leaf hoppers have been tried and failed. Contact insecticides do not get inside their wing covers. The life history is known, but has not suggested means of control. As Mr. Stahl says, however, the problem is not to control, but to exterminate, the hoppers. Resistant varieties of beets, parasites for extermination of the insects, and other remedies are being tried out. The disease causes a distorted swelling of veins in leaves, the veins having nipple-like swellings. It shows on the under surface only, and usually curls the edges especially on the tips. Affected leaves may have older unaffected leaves outside of them and healthy new growth in the center. These partially diseased plants usually recover. Affected beets are the sweetest. The hoppers and curly top come in epidemics, no particular trouble having been experienced in Salinas Valley since 1914. First hoppers are usually noticed about the time beets are thinned in June.

HARVESTING.

The longest growing season makes the sweetest beets, as a rule, but the earliest beets are usually dug before September. The last ones are dug in December. There is no danger of frost, but rain makes it hard to get on the fields, and mud sticks to the beets. If they start a second growth they lose sugar.

Small farmers use horse-drawn "beet lifters," using six horses on one row at a time on heavy soil, or eight horses on a two-row digger on lighter soils. The company has several tractor outfits for two rows at a time. These tractors have two front wheels and the track plates are taken off. One new two-row digger, noted by the writer, is really a subsoiler with blades spreading V-shaped backward. It works as deep as 24 inches and is to be drawn by a 45 horsepower tractor. Bent straps on the rear edges of the blades lift the beets to loosen dirt around them. Tops are cut off by Orientals and left in piles in the field for stock feed.

CLIMATE AND SOILS.

The upper part of the Valley normally has ten inches of rainfall, while the lower part has fifteen inches. Last winter it was nearly normal in the upper end, but only half normal on the flats. Some irrigation is practiced, but the main dependence is on deep plowing to reservoir winter rains for summer use. There is a great deal of fog, often high enough to obscure the sun part of the day, but not resting on the earth. Temperature seldom gets up to 90 in summer and the nights are usually below 50. In winter it rarely goes below freezing.

Beets grow where the ground is fairly white with alkali, making a multitude of surface roots, but do not grow at all where soil is black with alkali. They do well on most all kinds of soil, except heaviest adobe, but yield better tonnage on river sediment, according to Mr. Scott. Chapman Foster, a pioneer and now one of the largest private beet growers, prefers black loam to sediment, because the sediment gives great size with less sugar. A three-pound beet is preferred, with the highest percentage of sugar possible. Never over three consecutive crops are grown on the same land.

SAN BENITO HAY QUALITY.

[Written for Pacific Rural Press.]

"Hollister ships one-fifth of the State's supply of hay, which is more than any other shipping point in California," says R. P. Lathrop, manager of the Lathrop Hay Co., whose warehouses are claimed to have the largest capacity of any in the world, 19,500 tons.

"Why is San Benito county hay considered about the best that California produces?" we asked.

"Because it is quickly suncured in the absence of fog," said Mr. Lathrop. "Where grain hay gets damp with fog and must lie in the sun several days, it wilts and gets tough. You can tie it in a knot without breaking it. Very much of its sugar has turned to acid and lost that much value. Stock do not like it so well.

In San Benito county hay cut in the morning will generally be dry enough to rattle in the afternoon; then it retains its sweetness.

Sudan grass is becoming an important crop in Imperial county. A. M. Nelson, secretary of the Imperial County Farm Bureau, says Sudan grass will not compete with alfalfa on soil known as "alfalfa land," but will supplement it on other soils.

NEW YORK TO SEED 1,000,000 ACRES TO WHEAT.

Under the auspices of the New York State Agricultural Society, a movement has been started to have one million acres seeded to wheat the coming fall. The average production per acre in that State is 20.2 bushels, and with an average crop next year the one million acres should produce enough to feed its inhabitants. This year the acreage was 430,000, producing about nine million bushels. Credit to reliable farmers is being arranged, that they can secure good seed and plenty of fertilizers; also a county wheat superintendent will be employed to aid in producing the maximum yield.

Enlist for Business

It devolves upon the young women of the nation to take the places of the young men who will shortly leave for service in the military establishment of the nation.

To render efficient service in business life these young women need an intensive training in business methods and business practice.

Enlist for business by enrolling at Heald's.
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The young women can give equal service in the ranks of business.

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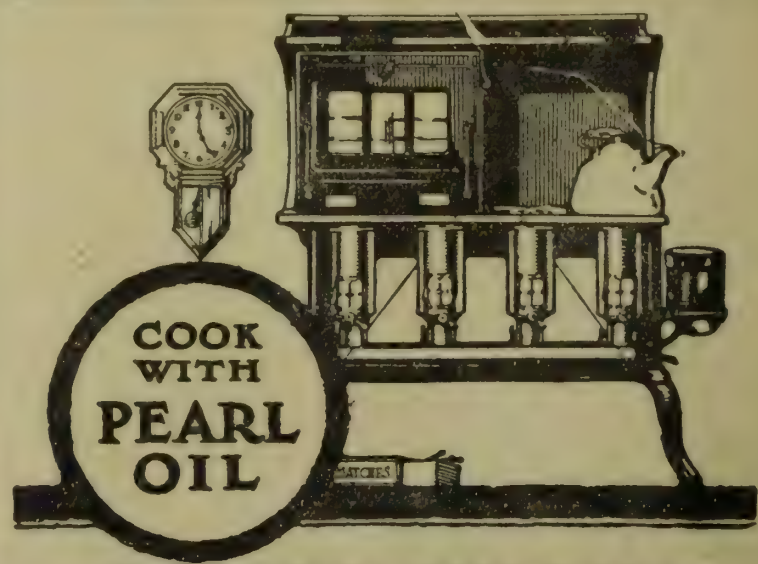

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All the convenience of gas. No waiting for the fire to burn up. Meals in a jiffy, and a cool kitchen all the time.
Bakes, broils, roasts, toasts. Better cooking because of the steady, evenly-distributed heat. More convenient than a wood or coal stove for all the year 'round cooking—and more economical.
The long blue chimneys prevent all smoke and smell. In 1, 2, 3 and 4 burner sizes, with or without ovens. Also cabinet models. Ask your dealer today.

NEW PERFECTION OIL COOK-STOVE

STANDARD OIL COMPANY
(California)

Field and Garden Suggestions

[Written for Pacific Rural Press.]

BUY YOUR WINTER SUPPLY OF GRAIN SOON.

Have you been studying the markets in the daily papers? If not, do so; they are of more interest than the murder trials or the sporting page. It matters but little to the poultrymen or farmers who won the last baseball series, but it does concern us when wheat or barley jumps ten or twenty cents per hundred. Of course, we cannot always hit it, but as a rule grain is cheaper at harvest than any other time. We urge upon all poultrymen again to co-operate and buy your grain supply now. All grains will be high this coming year. The large dealers have contracted for immense quantities of wheat and barley at a good, stiff figure, which means a rise in price as soon as all grains are in the dealers' hands. The exports, too, this coming year will be large. This will cause a rise in price.

MULCH PREVENTED SURFACE ALKALI.

Where straw was bunched on grain land bad with alkali two years ago, A. B. Brooks of Kings county observed that the grain next season stood three feet tall, while it averaged 18 inches elsewhere. The mulch prevented baking and also the capillary rise of water impregnated with alkali which was left at the surface of most of the field when the water evaporated. A well-kept dust mulch through summer and fall should work as well.

SMALL COMBINED HARVESTERS.

Little combined harvesters have appeared this year on the smaller grain farms, notably in Solano and San Luis Obispo counties. They work fine on level ground, but are built so light that they rack badly on rough hills. They cannot be leveled, which is inconvenient for workmen and threshed grain. They average ten acres a day if kept going.

PLANTING SPROUTED POTATOES.

It takes a couple of weeks for potatoes to sprout after the first sprouts have been broken off. If planted soon after sprouting, many of the pieces will rot, especially if given too much moisture. Better keep sprouted potatoes unplanted until new sprouts just begin to appear. Then they will come all right if not planted too deeply nor allowed to dry out.

ALFALFA WATERED TWICE PER CUTTING.

Many alfalfa fields do not make all the growth they should because in a month of hot weather they not only need more water than many of them get, but they also waste considerable by the ground baking shortly after the cutting. Two irrigations per cutting, using the same total water, have been found much better by many growers.

LETTUCE PREPARATION BEGINS.

August is the month to begin preparations for Imperial Valley lettuce, according to R. Malan, whose four acres of sandy loam produced one of the biggest crops of biggest heads last year. He floods thoroughly in August and plows around the piece to avoid dead furrows. Eight inches deep and every bit turned, is his practice.

MELON WORKERS FOR CORN AND BEANS.

Corn and bean harvest begins about September 1, when cantaloupes finish. There are 25,000 to 30,000 acres of beans and over 13,000 acres of Egyptian corn in the Modesto-Turlock district which will be competing for labor. Help may be engaged from the melon fields.

FERTILITY CLAUSE IN LEASE.

"We have been robbing the soil by a system of tenantry where tenants get all they can each year," says Peter Cook of Solano county. "We must correct this by inserting provisions in the leases. Legumes and livestock must replace the fertility."

PAINTS PRUNING WOUNDS.

It is very important to make pruning cuts very close, leaving no stubs; and cover the wounds with something that will keep out rain and fungi. F. R. Irwin of Butte county uses a hot mixture of one part each of beeswax, rosin, and paraffine.

SUDAN SIX FEET IN JULY.

"I think more of my Sudan grass than any other forage crop," said J. N. Enlow of Tulare county, July 12. "It was scarcely cultivated at all, but is over six feet tall now and thick with succulent leaves. The chickens revel in it and all stock like it."

KEEP OFF TOMATO VINES.

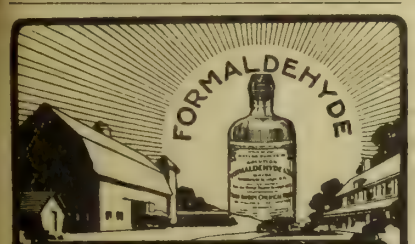
In tomato picking a little effort to keep off the crowns of plants will enlarge the crop and make it of better quality. It is possible to reach from between the rows where plants have been trained to keep the rows slightly apart.

STRAW OVER BARLEY PILES.

We have seen many piles of sacked barley in the fields sunburning high-priced sacks when there was enough straw within 100 yards to amply protect them.

BLACK STREAKS IN POTATOES.

Where potatoes are left in ground that gets dry, hard, and hot, they develop dark streaks which make them unmarketable. Dig summer potatoes as soon as they are mature.



Successful Crops

You may be certain of big profitable crops if you adopt the most up-to-date method of seed grain treatment as recommended by the U. S. Dept. of Agriculture—

FORMALDEHYDE
The Farmer's Friend

This powerful disinfectant destroys grain smuts, rust and fungus growth. It prevents flax wilt, also scab and black-leg diseases of potatoes. It rids stables and chicken houses of disease germs and flies. Formaldehyde is surely a great boon to the farmer. Our Formaldehyde at your dealer, 35 cents in pint bottles will treat 40 bushels of seed. Big illustrated Hand Book sent on request—free.

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Specialists in Specimen Stock for Landscape Work.
Hardy Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.
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Seed for Cover Crops

VETCH
BUR CLOVER
and
MELILOTUS INDICA (Yellow Sour Clover)
MELILOTUS ALBA (White Sweet Clover)

Our Sweet and Sour Clovers are scarified, insuring high germination.

Write for prices.

ALFALFA SEED
New Crop. Extra Fancy.
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Valley Seed Company
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Save the Dollars

Punctures Cost You!

Get ready NOW to make PERMANENT, LASTING tire and tube REPAIRS along the road or wherever you are. Don't waste another cent on make-shift repairs—on cementless patches that are sure to slip just when you need them most. Weld patches over punctures—WELD new, live rubber into your casings—SAVE heaps of time and money with

SR. $2 MARVEL VULCANIZERS JR. $1

MARVEL JR. VULCANIZER will save you 90c out of every $1.00 puncture repairs cost. No gas or alcohol is used. Chemicalized discs furnish exactly the right heat to WELD patches over punctures that will outlast the tube itself. Less than five minutes for whole operation. More than 500,000 MARVEL JUNIORS already sold. Buy yours today. Repair first three punctures you get. If not absolutely satisfied, return outfit and get your money back.

DOUBLE YOUR TIRE MILEAGE WITH MARVEL SR. VULCANIZER—WELD new live rubber into tread cuts, sand blisters, nail holes and other injuries. Save $1.00 to $2.00 on every tire repair. Mend tube blowouts good as new. Outfits furnished with material for large number of repairs. Buy from your dealer today or pin a $2.00 bill to the coupon and mail it now.

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According to your money-back guarantee send me one Marvel Jr. Vulcanizer outfit, all charges prepaid. I enclose $1.00 herewith. ($2.00 for Marvel Sr. Vulcanizer Outfit.)
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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

DEERING COMBINED HARVESTER PLEASES OWNER.

[Written for Pacific Rural Press.]

This new small type of harvester put on the market recently by the I. N. H. Co. is surely a success, according to Mr. Fred L. Morrison, of Lake county. Having had a lot of experience himself in the running of harvesters, and with his parents before him in this part of the county, he has found that headers not only waste a lot of grain, but are too expensive for a medium-size ranch.

These are the chief reasons why Mr. Morrison bought it. Mr. Morrison runs his harvester with a 30 horsepower Best tractor. The running expenses are $2.50 a day for fuel. The outfit is run by Mr. Morrison himself, with the assistance of two men only. He can cut 18 to 20 acres a day. He saves at least a sack and a half to each acre of grain. He is cutting about 400 acres for himself this season, besides 100 acres for his neighbors. The cost of the harvester is $1100, and it will almost pay for itself this season. That we need more of this type of harvester put in use is acknowledged by the dozens of visitors, who stop to ask questions from Mr. Morrison every day. It surely is a labor saver.

THE FAGEOL TRACTOR.

Here is a tractor that grew on a California farm. It was invented by Rus L. Hamilton, a Sonoma county farmer. He demonstrated it at the last Fruit Growers' Convention at Napa and published a description of it at that time.

It has been named the Fageol tractor, and is being manufactured by the Fageol Motors Company, who are just completing their new factory at Elmhurst. The tractor is at the big Fremont, Nebraska, demonstration now being held. Cleve T. Shaffer, formerly manager of the tractor department of Hughson & Merton, is now with the Fageol Motor Co., and left for Fremont last week.

The Fageol Tractor

GAS-DRIVEN STATIONARY GRAIN THRESHER.

For small grain fields a combined harvester is scarcely available for several reasons, and perhaps a stationary thresher saves more of the grain anyway. Such a one is owned by R. I. Murphy of Sacramento county and was seen threshing a 20-acre field of barley for H. L. & E. H. Murphy of the same county. It turned out about 400 sacks from 20 acres, for which the Murphys were offered $2.25 in the field. Its capacity is about 250 sacks per day of eleven hours, though it wasn't doing that when seen, because of moisture and green weeds in the grain. This hard threshing is what taxed the 5 horsepower engine to the limit and required judicious feeding by the man who cut the strings of the bundles. It made slow work all around and caused Mr. Murphy to say that the engine should have at least 7 horsepower to make it run steadier, with less vibration, and enable faster feeding.

The separator is hauled from place to place by one team, while the engine on a wagon truck is hauled by another. It takes about an hour to set it for threshing. The engine truck is located so the belt wheel lines up with the thresher belt wheel. The truck wheels are blocked and 3 x 4 braces to stakes in the ground are set against each corner of the frame to prevent endwise movement. A 2 x 3 against the outsides of each pair of wheels from near the bottom of the front one to near the top of the rear one is held tight by four bolts which hook over the wheel flanges. The same arrangement holds the separator wheels. A 4 x 4 timber square from the center of the separator truck to the engine truck still further resists the tendency of the engine to pull toward the separator and loosen the belt.

TRACTOR MAKES FIRE GUARD.

[Written for Pacific Rural Press.]

Danger of summer fires in the grain fields and cattle ranges of the Cammatta Ranch in San Luis Obispo county is minimized in a wholesale way by tractor power. Sixty-five or seventy miles of fire trails are plowed and scraped clear of burnable material at convenient intervals. A road grader is chained by a short tongue to the rear of a six-disk gang plow, so it scrapes a swath three to five feet wide beside the six 10-inch furrows turned by the plows. It would take a heavy wind and a sparky fire to jump this. A 60 horsepower tractor pulls the outfit before the granite soil dries out. The grader holds the rear end of the disk gang from swinging around.

SEPTEMBER 18 to 22

The Second Annual

TRACTOR DEMONSTRATION

Held by the

TRACTION ENGINE & IMPLEMENT DEALERS' ASSOCIATION OF SOUTHERN CALIFORNIA

on the

VAIL RANCH

Located about seven miles east of Los Angeles and two miles from end of Stephenson avenue car line—auto busses from car line direct to the grounds.

This will be a practical demonstration of Farm Tractors and Farming Tools for every farm operation. You will have an opportunity to learn HOW and WHY tractors make farming more profitable. The duty of every American farmer today—to do his share toward reducing the high cost of living, and to do that you must cut the cost of production. This demonstration will show you how.

Watch for future announcements of this BIG EVENT. Plan to be with us on these dates: September 18, 19, 20, 21, 22, inclusive.

Special Rates on All Railroads

of ONE AND ONE-THIRD FARE FOR THE ROUND TRIP, have been allowed from all points in California, Arizona, and Nevada.

Traction Engine & Implement Dealers' Association of Southern California

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SOOTLESS PLUGS—with their MICA insulation—are rapidly replacing "stone" and "porcelain" plugs on the farm.

For no other insulation so successfully withstands the destructive effects of high Speed, Power, and Heat on engines, tractors, and cars.

Long after other insulations have succumbed to the terrific strains—SOOTLESS Multi-Wound MICA will still be on the job. Conserving every bit of the current—and insuring a fat hot spark.

Sold by Dealers and Jobbers in most every city. If your Dealer can't supply you—write us direct.

The Oakes & Dow Company
23 Chardon Street
BOSTON, MASS.

FIFTY-SIX MILES PER GALLON.

"Our sales have shown a material increase since the holding of our successful economy run here July 13," said G. A. Boyer of the John F. McLain Company, Franklin motor car distributors. "The number of inquiries that we have received relative to the test is really remarkable. People find it hard to realize that the car entered by us secured 55.9 miles to the gallon and that this was not made by coasting, but over and back the same route with special observers to check on the accuracy of every detail and the exactness of the result.

"The final summary of results of the trip was received from the factory last week. Franklin dealers, 179 in number, in all parts of the country, secured a grand average of 40.3 miles on a gallon of gasoline. The highest mark in the thrift day run was made by the New Haven, Conn., dealer, who secured 82.8 miles on one gallon of gasoline."

THE GREAT ANNUAL TRACTOR DEMONSTRATION.

[Written for Pacific Rural Press.]

Keep in mind the annual demonstration of tractors and farm implements that is being conducted under the auspices of the Traction Engine & Implement Dealers Association of Southern California, which will be held at Los Angeles from September 18th to September 22nd, inclusive.

There is probably no farmer who does not realize that tractor farming means better farming, done more easily and cheaply than ever before. It means deeper plowing, and about ten times as much more accomplished in the same length of time as when horses are used. The visitor to the demonstration will find much besides the tractors and implements to interest him. There is to be an exhibit of automobiles, motor trucks and accessories, electrical appliances and motors, house furnishings, food products, which will be demonstrated daily, besides exhibits from the most prominent oil companies.

There will be an excellent cafe on the grounds, and rest rooms for women and children.

BEAN CROP AND MARKET CONDITIONS FINE FOR GROWERS.

(Continued from page 1.)

amount to about 5 cents on the burlap for each bag, where it used to be ¼ cent. The scarcity, however, especially of 100-pound bags, may be expected to raise the price to growers who must yet buy them; and the sooner wants are filled, the less expensive they are likely to be.

HARVESTING DIFFICULTIES.

Money to finance bean harvest will not be lacking, on account of the strong market prospects. In Turlock alone, $250,000 is all ready for this purpose.

Labor will be the crying need, for cultivating as well as harvesting, especially for later-planted varieties and districts where quick handling after maturity will be imperative to avoid the rains, which will then be due.

Besides the usual sled harvesters and stationary special bean or adapted grain threshers, there are at least two makes of combined bean harvesters on the market which pick up the vines from the winrows, thresh, sack, and dump the beans. One of them is especially built for beans, while the other is a combined grain harvester which is adapted to beans by changes in cylinder and screens, and by the addition of a pickup attachment.

BELTS

for farm machinery of every description

The service of our experienced engineers will be of great value and costs you nothing. Tell us of your belting needs and troubles.

Send for the catalog, department B-8.

New York Belting & Packing Co.

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Send me samples of Belting that you will guarantee to give satisfactory service on my work and quote prices delivered at

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Horse Power	Diameter in Inches
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My dealer's name.....

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A pocket memo. booklet giving speed and power tables will be sent FREE to all who mail this coupon.

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is required with the

KROGH DEEP WELL TURBINE PUMPS

For bored or drilled wells from 10-inch inside diameter up; and for capacities of 250 gallons per minute up to 3000 gallons per minute. Built for pumping from any depth to and including 250 feet. They are absolutely water balanced and are self-aligning. More water can be obtained from such wells than with any other type. Built in belted or direct motor driven types. If interested, write for Bulletin.

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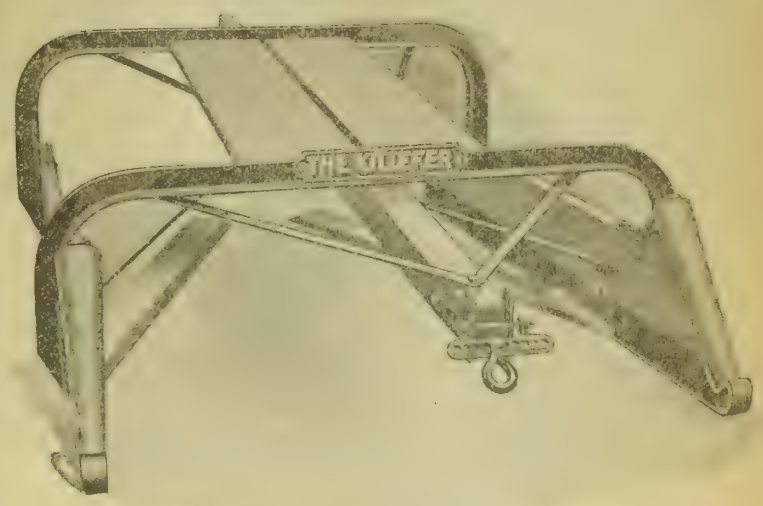
KILLEFER QUALITY

BEAN CUTTER

KILLEFER EFFICIENCY

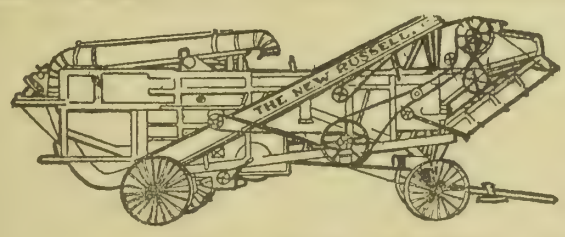


Bean cutters should be ordered as early as possible this year, as the acreage planted is double that of any previous year and there is a shortage in the proper grade of steel for their manufacture. Our Cutters are very strongly built and well ironed with 6-foot cutting blades. Rollers can be attached in front of the runners in extremely heavy vines.

Don't delay; get your orders to your dealers as soon as possible.

The Killefer Manufacturing Co.

2209-21 SANTA FE AVE. BOX 156 ARCADE P. O. LOS ANGELES, CAL.



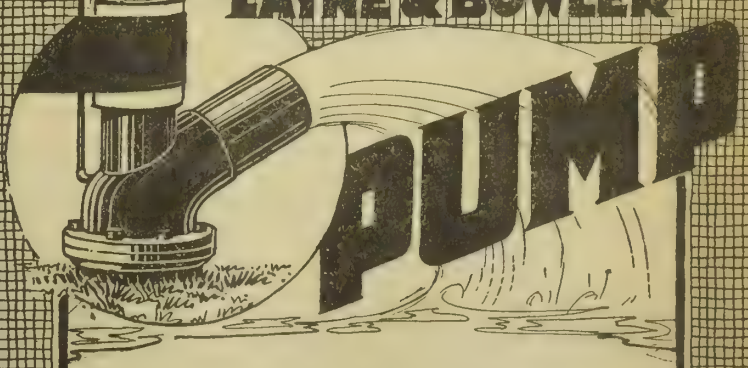
RUSSELL 2-cylinder THRESHER

Guaranteed to thresh both Beans and Grain

Built specially for California work

A. H. Averill Machinery Co., San Jose

LAYNE & BOWLER



A PROTECTION

The high price of foodstuffs and labor emphasizes the fact that a dependable water supply is absolutely essential on every up-to-date ranch. You can have plenty of water at a minute's notice the year 'round by installing one of the celebrated Layne & Bowler Pumps.

BUILT TO MEET EVERY REQUIREMENT.

There is a style and size to meet your particular requirements. No pit, no complicated machinery. Simplest pumps on market. Lowest power consumption. We can install your entire water system if desired, or pump only. Ask for Catalog No. 25.

Layne & Bowler Corporation

900 Santa Fe Ave. Los Angeles

General Agricultural Review

Field Crops.

The Clear Lake Cannery started its run for the season last week.

Pink beans at Turlock were worth 8 cents August 9, but no sales are being made.

The Anaheim Sugar Factory has started up and is running almost to full capacity.

Wheat is selling at $3 in the field, barley at $2.25 in the field, in Lake county this year.

The American Beet Sugar Factory at Chino has opened and is employing about 400 men.

It is claimed that an Armenian melon trust now controls the market in the Turlock district.

The section below Castroville has the reputation of raising the finest seed peas in the country.

It is estimated that grain to the amount of 35,000 tons was raised in the Dixon section this year.

A State-wide co-operative marketing organization for the bean growers of California is being agitated.

The Lima bean crop in El Toro and Irvine sections in Orange county are said to be coming along rapidly.

Turlock melon growers are feeling fine, due to good average yield per acre and prices better than ever before.

A shipment of 78,484 pounds of cotton left Pernambuco, Brazil, in June for New York, being an unusual occurrence.

Most of the grain leaving the San Joaquin and Sacramento Valleys for export is going to New Orleans and there transferred to sea-going vessels for England.

The sugar-beet factory at Oxnard has started up. Harvesting of beets in the San Fernando Valley commenced last week. Labor supply seems adequate.

A new sugar factory at Manteca, being built by the Spreckels Sugar Company, is to handle part of the Manteca beet crop this year, and all of it next year.

Bean acreage around Oakdale very heavy, but part was on too dry land and will make but poor tonnage. Balance of acreage will be good average.

Statistics on the estimated crops of hops on the Pacific Coast give California 85,000 bales, Washington 27,000 bales, and Oregon from 45,000 to 50,000 bales.

Stanislaus county grain is 25 per cent better than expected early in the season, according to A. H. Turner of the Grange Company. Hay is short, but sorghums a good crop.

At a meeting of the California Lima Bean Growers' Association, held at Oxnard last week, it was decided not to enter the market with this year's beans until in September.

The Winters Canning Company is building a two-story addition to the cannery at Suisun and will install $15,000 worth of machinery for manufacturing concentrated tomato pulp.

The Sperry Flour Company is again in the market for wheat, and stimulated by good prices, there are liberal offerings and many sales of both wheat and barley being made along the front.

After taking off an enormous crop of peas, enough to fill a million cans, from 350 acres in the Oakdale Irrigation district, the Pacific Pea Packing Company planted a second crop, this time lima beans.

The shipping tomato season is now open, and it promises to be a good one. The California Vegetable Union of Los Angeles says the tomato crop of Southern California promises well in quantity and quality.

The first bale of short staple cotton of this year was bid for at Yuma, Arizona, last week at 40 cents per pound, but refused by the grower, who took it back to his farm. Last year's first bale brought $100.

Almond tree owners are urged to spray their trees where beans are planted. The trees in some counties are literally covered with the red spider pest, which are spread over the beans by the wind, it is reported.

Compromising their differences at 2½c per hour increase instead of 5 cents per hour, or the 10 per cent bonus, the beet employees of the San Joaquin Valley Sugar Company have signed the decision to accept the raise.

On the old Pasadena municipal farm a highly specialized potato crop is being grown. Fifty acres have been planted to White Rose seed potatoes. W. S. McSweeny of El Monte, a potato expert, and experts from the State Agricultural College are co-operating in the enterprise. Every scientific precaution has been taken to produce the highest grade of potatoes.

Deciduous Fruits and Nuts.

Esparto has begun the almond harvest, and expects a good crop.

The apple crop in Tasmania for the present season was the smallest in recent years.

H. E. Black, Geyserville, is building a prune dipper for his first crop of prunes. He has 25 acres.

C. B. Morrison of Arbuckle estimates this year's almond crop to be more than 75 per cent larger than last year's crop.

H. H. Dopkins of Yolo county has 155 acres of three-year old almond trees which he estimates will yield 2½ pounds per tree.

Almond crop in the eastern portion of the irrigated section of Stanislaus county will be unusually heavy. Crop now ripening.

The Hemet Co-operative Cannery last week shipped five cars of canned apricots to Kansas City. The fruit is selling at from $1.55 to $2 per dozen.

Applications for farm loans are pouring into the Federal land banks at the rate of more than $1,000,000 a day, the Federal Farm Loan Board has announced.

B. E. Crouch has harvested 66,000 sacks of wheat this year on his ranch near Chico. This is probably the largest crop of wheat ever harvested from one ranch.

High prices were paid California fruit growers for their product this season. In some instances as much as $70 per ton was paid for apricots and $35 to $40 for peaches.

The Earl Fruit Company in Visalia is swamped with both orders and green fruit to fill them with. The season is a good one and good money is made by both packers and growers.

The British have sent an order to Pomona for selective fruit for the officers' mess of the army in Egypt. The order calls for 14,000 cases of canned apricots, the price to be $50,000 f. o. b. Pomona.

The fruit men of the Anderson Valley are posting up large notices to the effect that prune pickers are wanted to harvest the large prune crop this season. A picker can earn from $4 to $5 a day, it is claimed.

The Pomona canneries have just sold four cars of apricot pits for $25 per ton. They were shipped to Santa Clara, where oil will be extracted from them. Formerly the apricot pits were exported to Germany.

The steamer Walmarino of the Union Steamship Company of Australia brought 180 tons of Australian flour to San Francisco from Sydney, Australia, August 2. It is believed by shipping men to be the first time in history flour was brought from Australia to the United States.

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American Automobile Co.
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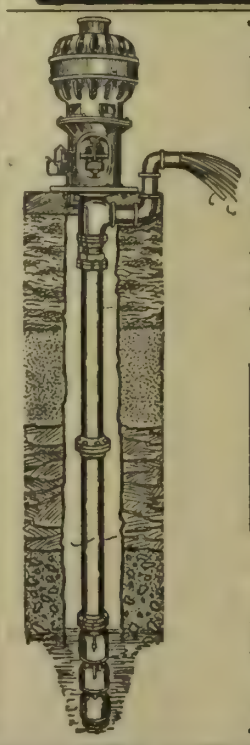

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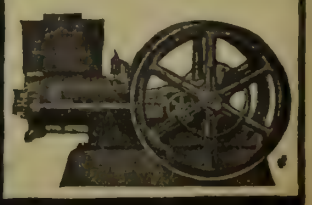


Picking of pears has started around Ukiah. Due to drought, the pears are hanging so loose on the trees that when you touch a limb they fall to the ground. Some farmers figure on hauling in some straw, so as to partly save those falling.

Citrus and Semi-Tropical.

The death of Arthur R. C. Hungerford, a prominent orange grower of Upland, is announced; age, 61 years.

The Lindsay Ripe Olive Company has leased its olive processing plant for a period of three years to A. K. Thanos & Company of San Francisco.

It is announced from Porterville that work has started on the first fire-proof packing house in the district, for the Tulare County Lemon and Grapefruit Association.

H. W. Williamson of Claremont, who has pruned a number of orange groves in his district, says that the orange crop was not entirely ruined by the heat wave in June. When he gets inside of the trees he finds a number of oranges.

W. J. Devenport, representative of the Bureau of Labor in El Centro, last week announced that 17,000 to 18,000 Mexicans are available at Nogales, and that he is waiting authorization of the county council of defense to bring them in to relieve the labor shortage in the Imperial Valley.

Grapes.

Tokay grape season at Lodi promises a hundred per cent crop.

California seedless raisins are to be included in the ration lists of the United States soldiers and sailors.

The yield of Thompson seedless grapes in the Dinuba section is expected to run 120 per cent of normal.

According to Southern Pacific Company officials, 11,000 cars of grapes will be shipped from California this year.

According to reports from grape growers, the outlook for a big crop of raisins this year is encouraging. The picking season is expected to open the latter part of this month or early in September.

Word comes from Tulare that vineyard labor is the highest paid this year of any season in the history of the grape industry. The crop is one of the heaviest known and at three cents a tray good pickers are now earning $9 and $10 per day.

Miscellaneous.

A white ground squirrel was killed near Lindsay recently.

The Placer County Fair is to be held from September 4 to 6, inclusive.

NATIONAL WHEAT BUYING AND PRICE FIXING.

With the approval of President Wilson the food administration announced on Wednesday the formation of a corporation to take over control of the country's grain supply. The following executive officers have been named: Herbert Hoover, chairman; Julius Barnes, Duluth, Minn., president; Gates W. McGarrah, New York, treasurer; F. G. Crowell, Kansas City, vice-president; Edward Chambers, Chicago, transportation director; Curtis H. Lindley, San Francisco, counsel; J. W. Shorthill, York, Neb., secretary.

The personnel of the wheat price-fixing commission was announced as follows: Henry A. Garfield, president of Williams College, chairman; Charles J. Barrett, Union City, Ga., president of the Farmers' Union; William D. Doak, Roanoke, Va., vice-president of the Brotherhood of Railroad Trainmen; Eugene E. Funk, Bloomington, Ill., president of the National Corn Association; Edward F. Ladd, Fargo, N. D., president of the North Dakota Agricultural College; R. Goodwyn Rhett, Charleston, S. C., president of the Chamber of Commerce of the United States; J. W. Shorthill, York, Neb., secretary of the National Council of Farmers' Co-operative Associations; James W. Sullivan, Brooklyn, N. Y., of the American Federation of Labor; L. J. Tabor, Burnsville, O., master of the Ohio State Grange.

GOVERNMENT CROP REPORT FOR AUGUST.

Washington, D. C., Aug. 8, 1917.

A summary of the August crop report for the State of California, as compiled by the Bureau of Crop Estimates (and transmitted through the Weather Bureau), U. S. Department of Agriculture, is as follows:

Corn—August 1 forecast, 2,580,000 bushels; production last year (December estimate), 2,048,000 bushels.

All Wheat—August 1 forecast, 6,530,000 bushels; production last year (December estimate), 5,600,000 bushels.

Oats—August 1 forecast, 7,010,000 bushels; production last year (December estimate), 6,500,000 bushels.

Barley—August 1 forecast, 38,400,000 bushels; production last year (December estimate), 33,320,000 bushels.

Rice—August 1 forecast, 5,120,000 bushels; production last year (December estimate), 3,263,000 bushels.

Potatoes—August 1 forecast, 13,400,000 bushels; production last year (December estimate), 10,575,000 bushels.

Sweet Potatoes — August 1 forecast, 949,000 bushels; production last year (December estimate), 960,000 bushels.

All Hay—August 1 forecast, 4,900,000 tons; production last year (December estimate), 4,615,000 tons.

Apples (Agricultural Crop)—August 1 forecast, 1,840,000 barrels of 3 bushels; production last year (December estimate), 1,918,000 barrels.

Peaches—August 1 forecast, 10,080,000 bushels; production last year (December estimate), 8,808,000 bushels.

Cotton—July 25 forecast, 57,000 bales; production last year (Census), 43,620 bales.

Beans—August 1 forecast, 6,480,000 bushels; production last year (December estimate), 4,175,000 bushels.

Sugar Beets—August 1 condition, 90, compared with the ten-year average of 90.

Oranges—August 1 condition, 45, compared with the ten-year average of 87.

Lemons—August 1 condition, 55, compared with the ten-year average of 87.

Apricots—Production, percentage of full crop, 70, compared with the six-year average of 72.

Prunes—August 1 condition, 95, compared with the six-year average of 76.

Almonds—August 1 condition, 64, compared with the six-year average of 75.

Olives—August 1 condition, 67, compared with the six-year average of 83.

Walnuts—August 1 condition, 80, compared with the six-year average of 83.

Hops—August 1 condition, 95, compared with the ten-year average of 91.

PRICES.

The first price given below is the average on August 1 this year, and the second the average on August 1 last year.

State—Wheat, 205 and 96 cents per bushel. Corn, 173 and 92. Oats, 74 and 50. Potatoes, 128 and 140. Hay, $15.50 and $12 per ton. Eggs, 34 and 26 cents per dozen.

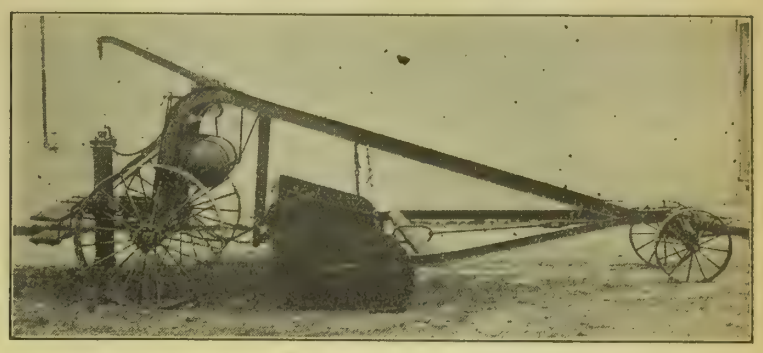
United States—Wheat, 228.9 and 107.1 cents per bushel. Corn, 196.6 and 79.4 cents. Oats, 73.7 and 40.1 cents. Potatoes, 170.8 and 95.4 cents. Hay, $13.42 and $10.68 per ton. Cotton, 34.3 and 12.6 cents per pound. Eggs, 29.8 and 20.7 cents per dozen.

The Butte county Japanese are to exhibit rice at the State Fair. T. Terado, president of the local Japanese association and an extensive rice grower, will have a large rice exhibit, showing numerous varieties of rice and how it is grown. He plans to have a miniature rice field. Y. Duyetriro, a Japanese of Gridley, will have the miniature rice mill which was shown last year again in operation.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler of the "Giant" Type

Will Work Wonders on Your Farm



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WE SEND THEM ON THREE DAYS' TRIAL

So extremely simple, a child could operate one as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

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Manufacturers of

Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; Martin Farm Ditcher and Road Grader, and Schmeiser Portable Automatic Hay Derricks.

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will provide you funds at 5%

for this modern farming aid. Make application NOW to your nearest branch bank. EQUIP YOUR FARM with the Plowing Power you will need when the Fall Work Rush Begins. WORK DAY AND NIGHT WITH A

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POWERFUL - - RELIABLE - - STURDY

Two Models, R-12 and S-25

Full information on Request. Write Today. Ask us to send you our Tractor-Farming Magazine, "Samson Siftings," and latest catalogue. A postal will serve.

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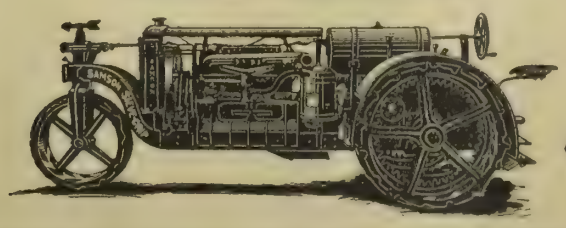

MANURE Sheep Manure, Horse Manure, Cow Manure and Rotted Manure

CALL OR WRITE

PACIFIC MANURE AND FERTILIZER CO.

429 DAVIS STREET, SAN FRANCISCO

Dairymen Entitled to Markets

[Written for Pacific Rural Press by H. S. Edwards, Princeton.]

If you must saw a limb from the tree, saw off one that you are not standing on—take one that is useless or dead. There are a few of them in the food-handling system of the U. S. A.

The other day a paper called attention to the high price of butter and gravely proposed an embargo on shipping butter. Well, we dairymen will stand that if you will place an embargo on importing butter. Give us all of our own market; or if that doesn't sound good, put an embargo on shipping out other goods—cotton and cotton products, for example.

MOST DIRECT TO CONSUMER.

We dairymen are entitled to live and pursue our calling. Our products get from producer to consumer directly with the fewest middlemen. If a farmer buys drygoods, he finds in certain lines that goods which retailed a short time ago for 10 cents now cost the merchant 16½ cents. In the handling of these goods, many people get a rake-off—wholesalers, jobbers, distributors, general agents, etc., etc., generally called middlemen. The butter you buy passes through but few hands from farm to table. Running up and down the Sacramento Valley, dodging into practically every farm home, you will see numberless jitneys with cream cans every day or every other day. They haul the cream to a local or central point within California and make it into butter, and our local merchants buy direct from the factory.

From an experience and observation of 45 years, since I was 21, thirteen of which have been spent in California, I assert that the price of butter and the cost of production run mighty close together always. Take the price of a cow, $80 to $100; hay, $12 to $15; help, $2 per day and up; alfalfa land renting for $25 per acre. The price of butter has not gone up in proportion to the cost of production.

DAIRYMEN GOOD SPENDERS.

There may be a producer who is not a consumer, or vice versa; but he is not a farmer or dairyman. The most profitable dairying to the community is the common way—where a farmer milks five, ten, or more cows to balance his other farm operations, furnish skim milk for pigs, give calves a better start, etc. The cream money comes frequently and is spent for home supplies, pin money for wife and daughters, help in the house or field—it all gets into circulation. The merchant finds his bills paid more regularly. Every month the farmer and his family buy more and pay better. This better financing gradually trickles down until everybody all over the land feels the betterment.

DON'T HANDICAP DAIRYMEN.

Now the Government is sending out advice by the ton. One item said: "Restrict the use of butter for cooking—use cottolene." Well, cottolene comes from cotton raised in a restricted area where butter is bought, not generally made. That advice should find takers in the cotton country, possibly.

Then the tariff on butter was reduced, and Australian, New Zealand, and Siberian butter was on the market. The importer always underbids the market until he kills competition—then he has a different price. Lemon raisers know about that. Our home merchants throw fits if we buy from Sears Roebuck or Montgomery, Ward & Co. Yet the next counter will advertise Australian butter cheap. Why don't they patronize home industry exclusively if they want us to. As a patriotic duty it is for all citizens to stand together; so pay the price for butter willingly, because it is justified by cost of production, and the money gets back into circulation. Dairymen are a valuable contingency—not localized, but well distributed. Their presence means increase of food products of all kinds and increased fertility of the land. They are a tremendous purchasing power of everything that anybody has to sell, and good pay, too.

AFTER THE WAR, WHAT?

Do you notice that each nation wants more men and money from us, as though 1,000,000 of America's choicest and best young men, the flower of our nation, as though these were a mere bagatelle; or a billion dollars is so little to such a nation as we are. So the farmer will send his sons to be killed or maimed, his money to be burned in smoke, and after the war will find his markets demoralized in a degree never before seen or heard of. Can't we get together and do something to save ourselves? Who is big enough and strong enough to plan a way for self-protection? If we don't get on to some plan to save ourselves, it won't be done, because I fear that neither saltpeter nor the present administration will do it for us.

FEED HOME-GROWN FEED.

[Written for Pacific Rural Press.]

Big farms must sell grain more or less; but most everybody ought to feed the hay grown on his own place, believes Peter Cook of Solano county. Small farms need some of all kinds of stock, including a dozen ewes. Meat production will never be overdone where the feed can be grown on the place.

FEEDS FIRST-CROP ALFALFA CHOPPED.

[Written for Pacific Rural Press.]

Chopped first-crop alfalfa mixed on a wagonbed with rolled barley, cracked corn, and molasses has made fine stock feed on T. S. Glide's ranch in Yolo county. The stock chew it and there is no waste of the first-crop alfalfa.

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Redwood Machine Banded Pipe

will give the kind of service you want and should expect to get from the pipe you buy.

It is built on honor, from carefully selected, clear, air-dried redwood, and every foot of it guaranteed by the makers. There are hundreds of installations of this pipe throughout this and other States and each and every one is giving thorough satisfaction.

"REMCO"

Tanks and Silos

made from clear, air-dried redwood, are the highest quality possible to produce. They are built by experts, on carefully designed lines, and you will make no mistake in specifying "REMCO" when placing your order. We have specialized in the manufacture of Remco Pipe, Tanks and Silos for more than a quarter of a century. We no longer experiment—WE KNOW HOW THEY SHOULD BE BUILT TO GIVE LONG LIFE AND SATISFACTORY SERVICE, and we build our products in that way.

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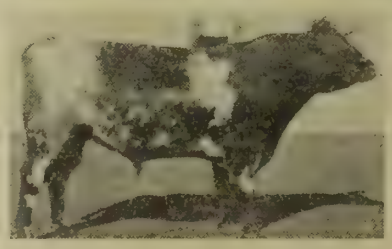

GLENSIDE ROYAL 408155.

Our herd of registered Shorthorns has been carefully selected from the leading milk producing strains of the breed and is being developed along the same lines in our hands. The herd is headed by

GLENSIDE ROYAL

a prize-winner at the 1913 International and grand champion at Panama-Pacific Exposition.

Sired by him and out of large cows of good milk production, we offer for sale a few choice young bulls.

Our entire herd is tuberculin tested.

Alexander & Kellogg, Suisun, Cal.

Farm on Grisly Island.

FIDESSA HELENA 152737
Milk 606.9, Butter 31.68, Test 4.2

PACKWOOD HOLSTEINS

AND

POLAND CHINA HOGS

All cows have A. R. O. records
Sire, Pontiac Wayne De Kol, 15979,
Son of Riverside Sadie De Kol Burke.

Write or call and see our stock.

WALTER F. MITCHELL,
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KING PONTIAC ORMSBY SEGIS

HIS dam Christeria Overton Mechthilde made 31.70 pounds of butter from 463 pounds of milk in seven days.

HIS sire King Pontiac Netherland Segis is one of the wonderful sons of the greatest sire of the breed King of the Pontiacs.

HIS dam and sire's dam have an average test of 5.09.

HIS blood makes him one of the foremost sires of the coast.

HIS story is a great deal longer and we will gladly tell you more.

HIS future is bright as he is being bred with over twenty A. R. O. cows with some of the most wonderfully bred heifers in the state.

GOTSHALL & MAGRUDER

RIPON, CALIFORNIA

THE HOME OF THE STATE CHAMPION TWO YEAR OLD

Write for descriptive booklet about some of the animals we are offering for sale

BUTTERFAT GAINS DOUBLE THE COST OF CONCENTRATES.

[Written for Pacific Rural Press.]

Gilbert E. Trigg's herd of 36 cows transformed concentrate feeds into extra butterfat that sold for about twice as much as the concentrates cost, during the Cow Testing Association year ending February 15, 1917. The herd averaged 344.6 pounds butterfat in 1915-16 and 439.5 pounds in 1916-17. Some concentrates fed in 1915 increased the capacity of the cows for concentrates in 1916. In the latter Cow Testing year, they were fed 15 tons of cocoanut meal bought at $25 per ton; 2½ tons of bran at $30 per ton; one ton of barley at $30; and ½ ton oil cake meal which cost $22.50. Total cost of concentrates for the herd was therefore $502.50. Increased production in 1916 was 94.9 pounds per cow, or 3416.4 pounds for the herd. At 30 cents per pound (which it beat), the gain in butterfat sold for $1024.92, which is more than double the cost of the concentrates fed. Additional to this gain, Mr. Trigg believes he saved 15 tons of hay at $12 ($180 total), because, due to the concentrates, he delayed hay feeding last fall from about September 15, when he usually begins, until November 15. Pasture and root crops were fed the same in both years. "Certainly," says he, "a dairyman might go broke feeding concentrates at present prices to cows that produce less than 300 pounds of fat per year; but that is a matter of breeding."

Harmless Alfalfa Pasturing at San Luis

[Written for Pacific Rural Press.]

How to pasture cows on alfalfa without injuring the alfalfa was worked out several years ago by C. E. Ferrell of San Luis Obispo county. Mr. Ferrell was the first successful alfalfa raiser in the district west of San Luis Obispo. He had 100 cows, thirty of which were coming in along in May and June, 1908. The general practice in that country then, and even today, was to dry up the cows in May and June, because the pastures dry up.

There was a stream running through the old Vier place which Mr. Ferrell was working. It would run a foot deep and four feet wide all summer. This was dammed in the spring of 1908; a system of furrows branching like a tree was plowed on contour, and 20 acres of alfalfa were planted. It furnished three cuttings besides pasture the first season. The cows furnished milk all summer, which sold in Cayucos at 31 cents. It took the people of the district all season to comprehend. They would come up to the fence and ask what it was. In three years there were several other patches in the district, and there is now a considerable acreage, irrigated and not irrigated. The cool, foggy climate does not prevent it from growing tall, five cuttings per season. The original 20 acres are still producing alfalfa.

PASTURING WITHOUT DAMAGE.

Cows in a big field wander aimlessly over it, taking a nip here and there and tramping more than they eat. Mr. Ferrell says that when confined to a small area of good feed, they eat and lie down. Accordingly, Mr. Ferrell stretched barbed wire across the field to pasture each strip about 100 feet wide two or three days, then move the cows on to another strip. Precautions against bloat were of course undertaken.

CARROTS AND BEETS FOR COWS.

[Written for Pacific Rural Press.]

Mangels and carrots are more extensively used in Humboldt county as dairy feed than elsewhere in the State, though there seems every reason for growing this high-yielding succulence on all dairies. In Humboldt county carrots furnish the principal succulence after pastures dry up in July. Beets are fed after the carrots are gone until cows can be turned onto pasture in the spring. The carrots are too small (comparatively) to handle well in storing, and they do not keep so well as beets. They are fed fresh from the field before the rains come, because when the ground is wet they pull too much dirt. Beets (mangels) are topped after November 15th and stored. An acre of carrots will supply succulence for four or five cows from July 15 to November 15. A good feed for high-yielding cows is 80 to 100 pounds per day in addition to concentrates and roughage.

Crude oil is good as a spray for cows, horses and hogs. It lasts long and does not blister. It is useful for tail-rubbing horses and to kill lice on hogs. It has the added virtue of being cheap.

Introducing Our Young Sire

Toyon Valdessa Hengerveld 184353,
Son of King Valdessa out of a 30-lb. 4-year-old. His dam and sire's dam averaged 36.16 lbs. in 7 days.

If you want good Holsteins, write us.

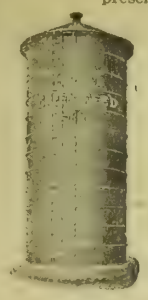
J. H. HARLAN CO.
WOODLAND CALIFORNIA

Gertie's Son, Victor, No. 123159
Dam, Victor Lady Lake (R. O. M.) of 536 pounds butter in 303 days as a 4-year-old.

INVEST in JERSEYS
AND START RIGHT
135 Registered Jerseys in my herd, including 18 Register of Merit Cows, Blue-ribbon winners at 1916 Hanford, Bakersfield, and Visalia Fairs.
CORRESPONDENCE SOLICITED.
A. A. JENKINS
TULARE, CALIF.

SILO PRICES MUST ADVANCE SEPT. 1st

By placing your order with us NOW for future delivery you can get the benefit of the present low prices and insure delivery when you need the silo.



IDEAL GREEN FEED SILOS
Embody the Best there is in Silo Construction.

WE KNOW WHAT A GOOD SILO SHOULD BE.
20 YEARS EXPERIENCE HAS TAUGHT US HOW

Are you going to conserve your crops of Green Feed this year or are you going to depend on dry feed for another season of low milk production, when butterfat is at a premium and prices high?

DON'T LET ANOTHER WINTER CATCH YOU WITHOUT AN IDEAL GREEN FEED SILO.

Place Your Order NOW.

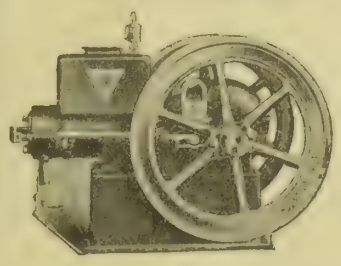
ACME FEED CUTTER AND SILO FILLER
Fills the Silo — Cuts Dry Feed — Makes Alfalfa Meal

The Light Running Acme is the only all-steel frame cylinder cutter on the market. It is built in 7 sizes and capacities vary from 3 to 30 tons per hour.

Prices are reasonable.

Full particulars on request.

ALPHA GASOLINE AND DISTILLATE ENGINES



Hopper Cooled or Closed Jacket.
Stationary, Portable — Semi-Portable.
Sizes 1½ to 28 H. P.

Equipped with a high-class built-in magneto—Batteries, Coils, and ignition troubles eliminated.

Alpha Engines start on the Magneto without Cranking.

Easiest starting engine in the market.

Long Life—Reliable Service.

Catalogs and full particulars gladly furnished to anyone interested in First Class Dairy Equipment.

DE LAVAL DAIRY SUPPLY CO.
61 BEALE ST., SAN FRANCISCO, CAL.

Do you want long distance backing behind your coming herd sires?
If so then we have them

The first six cows that we tested for a year made the following records:

Winnie Korndyke Cornucopia De Kol	milk	31034.2	butter	1201.0
Hazel Aaggie of Oakwood Daughter	"	21208.5	"	860.9
Inka Tritomia Walker	"	21237.6	"	816.1
Princess Jetze	"	19981.8	"	786.9
Mary Acme of Oakwood	"	17977.3	"	702.9
Princess Niko Mechthilde	"	11773.9	"	620.4

An average of 20535.5 of milk and 831.2 of butter. This included one junior two-year-old, one senior two-year-old, and one junior three-year-old. Two of these being state records and one world's record for age.

Write for prices, or, better still, come and see our herd.

THE J. S. GIBSON COMPANY
Box 97 Williams, California

SAVE YOUR CALVES

Raise Them Without Milk

Why throw away money by knocking them in the head or selling them for a dollar or two at birth when they can be raised or vealed WITHOUT MILK at a fraction of the cost of feeding milk. You profit both ways selling the milk and still have the calves.

The Best Milk Substitute to Use Is

Ryde's Cream Calf Meal
TAKE'N THE PLACE OF MILK AT LESS THAN HALF THE COST

the most successful milk substitute on the market—the standard of perfection. Thousands of farmers are using it and cannot say enough for it. It is NOT a stock food—it's a complete food that long experience has proved to be right for rearing calves. It contains all the nutrition of milk prepared in the most digestible form and is sold on a money back guarantee to give results.

BOOKLET "MILKLESS CALVES" FREE

100 lbs. equal to 100 gallons milk—Try it on your calves.

Watertown, Wis., June 12th 1916
Ryde & Co., Chicago Ill.
Gentlemen—Above is a picture of our 1 month old calf which I fed on Ryde's Cream Calf Meat. I followed your instructions closely. The meat can't be beat. (Signed) Alvin Beck

GREAT WESTERN MILLS, LOS ANGELES

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
GEO. P. ROBINSON CO.
426 J Street,
Travelers Hotel Building, Sacramento.
LIVESTOCK BROKERS.

Acme Herd Jerseys
QUALITY COUNTS
STOCK FOR SALE
Chas. M. McLouth, Orland, Cal.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

The J. S. Gibson Co. of Colusa county is preparing a carload of registered Holstein stock for exhibition at the State Fair.

John French of Los Angeles has purchased the Madera Creamery from Karl H. Mulder, and took possession August 16. Mr. French is interested in the creamery at Chowchilla.

The difficulty of securing reliable and efficient help for milking may most readily be overcome by a more general use of milking machines, it is urged by the National Council of Defense.

J. B. R. Cooper of Salinas has a carload of registered female Holsteins coming from the East for his Moro Cojo Ranch. These are to be bred to King Segis Pontiac Emperor, until recently owned by A. W. Morris & Sons.

The dairy products exhibits at this year's California State Fair promise to be more comprehensive and instructive of improved methods than last year's display. Premiums will be awarded on exhibits of raw and pasteurized products separately.

The Milk Products Corporation of Los Banos has a three-ton truck running almost constantly into the country for skimmed milk, and is taking in 28,000 pounds daily. The price paid to the rancher if he delivers to the Los Banos plant is 25 cents per 100 pounds, and 20 cents if the firm goes after it.

A. A. Jenkins, Tulare, reports the following sales of registered Jersey bulls within the past few weeks. They are sons of Gertie's Lad, and will help to make a name for Jerseys in California: To Mr. Clark, Tipton; J. T. Brown, Wasco; L. E. Danley, Merced; Ned Thompson, Tulare. Also a grandson of Gertie's Lad to Mrs. Cora Townsend, Bakersfield.

A general advance in prices has taken effect in all the cities of the San Joaquin Valley on ice cream. In Sacramento ice cream advanced from 95 cents per gallon to $1.00 per gallon wholesale, and from $1.25 per gallon retail to $1.50. The wholesale price of Stockton ice cream advanced from 85 cents to 95 cents per gallon, but the retail price of $1.25 per gallon is the same.

Swine and Swinemen.

The secretary of the Kansas Board of Agriculture asserts that the corn crop in Kansas is not going to be great enough this year to feed the hogs raised in that State.

At Chicago on August 9, hogs reached the $16.75 per hundred mark, which is ten cents above the May price, a previous high record. This is twice the price of five years ago.

Organization of pig clubs by the school boys of Kern county commence with the opening of school. The boys will endeavor to raise as many pigs as possible from two gilt hogs.

Over twelve hundred purebred hogs will be shown at the State Fair this year, necessitating construction of several new pens to take care of the greatly increased exhibit, it is reported.

Nominations to the Poland-China futurity in the swine exhibit of the California State Fair this year exceed in number nominations to similar futurities at the State fairs of thirteen of the twenty States holding the event. Several of the States outranked by California are in the heart of the corn belt.

R. H. Whitten of Los Angeles, owner of the Whitten Ranch at Terra Bella, reports an active demand for purebred Poland-China hogs. He reports the following recent sales: To the Government recruiting depot, Fort McDowell, two bred sows; to F. C. Splain, Calipatria, thirteen bred sows; to C. A. Rives, Burbank, two bred sows; to Pope-La Honda Ranch, La Honda, two bred sows; to W. J. McCardia, Santa Ana, three bred gilts; to Raymond Allen, Winters, one bred gilt; to Geo. F. Blakeslee, Los Angeles, one bred gilt; to D. H. Forney, Fresno, three bred gilts; to C. T. James, San Bernardino, one bred sow; to N. W. Miller, Chino, three bred sows; to T. H. Munson, Pomona, one bred gilt; to R. H. Postlewaite, Coachilla, one bred sow; to M. E. Waite, Nordhoff, one bred sow; to Mrs. M. F. Wilber, Brawley, one bred sow; to Toland & Silva, Cottonwood, one service boar; to M. L. Edwards, Oakland, one service boar; to S. M. Dawson, Merced, one service boar; to E. H. Ford, Ukiah, one service boar; to San Joaquin Farm Land Co., one service boar; to James A. Thornton, Fort Bragg, one boar and one sow pig; to Lewis C. Preston, Huntington Beach, one boar pig; to Mrs. Carrie Myers, Winterhaven, one boar pig; to C. E. Lumsden, Big Oak Flat, two sow pigs and one boar pig; to N. B. Hunter, Petaluma, one boar and one sow pig; to Geo. J. Champion, Raisin City, one boar pig; and to H. M. Barr, Ventura, two sow pigs. Prices ranged from $250 for best service boar to $25 for weaned pigs.

Beef Cattle.

The California Cattlemen's Association has been reorganized. The sum of $2,600 was pledged to help finance the fight of the National Livestock Association in its demands that the Federal Trade Commission investigate the alleged manipulation of prices at the markets.

Forty head of Shorthorn steers, weighing 1692 pounds, sold on the Chicago market last month at $14 per hundred pounds. These cattle were bred by Miss Petrie of London, N. D., and is a striking example of the actual value of the improved blood in the making of beef and demonstrates Shorthorn advantage in the matter of extra scale and evident quality.

Sheep and Goats.

G. H. Hall of Cloverdale purchased from L. Heath of Ukiah 310 Angora goats last month.

Governor James Withycombe of Oregon intends to ask the Northwest governors to protest to Herbert Hoover against the United States food administration's recent decision that mutton be tabooed at hotels and restaurants. "Hoover's attitude towards mutton as food discriminates against the Western sheep industry," the Governor said.

A survey of the wool supply in this country, recently made public by the Bureau of Markets of the De-

G. E. Trigg Wins Rural Press Prize in Dairy Contest

A letter from Prof. F. W. Woll states that: "Our records show that five grade cows in the herd owned by G. E. Trigg, of Ferndale, had the largest production of grades entered in the State Dairy Cow Competition during the month of July. Mr. Trigg is, therefore, entitled to the Pacific Rural Press prize for this month. The five grades averaged 1277.8 pounds of milk and 74.868 pounds butterfat, average per cent 5.85. The production of the individual cows ranged from 98.33 to 65.79 pounds. The production of five grades in other dairy herds that competed for this prize during the past month was as follows:—Iversen, 64.822 pounds; Coppini, 61.419 pounds; Beebe, 55.419 pounds; Hollow-Hill Farm, 51.720 pounds; Abbott, 50.298 pounds; Stenzel, 49.287 pounds; Bomberger, 48.614 pounds; Bohnett Bros., 47.305 pounds; Hess, 30.708 pounds, and Christen, 25.683 pounds."

California State Fair

SACRAMENTO, CAL.

September 8 to 15, Inclusive

Make the War Time Fair the Biggest Ever

SHOW WHAT YOU HAVE DONE—LEARN WHAT OTHERS HAVE DONE—WE NEED MORE SOIL PRODUCTS—BETTER LIVESTOCK.
Exhibit Your Best to Help Solve the Nation's Food Problem

Patriotism—Profit—Pleasure

The Keynotes of the 1917 California State Fair
Great Display of Vocational Work by School Pupils—Over 500 Prizes divided between city and rural schools for Domestic Art and Science, Manual Training and Home Gardens. Greatest incentive ever offered to California boys and girls.
Special Exhibits by U. S. Government Indian Schools and Agencies.

LARGEST LIVESTOCK SHOW IN THE WEST

OVER $30,000 OFFERED IN PREMIUMS.
Education and Amusement Combined

BIGGER AND BETTER POULTRY SHOW

Displays of Horticulture, Agriculture, Viticulture, Forestry, Dairy Products, Dairy, Farm and Road Machinery, Tractors, etc.

NATIVE SONS' CELEBRATION OF ADMISSION DAY

Daily Program of High-class Amusements. Night Horse Show. Harness and Running Races. A tent city of Carnival Attractions. Great Annual Band Contest Open to Entire State.

HEAD ON COLLISION OF GIANT LOCOMOTIVES

Special Excursion Rates on All Transportation Lines.

Send for Premium List.

JOHN M. PERRY, President — CHARLES W. PAINE, Secretary, Sacramento, California

The Best in Holstein Bulls

BY PROVEN SIRES AND PROVEN DAMS

The best interests of your dairy or breeding herd demand that your herd sire be bred in great producing and transmitting blood lines.
You are safe in heading the herd with a son of one of the following well-known sires:

KING MEAD OF RIVERSIDE

Sire of the State Record cow, AAGGIE ACME OF RIVERSIDE 2D, 35.38 pounds butter in 7 days; 142.23 pounds in thirty days, and 885 pounds in seven months, strictly official test.

PRINCE GELSCHE WALKER

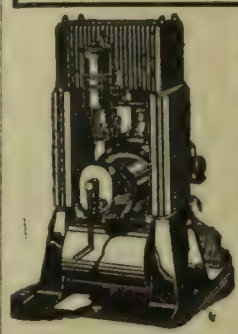
Sire of a number of state record heifers, including MISS VALLEY MEAD DE KOL WALKER, 36.75 pounds in 7 days as junior three-year-old; LADY HISKE WALKER, 34.25 pounds in 7 days as junior four-year-old.

SEGIS PONTIAC DE KOL BURKE

Sire of the finest lot of heifers we have ever owned. Three of the first ones average over 21 pounds butter in 7 days. Their type is unexcelled.

We offer sons of these sires out of dams with records of 25 to 30 pounds and yearly records in proportion. Write us your wants. Information and pedigrees on request.

A. W. Morris & Sons Corp. WOODLAND, CAL.



Uni-Lectric GASOLINE-ELECTRIC UNIT LIGHTING SYSTEM

Electric Light for Your Farm

Uni-Lectric lighting plant generates standard 110-volt direct current; operates from one to fifty lights, electric motor, electric iron, vacuum cleaner, electric toaster, force pump, churn, washing machine, etc. No Batteries—No Switchboard—and a better machine for less money. High speed gasoline motor, generator and automatic governor, all complete in one small, compact unit. Uses standard lamps and fixtures. Simple, easily installed, dependable, economical. Costs less than other systems to buy and to operate.

Write to-day for full description and low price.

KARL A. HEDBERG — ELECTRICAL ENGINEERS, 104 Clay St., San Francisco, Cal.

FAT STOCK BUYERS ATTENTION

First Community Auction Sale

Under Direction of

San Joaquin County Farm Bureau

at

Ripon, California — August 23rd, 1917

Offering

Two cars fat hogs, one car fat cattle, and a number of veal calves

Registered Jacks

Range raised; Guaranteed satisfactory breeders; Field Jacks a specialty.

REGISTERED SHIRE COLTS

James W. McCord, Hanford, Cal.

partment of Agriculture, shows that on June 30 there were 370,000,000 pounds of grease wool in the hands of dealers and manufacturers, who reported 47,000,000 pounds of scoured wool, 29,000,000 pounds of pulled wool, 23,000,000 pounds of top, and 18,000,000 pounds of noil. About 56 per cent of the grease wool, 62 per cent of the scoured wool, and 45 per cent of the pulled wool was reported by manufacturers and the remainder by dealers.

Horses.

Many trotters and pacers are working out in Sacramento in preparation for the State Fair meet.

Walter J. Hill, youngest son of the late James J. Hill, has volunteered his services to the United States Government in purchasing horses. He is an expert in the work.

Livestock Miscellany.

A recommendation that the sale of meat be prohibited throughout the United States on Tuesdays and Fridays was adopted and forwarded to Herbert Hoover, food administrator, by the United Master Butchers of America in session at Minneapolis recently.

The American minister at Copenhagen cables that meat from second-class steers fed on poor fodder will be offered for sale there at reasonable prices, ranging from 40 to 50 ore ($0.107 to $0.134) per pound, in an effort to induce domestic consumers to eat beef instead of pork.

As the result of two deaths of humans following the handling of a cow which died of anthrax, a conference was held by Dr. Joseph H. Shaw, Sonoma county health officer, with Veterinarian Wintringham of Petaluma and Dr. Hayes of Sonoma and facts brought out which may result in a rigid quarantine being established on Sonoma county cattle by the State veterinarian and maintained until all the cows are vaccinated against the disease and all danger passed.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

Poland-Chinas.

MAKE BIG MONEY with our famous Big Type Poland-Chinas; prolific breeders; profitable feeders; grow rapidly, fatten quickly; prices reasonable; satisfaction guaranteed; send for free illustrated book, "Hogs for Profit"; packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, R. D. 5, Box 647, Los Angeles.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS—Three extra fine boars, one large and two medium type. W. Bernstein, Hanford, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS—A few gilts left at $15 each. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

IMMUNIZED NORMANDY BERKSHIRES—Good type. Breeding stock, any age, for sale at all times. Cast iron guarantee. Arlington Smith, Visalia, Cal.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend Sts., San Francisco.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

HOPLAND STOCK FARM—Registered Berkshires.. Prices on application. Hopland, Cal.

REGISTERED BERKSHIRES—Geo. M. York, Modesto, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 third. Prices $20 and up. Haden Smith, Woodland.

DUROC JERSEYS—Young boars and gilts from imported dams and sires from the best herds in East Iowa and Nebraska. Can furnish blood lines that will cross with any of our old customers. H. P. Slocum & Son, Willows, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

REGISTERED DUROC-JERSEYS — Service boars from prize-winning stock are money-makers. They grow faster. New England California Corporation, Ripon, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13 Taxpayer; boars ready for service out of a daughter of Lambs American Beauty. F. M. Barney, Hanford, Cal.

RANCHO RUBIO DUROCS—Nothing to sell at present; a fine bunch of gilts and a few extra good service boars for this fall. Elmer Lamb, Ceres, Cal.

DUROC JERSEYS—February boars by Prins Model and one brood sow at market price. Weaned pigs by Fruits Orin. Write Earl N. Dargitz, Acampo, Cal.

DUROC-JERSEYS — Herd boars. E. N.'s Colonel and Tulare Boy. Sweepstakes winner at Fresno, 1915. Choice breeding stock. J. P. Walker, Visalia.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REG. JERSEY DUROC BOAR, two years old. Price, $60. A sacrifice. Apply to F. McGuire, Clayton, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first-class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Ameterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

"HEADQUARTERS"
FOR WOOD PIPE AND TANKS

TANKS

WINE TANKS

FERMENTING TANKS

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Factories and Offices:

15 Pine Street, SAN FRANCISCO, CAL.

19 Trust and Savings Bldg., LOS ANGELES, CAL.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

PACKWOOD FARM HOLSTEINS — Fine young bulls of serviceable age out of tested A. R. O. cows. W. F. Mitchell, Visalia.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto. Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN-FRIESIAN CATTLE—J. M. Campbell, Escalon, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

A. R. O. HERD OF HOLSTEINS—Alex. Whaley, Tulare, Calif.

Jerseys.

FOR 30 DAYS—JERSEYS—Pedigreed bull calves, not registered, $25; registered, $50. Service bulls, $100, from producers. Tested registered cows, $150, with yearly records. Horses. N. H. Locke, Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

VERAMONT STOCK FARM — Pure-bred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM — Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder registered Herefords. Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

J. R. BLOOM—Breeder of Shropshires. Yearling rams for sale. J. R. Bloom, Dixon, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

HORSES AND MULES.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

PIGS AND HOGS FOR SALE—Pedigreed Duroc Jerseys and Berkshires. Weanlings. One large Berkshire Gilt 14 months old, will farrow in 2½ months. One 14 month sow and 4 pigs, weanlings. Bargains. Write for what you want. Garden City Sanitarium, San Jose, Cal.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal—the best California calf raiser. Geo. H. Croley Co., Inc., 8th and Townsend Sts., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FREE FEED FOR STOCK—Acorns for hogs, grass for cattle and sheep; get State and Government land; new booklet free. Joseph Clark, Sacramento.

Forecast of Livestock Exhibit at State Fair

[Written for Pacific Rural Press.]

Those who are interested in good purebred livestock will have something good awaiting them at Sacramento during Fair week. What the two proverbial Irishmen with the jug of whiskey produced in the way of a tense and interesting situation will have nothing on what will be witnessed on the tanbark of the show rings at the State Fair next month. There will be no bloody noses nor black eyes, except in a figurative way of speaking, but those who are there, be they exhibitors or spectators, will know that they have been to a stock show "the week after" and for some time to come.

CHANCE FOR CLOSE DECISIONS.

At this writing our scouts have not had the chance to examine anywhere near all the entries, but enough of them have been viewed and handled to warrant the statement that in certain of the popular breeds at least California this fall will stage a show that for quality and opportunities for close decisions will leave very little to be desired, and the interested visitor need have no fear that he or she will not get their money's worth and a little something besides, to compensate for the time expended at the Fair.

"BLACK AND WHITE" TO PREDOMINATE.

In Holsteins there will simply be a deluge—an inundation—if all get there who now expect to. And the mortal who is destined to place the ribbons is likely to see little of any other color but "black and white ever after." We hazard the guess now, that when the record is made for the year no State fair in the Union will have anything on California in point of number of Holsteins shown, and nothing at all in quality.

HOLSTEINS OF HIGH QUALITY.

This is some statement, admittedly, but none who are at all informed as to the Holstein affairs of the State will question it. A gentleman who knows the Holstein situation thoroughly from ocean to ocean—himself a breeder of hundreds of them—made this statement to us recently: "At least three out of the eight greatest Holstein bulls living today are now in California." And he does not claim to possess one of the three either, so has no motive whatever for overstating the situation. And of great females of the breed one would need almost to be an advanced registry on legs to enumerate them. There are so many herds now possessing great and near great cows of the breed that space does not permit of their enumeration. But then the California State Fair has had an array of good Holsteins for years.

FINE SHORTHORN DISPLAY EXPECTED.

There was a quality Shorthorn show last year. It will be all of that this year, and there will be quantity with it, at least in many of the classes. Without doubt, our Shorthorn show this fall will in quality excel any that will be made west of Denver, and will be fully the equal of many of the State fairs held east of that point in what is supposed to be special Shorthorn territory.

TWO-YEAR SHORTHORN HEIFER ENTRIES.

The classes devoted to aged cows and aged herds will likely be fewer in numbers, but other classes will make up for it. Everything indicates that the class for two-year-old heifers will furnish the climax of the Shorthorn fight. Somehow every herd has one, and each one when viewed by itself seems good enough to win. We look for at least five out of this class to be good enough to go to the International, and any ribbon won in that class will be something to be proud of. Carruthers is putting the finish on a thick one that will be about right at fair time. Ormondale has one recently acquired that is all ready, and has been for some time. The Glide herd has two, at least one of which will be a serious contender for first place. The Miller herd in Southern California is expected to furnish two, one being a recent arrival from the East and the other the one that was secured at the recent Carruthers sale. It is also reported that both the London and the Hawkins herds have entries.

The bull classes will show some rare specimens, though the chances are that the classes will not be large, but there will be International quality in all of them.

THE BABY HEIFER CLASS.

In the classes for yearling heifers and heifer calves, there will be a wealth of material to choose from, and there will be an abundance of quality. These are the classes that will furnish the contenders for the future and hence should elicit special interest. Every herd has its contingent, and there will be some with slight or no entries in the older classes that will be there with home-bred stuff in the baby classes.

YOUNG HEREFORDS IN PREPARATION.

The Hereford classes, too, will be much strengthened. The Bemmerly herd from Woodland will be out with nearly a full complement, and will be particularly strong in the younger classes. The cattle have been "up" for preparation for some time, and will be right at Fair time.

D. O. Lively will be out with part of a herd. He will show a son of the famous Perfection Fairfax, a youngster Mr. Lively brought to California at a good, long price—and the bull is worth the money.

AN ABERDEEN ANGUS HERD SECOND TO NONE.

Fair visitors this year will have the opportunity to view one of the greatest Aberdeen Angus show herds in existence—the Battles herd from Washington. "Doddy" lovers may know that they have seen as good as the breed affords after seeing this herd. It is the same herd Battles maintained so long in Iowa, and then moved it to Washington.

AVOID WASTE OF VALUABLE HOG MANURE.

When feeding hogs in closed lots the manure should be collected and protected from leaching until it can be hauled to the field, says the University of Missouri College of Agriculture. There is too great a tendency to place the feeding pen on a steep hillside or near ditches where a large part of the manure is carried directly into the streams by heavy rains or lost through leaching. This may be an easy way to clean the pens occasionally, but it is wasteful of fertility.

A1 Ranch Berkshires

Herd headed by Winona Royal Champion 5th, Junior Champion Berkshire Boar, Western Berkshire Congress Show, Champion California State Fair, 1916.

Two A1 Herd Headers

No. 1 Premier Leaders Duke 4th

Farrowed October 17, 1916; Sire Premier Leader, 215,000, an outstanding son of Grand Leader 2nd, Grand Champion Boar of the World.

No. 2 Winona Laurel Masterpiece 3rd

Farrowed November 8, 1916, Sire Big Four, 180,400, Grand Champion of Oregon, 1915, he from a long line of champions. Dam Silberfa Duchess 15th, 194,915, Grand Champion of Oregon, 1914.

Two Show Boars that would look good anywhere. FIRST CHECK FOR $75 takes either one of these.

FOUNDATION HERDS, GILTS AND YOUNG BOARS.

Write for information, pedigrees and prices.

ARLINGTON M. SMITH, Proprietor
VISALIA, CAL.

RINCON FARM BERKSHIRES

Can now furnish foundation stock, gilts bred or open, and unrelated young boars out of the finest herd of sows in the State, and by such boars as Ames Rival 102nd, Winona Lee Champion 6th, Mayfield Rookwood 2nd, etc.

Princess Leader, out of World's Grand Champion Sow by World's Grand Champion Boar.

Call and see stock or write for pedigrees and prices. Will have a full show herd at the State Fair.

F. A. BRUSH, Proprietor C. E. BARROWS, Manager
SANTA ROSA, CAL.

Mighty Good Pigs Moderately Priced

ANCHORAGE FARM NOW HAS FOR SALE SOME VERY GOOD SPRING PIGS, SIRED BY MAYHEWS LEADER 6TH, A PRIZE WINNER AT THE P.-P. I. E., AND A SON OF THE $3,000 WORLD'S CHAMPION, GRAND LEADER 2ND.

THESE PIGS WILL BRING FINE BLOOD INTO ANY HERD. THEY ARE MODERATELY PRICED AND ANCHORAGE FARM STANDS BEHIND EVERY ONE. SEND FOR DETAILS.

We are glad to answer your letters. Address

ANCHORAGE FARM Orland California Quality Products

All Anchorage Farm Pigs are cholera immune.

THE HOME OF STAR LEADER

GREATEST BERKSHIRE IN THE WEST

Hauser's Digester Tankage

GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.

Hauser Packing Co. Los Angeles

Our Government Wants Horses

The Quartermaster General of the Army authorizes the following: The Secretary of War has approved of the purchase in the open market of the mature specification animals needed by the Government for war purposes.

1. Any responsible dealer, breeder or farmer who is capable of supplying the Government with one or more carloads of animals at a sanitary place, suitable for feeding, inspecting, branding and loading them on cars, is invited to furnish the following information to the purchasing officers in the remount zone in which he is located or proposes to supply animals:

(a) The number of mature specification animals of each of the following classes that he can supply: Cavalry and riding horses, light artillery horses, heavy artillery horses for siege batteries, wheel mules, lead mules, and pack mules.

(b) The price per animal at which he will enter into an agreement to supply animals of each class to the Government if called upon to do so.

(c) The places where he proposes to offer animals for inspection by Army purchasing boards.

2. Full particulars as to the specifications of animals, method of inspection, and requirements of inspection plants, will be furnished on application to the purchasing officer of any one of the zones.

3. The Government purchasing officer charged with the details of buying horses and mules for the Army is for Arkansas, Arizona, California, Louisiana, Mississippi, Nevada, New Mexico, Oklahoma, and Texas: Depot Quartermaster, Fort Reno remount depot, Fort Reno, Darlington, Okla.

4. No agreement to furnish animals will be made with any dealer unless he is considered capable of supplying all the animals he offers to supply without sub-letting or calling upon other agencies to assist him.

5. At least one purchasing board in each zone will be reserved for the inspection of animals offered by farmers and breeders in not less than carload lots.

6. A bond of 5 per cent of the total consideration will be required as part of the agreement on any order for more than a hundred animals. At the end of each day's business a voucher for the purchase price of all the animals bought that day will be furnished the seller. The total value of this voucher will be paid on presentation to the purchasing officer.

7. Under agreements to furnish 100 animals or less no bond will be required, but five per cent of the purchase price will be deducted from the amount of the voucher for each day's business and will not be paid until all the animals are delivered.

FEED GARBAGE TO HOGS.

Garbage varies greatly in its composition, wholesomeness, and feeding qualities, writes R. H. Williams, Animal Husbandman, University of Arizona. Table garbage is usually of a concentrated nature, and if used in the fresh condition makes a splendid food for hogs. In cities this waste accumulates very rapidly, but there is an immense quantity of it, and it should be utilized for productive purposes. The amount of garbage from hotels and restaurants is very great, and stockmen should arrange to feed it to animals. Garbage may be fed alone, but it is better to give it to hogs along with a smaller quantity of grains and alfalfa pasture. Clean table scraps will make good hog feed alone. It is important, however, to keep the garbage clean and feed it fresh, for garbage poisoning is very common in hog feeding.

HOGS THRIVE ON BEET TOPS.

Sugar beet tops left in the field after harvesting fattened 40 hogs one season for Chapman Foster of Monterey county. He likes to have the tops a little green for hogs. That they are not dangerous to pigs was proved by some of Mr. Foster's breaking into the field once while hauling. No injury resulted.

GET STOCK TO EAT CROPS.

Iowa farmers used to be most all mortgaged, because they sold their grain. Since they began feeding their grain, Iowa has become the "billion dollar State," according to A. W. Morris of Yolo county. We must get stock to eat the feed we produce, and we can produce better feed cheaper than anywhere else in the world.

YEAR-AROUND SUCCULENCE.

Silage spans the season between the end and beginning of the time when wilted alfalfa can be fed fresh from the field on J. B. R. Cooper's dairy ranch in Monterey county, now being operated by C. S. Collins. Beets, carrots, and hay are fed with the silage. Mr. Collins is milking about 84 head.

STATE UNDERTAKES LIVESTOCK DISEASE CONTROL

[Written for Pacific Rural Press.]

The State now pays for measures to prevent or restrict the spread of hog cholera, anthrax, blackleg, glanders, tuberculosis, and other serious diseases. State Veterinarian Chas. Keane wants every hog raiser, cattle man, flockmaster, and horse user to take full advantage of the new facilities offered. The past Legislature made appropriations under which Dr. Keane expects to have the State divided into 15 or 20 districts, each to be covered by an inspector with an automobile. Ranchers are urged to help prevent epidemics by promptly reporting diseases to the Inspector or State Veterinarian and by cooperating with officials in quarantine and other means of stamping out such diseases. This does not exclude employment of private veterinarians who must, however, act in serious diseases under supervision of the State Veterinarian. Inspectors will help each other in case of outbreaks. They will all make regular reports to the State office and will be co-ordinated by a Traveling Inspector. Examinations for these officers have recently been held all over the United States.

Herd sire at age of 16 months.
First in class, Sacramento, 1916.

BIG TYPE DUROC - JERSEYS

The Leading Blood Lines of the East and Middle West

Offering at the present time choice spring pigs, either sex. A few boar pigs sired by Critic D, also a few by Indianwold's Orion Cherry King out of a sow sired by Joe Orion II, for May delivery.

FREDERICK M. JOHNSON,
NAPA, CAL. R. F. D. 2, Box 87

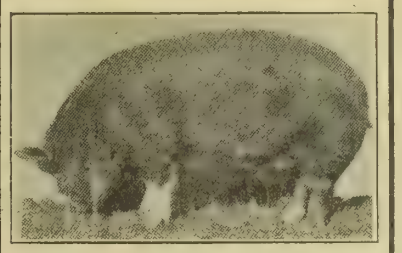
DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

Duroc Jerseys
Cherry Red Color.
HERD SIRES:
Tulare Boy
and
E. N.'s Colone
Tulare Boy was Sweepstakes Winner at 1915 Fresno Fair. Weighed 276 pounds at six months of age.
Choice Breeding Stock for Sale
John P. Walker
Visalia, California

MONTELENA HERD
Large Yorkshire Swine
THE IDEAL HOG FOR THE PROGRESSIVE FARMER

MONTELENA BIG DICK,
First Aged Boar and Reserve Grand Champion.
Won 9 Prizes With 8 Entries at Sacramento.
Young stock for sale — both sexes.
A. L. Tubbs Co.
Calistoga, Calif.

BERKSHIRES



A few fine fall pigs, strong in Bandmaster, Masterpiece and Rival's Champion blood. They are strong and active, with good top lines, heart girth and moderate heads. Glad to show them or send full particulars and prices.
MAPLEWOODE RANCH
E. M. HOLGE, Owner
HOMER HEWINS, Jr. Manager
CALISTOGA, CAL.

SPECIALS ON Pure-Bred Poland Chinas

Commercial hog prices are higher. Our prices on pure-breds have not raised.
The Grand Champion P. P. I. E. Herd
ROUGH'S GREENFIELDS
Arlington Station, Riverside, Cal.

CALIFORNIA BREEDERS' SALES AND PEDIGREE COMPANY — PUBLIC SALES OF SOUND REGISTERED LIVESTOCK
Dependable Sales Service
¶ We offer an unexcelled service for the conduct of dispersal and consignment sales of registered livestock. Sales conducted anywhere. Write for terms and dates.
California Breeders' Sales and Pedigree Co.
C. L. HUGHES, Sales Mgr., SACRAMENTO, CAL.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

Beasts on the Balm of Gilead.

To the Editor: I think a lot of your paper and read it with much interest. In your issue of July 28, where subscriber from Fresno inquires about Balm of Gilead trees, you describe what they might harbor on them; say it is awful. Are they beast, fowl, or what? I have four trees I bought for Balm of Gilead and think them fine, the finest I have; but if they are to harbor such things, say, it is terrible. I don't see how the press stood to print such words, nor how the Editor could work his jaw after pronouncing them. Why, that is enough animals to fill my yard full. If those things come, shall I trap or shoot them? Would or could you describe them so I will know them if they come? On the water is the U. Boat, on land are the things you name. Oh my, help us out some way.—E. Leatherman, Winton.

A Situation to Be Squarely Met.

To the Editor: I have greatly enjoyed your editorials on the farm labor question, and the too abundant advice given farmers by theorists who don't know what they are talking about. The situation is very serious, indeed, and must be squarely met before next crop season.—Jno. P. Irish, Oakland.

Swallows Every Word of It!

To the Editor: In your August 4 issue we read the editorial, every word of which we heartily endorse. Keep prodding those who have not the push to stir the needs of the farmer into action. This is a necessity and you are qualified to do it.—Subscriber, Lancaster.

BEGINNING IN THE SHEEP BUSINESS.

If you want to start in the sheep business, and do not intend to become a breeder of pure breds, but intend to produce wool and mutton, says Frank Kleinheinz, shepherd of the Wisconsin Experiment Station, the cheapest way to start is to buy ewes from September 1 to November 1. In buying be sure to get young ewes; yearlings or two-year olds are best. Avoid old, broken-mouthed ewes. Get well-built ewes carrying some Merino blood and having dense fleeces. Rams for breeding purposes should also be purchased at this time from reliable breeders of purebred mutton sheep.

Sheep do not require warmth except at lambing time. Sheds or barns that keep sheep dry and offer protection against winds and cold drafts are all that is necessary in the sheep industry. Buildings that supply sufficient storage space for hay and other feed necessary for winter feeding are desirable. Fencing may be regarded as one of the necessities for successful sheep production. Woven wire four feet high makes a good fence for pasture. The dog has been a menace to the raising of sheep, but the menace is largely overcome by pasturing the flock in a well-fenced lot. Until the farmer has such a fence, he should confine his flock at night in a well-fenced yard or corral, with several strands of barbed wire on top.

GRASS-FED DAIRY STEERS.

What to do with male dairy calves is one of the problems solved profitably by the Worley Brothers of Imperial county, who have bought such stock along with cows for resale whenever profit should appear.

One lot of 39 fat steers and two heifers of dairy breeding was sold last spring at 7¾ cents, having never had anything but pasture and hay. Part of their pasture shortly before sale was six acres of corn stalks. During the last month it was alfalfa-barley pasture with some hay when the pasture got short.

WILL RECOVER WHEN SHE FARROWS.

To the Editor: I have a registered Poland China sow that was treated about a month ago for cholera by a veterinarian. She recovered from the cholera—if she had it, which I doubt—but she is left with a weakness, almost paralysis, of the loins. She can scarcely get up, and drags her hind feet.—R. W. C., Eagle Rock.

If sow is heavy with pig she will recover when she farrows.

Two carloads of war horses for the United States Government were shipped from Tulare recently.

The livestock inspector of Kings county finds stock generally in good shape.

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop.

DAVIS, CALIFORNIA

Breeder and Importer of

SHROPSHIRES and MERINOS

Shropshires sired by rams imported by me from England.

The Famous Glide Merinos.

My purebred range-raised yearling Shropshire and Merino rams are now ready for inspection at my place.

FOR SALE IN INDIVIDUAL OR IN CARLOAD LOTS

A FEW SHORTHORN BULLS FOR SERVICE.

500 One and Two-Year-Old

SHROPSHIRE RAMS

By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:

C. E. BARNHART
Phone No. 251-F-2
SUISUN, CALIFORNIA

SCOTCH SHORTHORNS

We have just purchased the entire herd of shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

CARRUTHERS FARMS, == MAYFIELD, CAL.

City Address: Hearst Building, San Francisco, Telephone Sutter 1311

BULLS - Shorthorns - HEIFERS

REGISTERED AND TUBERCULIN TESTED.

Animals of either sex ready to deliver in car lots or singly.

H. L. & E. H. MURPHY, Perkins, Cal

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED.
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

Champion Ram P. P. I. E.

SAN RAMON SHROPSHIRES

WINNINGS P. P. I. E., 1915

Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.

Purebred Registered Rams and Ewes.
Individuals or Carload Lots.

BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

Shorthorns

Paicines Ranch Co.

Offers for summer and fall delivery both registered and unregistered weanling bull and heifer calves.

For prices and particulars apply to

DAVID J. STOLLERY
320 Sharon Bldg.
San Francisco, California

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone and horse can be used. $2 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse Book 2 M Free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Strained, Torn Ligaments, Swollen Glands, Veins or Muscles; Heals Cuts, Sores, Ulcers. Allays pain. Price $1.00 a bottle at dealers or delivered. Book "Evidence" free.
W. F. YOUNG, P.D.F., 88 Temple St., Springfield, Mass.

Thoroughbred Herefords For Sale

I have decided to sell my entire herd consisting of 15 cows, eight with calves by side, others will calve soon. 3 yearling heifers, 1 herd bull, and 4 yearling bulls. These cattle are in fine shape.
Call or write.
LEE DUDGEON, - - Soledad, Cal.

RHOADES & RHOADES
Expert Livestock Auctioneers

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California.

Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

CUTTER'S BLACKLEG PILLS

"California's Favorite" for nearly 20 years

For the Prevention of Blackleg in calves and young cattle

Their superiority is due to nearly 20 years of specializing in "Vaccines and Serums only."

Year in and Year Out they give better satisfaction than any other vaccine made, and the cost of a few cents per dose is cheap insurance against a disease that always takes the fattest and best.

Single Pills may be used for ordinary and range stock.

Double Pills should be used for pure bred and high grade stock.

Use any Injector, but Cutter's simplest and strongest.

Prices:
10 dose pkge. Single pills $1.00
50 dose pkge. Single pills 4.00
10 dose pkge. Double Pills 1.50
50 dose pkge. Double Pills 6.00
Cutter's Pill Injector.... 1.50

Insist on Cutter's. If unobtainable, order direct.

Write for new booklet, "The Control of Blackleg." It tells about Anti-Blackleg Serum which cures Blackleg and may be used simultaneously with vaccine to combat outbreaks and safely protect valuable stock.

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R. F. WILSON, Stockton, Cal.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

HOW MANY HENS IN A PEN?

How many hens does it pay to keep in one pen? This is one of the most frequent inquiries among people who want to make the most profit out of hens. And it can be answered from experience, not from guess work or haphazard, because I have tried nearly every plan to see which gave the best results.

AN EXPERIMENT.

At one time I was trying to keep more hens, to be in the crowd, and have it to say I had "so many"; and though my number of hens expanded, my profits did not. Everything, even to the labor, was on a bigger scale. I had enlarged the yards, green feed, and feed bills, but the profits decreased. When I realized this it was time to find out where the leak was, and I did not think of anything else for a while. I knew people who were keeping 100 hens in a run no larger than mine, and with the same size of house, and I had only 75 hens. This was before I knew about Hoganizing, and trap-nesting took up too much time, except to try out a pen or two to find out what kind of average stock mine was. But on a venture I took out hens from one yard and from another and made up extra yards with the 25 from every two yards, leaving 50 in a yard.

ANOTHER EXPERIMENT.

And after the hens adjusted themselves to changed conditions I found that I got just as many eggs from 50 hens as I had formerly gotten from 75. This elated me so that I had to experiment further, but house room was getting short, so I sold the heaviest hens out of two yards for table fowls and got a vacant yard for experimental purposes. In this pen I took five hens from five different yards, not making any selection at all, but just taking them as they came, and made up a yard of 25 odd hens that had not been together before. It took the hens three or four days to get down to business, but after that I collected about as many eggs from this yard as from yards with from 45 to 50 hens. At that time I was raising Brown Leghorns, and they were good layers, too.

When I found that 25 hens gave better results than larger numbers, I picked out more heavy, fat hens, because a fat Leghorn can be depended on being a poor layer. No hen should be fat in the laying season, nor will she be if she is of the laying type. Though a fat hen may lay some eggs, she will never pay for her board.

SMALL NUMBERS GIVE BETTER RESULTS.

I've tried hens from 75 down to 12 in a yard, and always found, other things being equal, that the smaller number gave better results, though 20 to 25 is not bad. In small numbers there is less danger from contagious disease, less breakage of eggs, less trouble with vermin; and if properly arranged, the labor of feeding and cleaning out can be much reduced. Labor and cost of house room are the only objections raised against keeping hens in small numbers, and where thousands are kept the objections are well raised. Still, if one can produce two eggs where one is usually produced, it would not be necessary to keep so many hens to make the same profit.

AN EPIDEMIC AMONG 3000.

At the Stag's Leap Ranch we had some 400 or 500 hens in one house, and there was a row of houses—I think five—and it was claimed there were 3000 hens in those five houses. Things were all in favor of the outside grounds being kept clean, because a stream of water ran through the one big yard. But in the spring one or two hens, perhaps, in each house started with a little cold and it spread like wildfire. We had been getting 75 per cent of eggs from those houses, which was very good, but when that epidemic struck them in three days we found the product down to 30 per cent, and that, too, with all the help working night and day to better conditions. We lost a few hens, but nothing to what anyone would have expected, because the hens were in good condition when the epidemic struck them and everybody worked without stint.

LOST ONLY THREE PER CENT.

If these hens had been in smaller numbers and one hen had shown signs of cold, she could have been removed and no further trouble would have occurred. Again, if these hens had been housed in poor houses in such numbers, the possibilities are that two-thirds of them would have died instead of about three per cent. But they had good, substantial houses, open fronts, and were kept clean and cared for right.

KEEP YOUR CHICKENS.

On account of the apparent high cost of feeds, some poultrymen think that no money can be made in the poultry business, but the following experience of the members of the Tulare Co-operative Poultry Association proves otherwise:

Assuming that it takes two pounds of wheat, two pounds of bran and two pounds of Surelay to produce a dozen number one eggs, this mixture in 1916 cost: Wheat, $.032; bran, $.035, and Surelay, $.05; total, $.117. Eggs were selling for $.20 a dozen, leaving a profit of $.083 per dozen.

This same mixture the past May cost: Wheat, $.085; bran, $.05; and Surelay, $.0625; total cost, $.1975, to produce one dozen eggs. Eggs in May sold for $.31 a dozen, leaving a margin of $.1125 per dozen, or nearly $.03 more profit per dozen than the 1916 eggs netted.

VALUE OF POULTRY DROPPINGS.

More than a billion dollars' worth of barnyard refuse is wasted in the United States annually, which is a national tragedy, says Carl Vrooman, Assistant Secretary of Agriculture. At the present price of chemicals used for fertilization, poultry droppings from a mature fowl during a year, if gathered daily and converted into liquid manure or at once buried deeply in the soil, should be worth fully forty cents.

The foreign demand for American breeds of poultry is growing rapidly. We note the recent shipment of a lot of Rhode Island Whites from Texas destined to Melbourne, Australia. A Panama steamer that recently sailed from a Pacific Coast port carried a magnificent pen of Buff Plymouth Rocks raised by Mr. and Mrs. F. J. Morgan of Pasadena and destined to Central America.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

FEEDS AND FEEDING.

(Concluded.)

LINSEED OIL MEAL—N. R., 1:1.6.

The old process linseed oil meal contains more oil than the new process, but lately it has been difficult to obtain the former. In making old process meal, the seed is first crushed, then heated, placed in sacks and subjected to hydraulic pressure, the oil being squeezed out; the slabs of crushed seed are then ground to a fine powder. By the new process method, the heated crushed seed is put in a retort, naphtha being put in to dissolve out the oil and carry it away. This chemical process is much more thorough than the hydraulic and more oil is taken off.

THE TEST.

The test to determine the kind of linseed oil meal: Take a tablespoonful of linseed meal, pour into a glass of water and allow it to settle. After the new process meal has settled to the bottom, leaving the upper water fairly clean, it does not form a jelly, while the old process meal forms a jelly like precipitate.

We have used linseed oil meal the year around for several seasons with excellent results. Meat scrap appears to be hard on the hens' digestive organs; therefore, in order to bring up the protein content, oil cake is added to the extent of about seven pounds to one hundred pounds of mash. Linseed oil meal is stimulating and has a natural tonic effect. It helps the fowl during molting season in throwing off old feathers, keeps the digestive system in good condition, and stimulates the blood.

SOY BEAN MEAL.

Soy bean meal is quite similar to linseed oil meal as a food, but since it is very concentrated, care must be taken not to overfeed it or derangement of the liver is apt to follow.

COTTONSEED MEAL.

In some sections of America this feed is used, but we have never tried it and data as to feeding qualities is difficult to obtain.

ANIMAL FEEDS NEXT WEEK.

This completes the discussion of vegetable feeds for poultry. If there is any point not made clear or if we have been in error, do not fail to tell about it. We will gladly give you any other information available.

THE BEST HENS MUST BE KEPT.

On account of high feed prices, a lot of the best hens are being sacrificed on the market. This will make mature breeding stock scarce next spring and poultrymen are apt to hatch from immature pullets. This will surely spell disaster for pullets, especially those that have been forced for egg production, cannot and will not produce livable chicks. It is a waste of money to try it. Better save a few of your best hens or pay a little more and buy eggs or chicks from breeders who used only mature stock. You must increase the efficiency of your flock. This can only be done by breeding from the best hens mated to cockerels hatched from known high producers.

Save your late molters, those that are usually very active, early off the roost and late to go to roost. If you don't trap nest, watch the hens. The best ones can be picked out. Now is the time to do it.

WHY NOT POPULARIZE POULTRY MEAT?

There should be some organized effort made to popularize poultry meat as food. As conditions now exist, at times there is but little demand for poultry meat in comparison with other meats, such as beef, pork and mutton. To most people, especially those residing in the cities, it is considered a luxury, and is therefore used sparingly. The best cuts of meat sell for more than dressed poultry in most places. Dressed Leghorn hens can be purchased in the country for from twenty to twenty-five cents per pound, with prices a little higher in the city. Most cuts of beef have more bone and waste than poultry, and are therefore not as economical. Some farmers and even poultrymen will sell their hens for fifteen cents per pound, then go to the butchershop and buy beef at twenty-two and a half. This is false economy.

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

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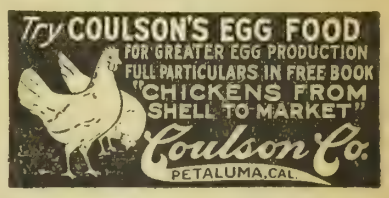
"EASTMAN'S BRED-TO-LAY" Barred Plymouth Rocks, August chicks and eggs. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

BRONZE TURKEYS — Albert M. Hart, Clements, Cal.



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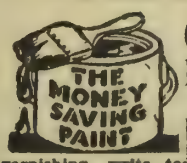

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Mrs. Best's Letter.

CLEARANCE SALES AND THEIR OPPORTUNITY.

My Dear Friends: August is the month of sales of home furnishings in most of the big stores. The furniture stores are having reduced prices on rugs, furniture, bedding, draperies and, in fact, practically all the articles they carry. The dry goods stores are also having clearance sales in those departments and such articles as desk sets, lamp bases, marble statuary, bronzes, waste paper baskets and potteries are much reduced.

China and semi-porcelain dishes in open stock patterns have reductions from 10 to 25 per cent, and lines that are being discontinued are in some instances reduced one-half.

In one of the best art stores of the city there is a general sale in progress where mirrors, pictures, fancy dishes, lacquered ware and the like can be purchased from 10 to 25 per cent reduction. If you have needs, either for your own household or for a gift, it would pay you to take advantage of these sales, for at the end of the month the prices go back to the original. There are many articles, as bon-bon dishes, candlesticks, compotes, crystal vases under two dollars, that would make attractive little gifts.

The needs of the kitchen are not overlooked, for one very large store is having a sale of aluminum ware, the reduction being fully one-third, due to the discontinuance of the line.

Odd pieces of furniture, like serving stands, tea wagons, music cabinets, writing desks and over-stuffed furniture, can be picked up now at considerable saving.

In one of the stores there is an entire department for infants. Here you will find the new cariole, which is a play-house by day and a bed by night, as well as the play-houses that are hinged and can be folded up and put away when not being used to confine the active child. These little pens have a canvas floor. The chests for clothes are nearly all in white enamel, and there is a rober, which is nothing but a set of shelves to hold the articles necessary to dress the baby, and a small tree, similar to the hall trees, on which to hang baby's garments at night.

For the small baby there are bassinets that rest on stands, some of them with handles, so they may easily be carried from room to room. These bassinets are almost like clothes baskets and can be purchased plain and fixed up as one's pocketbook and fancy dictate. White enamel improves them, as it does almost everything intended for a baby's use.

In this same department can be purchased the crib blankets and comforts , made of silkoline covering a sheet of lamb's wool, as well as the pillows and linen for the crib.

ROSABELLA BEST.

STRING BEANS FOR WINTER USE

Editor Home Circle: Noticing a request in your last issue, by Mrs. J. F. P. of San Jose for a recipe for preparing string beans for winter use, I offer the following:

String the beans and boil until tender. Do not season. Drain and let cool, then pack in glass jars. Add one tablespoonful of salt to each quart and fill jar with equal parts pure cider vinegar and cold water. I found this successful last season. When opened the vinegar may be saved and after adding fresh water and cooking beans have much the same taste as sourkraut. I also have made my best pickles by putting as many cucumbers as can be packed in jar, adding one tablespoonful of salt to quart and equal parts of pure cider vinegar and cold water. When opened the pickles are as solid as the day they were placed in jar and will keep indefinitely.—Mrs. R. G. W., Oakland.

THE HOME CIRCLE

MACARONI SALAD.

Cook 1 pint macaroni in 1½ quarts of salted boiling water about 30 minutes; drain well and put in dish; add 1 teaspoon sugar, 1 tablespoon vinegar from sweet pickles, 2 teaspoons thick cream, 1 medium-sized stuffed sweet pickle or plain sweet pickles; mix well. For dressing take the yolks of 2 eggs, 1 scant teaspoon powdered mustard, 1-3 teaspoon white pepper; beat, adding a few drops of salad oil at a time until you have used ½ pint of oil. When very thick add 2 teaspoons lemon juice; beat, adding 1 teaspoon salt. Let stand ½ hour; mix two-thirds of it in salad; use the rest for garnish. Have macaroni in small pieces.

GRAHAM BREAD.

One cake compressed yeast, 1 cup milk scalded and cooled, 4 tablespoons light brown sugar, 1 cup lukewarm water, 2 tablespoons melted butter, 4 cups Graham flour, 1 cup sifted white flour, 1 teaspoon salt. Dissolve yeast and sugar in lukewarm water; add butter and salt and flour gradually, enough to make a dough that can be handled. Knead thoroughly, cover and set aside in warm place to rise for about 2 hours. When doubled in bulk, mold into loaves, place in well-greased pans, cover and let rise for an hour. Bake 1 hour in a slower oven than for white bread. If set over night, use only ½ cake of compressed yeast.

BAKED PRUNES.

Use good sized prunes and place them in the baking pan, side by side, so that they hardly touch each other; cover over with water and put in oven (not too hot) for 1 hour; pour off ¾ of the juice (use this for a beverage); add to the prunes a little sugar to suit taste, a stick of cinnamon and the rind of 1 lemon; cover pan tightly and place back in moderate oven and bake for at least an hour.—Victor Hirtzler, chef at St. Francis Hotel.

FRUIT JELLY STOCK.

[Written for Pacific Rural Press by Prof. W. V. Cruess, University of California.]

In making ordinary jellies the juice of suitable fruits is extracted by crushing and boiling, and then, after clearing and the addition of sugar, placed in glasses, where it jells. When the fruit is available, it may be inconvenient to make jelly, owing to lack of time or to the high price of sugar. In such cases it will often be found convenient and economical to use the fruit to make "jelly stock". This term is used for the fruit juice after extraction and boiling and before the addition of sugar. This jelly stock is quickly and easily prepared, and may be preserved for any length of time. It remains liquid and can be made into jelly at any time when needed or when convenient. The advantages of this method are that it lessens the work during the fruit season and distributes the work and cost over the entire year. It is economical of space and jars, and obviates the buying of large quantities of sugar months before it is needed. It also renders possible the making of blended jellies with various fruits which ripen at different times and thus increases the variety possible.

FRUITS SUITABLE FOR JELLY STOCK.

To make jelly, a fruit must contain both pectin and acid in sufficient amounts. This is practically always the case with the following fruits: Apples, some varieties of plums, lemons, loquats, guavas, cranberries, currants, blackberries, loganberries, and Eastern varieties of grapes, such as Isabella and Concord. These are all suitable for making jelly stock. Other fruits are deficient in either pectin or acid, or both. Among these are apricots, peaches, pears, plums, figs, oranges, strawberries, and most varieties of ripe Californian (vinifera) grapes. However, when mixed with fruits containing a surplus of the ingredient lacking, they may be made into excellent jellies and the ingredients which they do contain utilized. Oranges, apricots, peaches or strawberries, for example, if mixed with lemons, apples, currants or loganberries, will make excellent jellies. These may also be prepared like jelly stocks and the material produced, while incapable of yielding jelly alone, can be blended with the jelly stocks, and jellies made, similar to those made by blending the fresh fruits as described above.

GENERAL DIRECTIONS.

The fruit is cut into small pieces or crushed, to facilitate cooking and extraction of the pectin. A small amount of water is added to pulpy fruits. Very juicy fruits, such as loganberries and currants, do not require the addition of water. The fruit is boiled until tender and the hot juice separated by pressing through a coarse cloth. A meat press is convenient for this purpose. The hot juice is then tested by adding sugar to a small portion and making a trial glass of jelly to ascertain if it contains sufficient pectin and acid. If deficient in these constituents, it may be concentrated by boiling down. When found satisfactory, with or without concentration, it is filtered through a jelly bag until fairly clear. This juice may then be sterilized in cans, jars or bottles and stored away until needed for jelly making. Jelly is made from this sterilized juice in the usual way by adding sugar and boiling down until the proper consistency is reached.

Specific directions are given below for apple and loganberry jelly stocks. For the preparation of orange, lemon and lemon jelly stocks, see Circular 146 of this station. The directions given below can readily be modified to suit other fruits.

APPLE JELLY STOCK.

Choose tart apples which are ripe but not over-ripe. Sound waste apple cores and peels can also be used. Cut in quarters or smaller pieces. Place in pot or jelly kettle and cover with water. Heat to boiling and boil until tender. Place the hot fruit in a cloth, in a meat or fruit press, and press out juice. Test a small quantity of juice as follows: Place one glass of juice and one glass of sugar in a small pot. Boil until the liquid sheets or jells from a spoon. Pour into a glass where it should jell in less than an hour. If the juice will not set, boil it down to about one-half its volume and test again. Heat the juice to boiling and pour into a jelly bag. A felt, flannel or other heavy cloth bag will serve for a filter. The first juice which filters through will be cloudy. Pour this back and filter the whole lot until fairly clear. If the juice is to be kept in jars or cans, scald these in boiling water. Heat the filtered juice to boiling and pour boiling hot into the containers. Seal them hot and place on their sides so that the caps will be sterilized. If ordinary bottles are used, fill the bottles with the hot juice. Cork with corks sterilized 10 minutes in boiling water. Tie the corks down with string. Place the bottles of hot juice in a pot of hot water. The bottles should rest on a wooden screen placed in the bottom of the kettle to protect them against breakage by direct heat from the fire. The water should boil four or five minutes. The bottles are then removed and the corks coated with paraffine. A wire basket to hold the bottles can be made to fit the kettle and greatly facilitate the work of sterilizing.

LOGANBERRY JELLY STOCK.

Crush the berries, bring slowly to boiling and boil one or two minutes; press out the hot juice. The residual pulp may be mixed with a little water, boiled ten minutes and pressed. The first and second juices may be combined or kept separate. The best jelly is made from the first juice. Test for jelly-forming power by making a trial glass of jelly; filter and sterilize. Other berries may be treated similarly. A blend of

TODAY.

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In a hazy, long-dead day,
But the things you think and the things you do,
That the world must have today.

No, it isn't a name nor a breath of fame,
Nor a pile of horded pelf
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So go in to win, with a happy grin,
Let Fame and Wealth go to,
For the world needs men whose hearts are right,
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equal quantities of loganberry and strawberry jelly stocks may be used. In the same way, many other combinations of different fruits may be prepared — e. g., pineapple - apple, peach - apple and raspberry - loganberry, etc.

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MAKING JELLY FROM JELLY STOCKS.

Jelly is made from the sterilized juices in the same way as from the juice from freshly-boiled fruits. The following directions will give good results if the juice contains sufficient pectin and acid: To each cup of juice add one cup of sugar; boil until the liquid will sheet from a large cooking spoon or until the liquid boils at 220 degrees Fahrenheit, as indicated by a chemical thermometer inserted in the boiling liquid. The jelly is then ready to pour into glasses or jelly molds. In small laboratory tests, the following yields of jelly stock per 100 pounds of fruit were obtained: Apples, 10 gallons; currants, 10 to 12 gallons; blackberries, 8 to 10 gallons; loganberries, 12 gallons. The yields will vary greatly with the ripeness and other conditions of the fruit used, and the results given are, therefore, merely approximate.

Good Health.

[By H. E. Pastor, M. D.]

Hay Fever (or Rose Cold).

A paragraph is going the rounds of the State press to the effect that a prominent San Francisco physician and an assistant professor of economic botany of the University of California have, working in conjunction, ascertained that the cause of hay fever in the Sacramento Valley is the pollen of the black walnut. Hay fever is a very widespread, troublesome and devitalizing disease, though one not well defined. It seems to be a catarrhal inflammation involving in the main the mucous membranes of the ocular and of the respiratory tract, and to be associated with a more or less profound disturbance of the nervous system. Sneezing, prolonged and exhausting, is one of its most prominent and most annoying symptoms. It occurs about the same time of the year in each individual case, some years the symptoms being milder and others more severe. The pollen theory of causation is the one most generally favored, though just what plants give off the offending pollen is a matter on which investigators are not agreed. Whatever variety or varieties of pollen may be charged with provoking this malady, it is recognized that certain general conditions precede the taking on of the disease: There must be present some form of external irritant; there must be a constitutional predisposition or sensitiveness to the effects of this irritant; and there must be a hypersensitive spot or area on which the irritant acts. As the middle of August is about the time for the autumnal attack, from whatsoever cause, a word or two as to means of relief may be here in place. Perhaps the best, the only radical remedy is removal to a place free from the exciting cause. If the patient is not circumstanced to do that, he should live a quiet life during the period of the attack, and expose himself to neither great heat nor cold. Avoid indigestible foods, or gas-forming foods, as beans, potatoes, etc. Most fruits are permissible, though it is said that watermelons often act unfavorably. Little or nothing should be eaten late in the day. In the way of drugs, which should be used under the direction of a physician only, an injection of Magendie's Solution is said to act promptly. The writer of this item has found arsenic (Fowler's Solution), in five-drop doses, taken (in water) three times a day, a most effective remedy in obstinate cases. It is to be hoped the discoverers of the black walnut pollen as a hay fever propagator will evolve an antidote.

It should be said with reference to the taking of arsenic, that its administration should be suspended at intervals of about two weeks, as the poison is liable to be cumulative. Two weeks on and two weeks off is a safe rule.

Milk Vessels in Hot Weather.

Keep down the number of bacteria in your milk by keeping clean the containers. This is a matter of special importance in hot weather. Scald your vessels with live steam or boiling water, and dry quickly, preferably in the sunshine.

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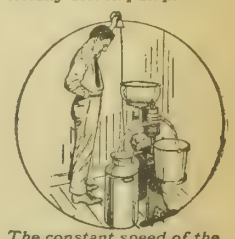

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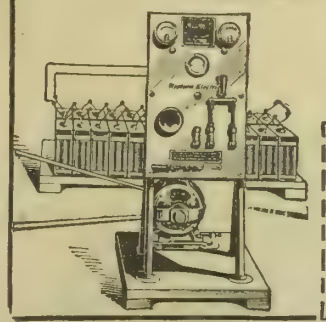

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Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, August 15, 1917.

WHEAT.

The sensational drop in the Chicago grain market on Monday did not cause a tremor here. On the contrary, prices, which had advanced, remained steady. Receipts in this market are light, and stocks firmly held. Conditions here are further strengthened by reports that farmers are holding back from the market, which complicates the situation locally.

Sonora wheat .....$4.00@4.10
Northern Club .....None offered
California Club .....None offered
Northern Bluestem .....$4.35@4.50
Northern Red .....$4.10@4.50
Russian Red .....None offering

BARLEY.

All the speculative furore in futures has died out, but absence of offerings has hardened values which show advances. The market is firm at advances, and no declines may be looked for until receipts increase materially. Ample crops and good quality have had no weakening effect on values.

Shipping, per ctl.....Nominal
Brewing .....Nominal
Choice Feed, per ctl.....$2.50@2.55

OATS.

The market is firmer, with light receipts. Red feed advanced Tuesday. Samples of mixed oats from the north are offering at $2.85 to $2.90, with few takers, because of disparity between quality and price. Much of California red seed is turning out this year equal to samples of any Texas seed oats exhibited, and is now quoted on the market. Present indications do not point to any downward trend.

White Feed, per ctl.....$2.65@2.70
Red Feed, per ctl.....$2.90@3.00
Red Seed, per ctl.....$3.25@3.50

BEANS.

Black Eyes have dropped a few points. With this exception, there is no change in quoted prices of last week. Values generally are firm and offerings scarce. There seems to be no demand for spot stocks, especially from foreign points. Buyers seem to be inclined to wait until arrival of new crop samples.

Bayos, per ctl.....$ 8.25@ 9.25
Blackeyes ..... 7.50@ 8.00
Cranberry beans ..... 10.50@11.00
Horse beans ..... 4.00@ 4.50
Small whites (south) ..... 14.00@14.75
Large whites ..... 14.00@14.75
Pinks ..... 9.00@ 9.50
Limas (south, recleaned) ..... 11.00@11.50
Red kidney ..... 11.25@12.50
Mexican reds ..... 9.50@10.00
Tepary beans .....None offered
Garbanzos ..... 6.00@6.25

CORN.

There have been no arrivals of Eastern Yellow recently, and, with no available stocks, it is temporarily off the market here. The occasional cars of Eastern Yellow arriving are consigned to local mills. This situation has been not without benefit to domestic corn, and California sacked has improved in price. Milo Maize continues to hold level at prices noted last week.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, per ctl., bik.None offering
California, sacked ..... 4.25@4.50
Milo Maize ..... 4.00@4.25
Egyptian .....None offered

HAY.

Receipts of hay are in excess of former weeks. A large number of arrivals still come by water; the car shortage situation showing no improvement. No credit for heavier receipts can be given to the railroads. Dealers have come to the conclusion that if they desire to bring hay to market, it must be done from water points, so every available schooner has been pressed into service. From the present outlook, it appears that more or less of this season's crop will suffer damage because of defective transportation. Unless the situation is remedied, and early rains should occur, it will be a difficult matter to move the hay still in the field, at points where no storage facilities are available. Trade has improved as receipts have increased and the market has been well-maintained at current prices. New straw has arrived and is now quoted.

Wheat, No. 1.....$17.00@19.00
No. 2..... 15.00@17.00
Tame oats ..... 18.00@19.00
Wild oats ..... 13.00@16.00
Barley ..... 13.00@16.00
Alfalfa, new, first cut..... 13.00@16.00
Stock hay, new ..... 10.00@12.00
Straw, per bale.....Nominal

FEEDSTUFFS.

Quite a lively demand for feedstuffs continues, but the means for satisfying it are inadequate. Very few stocks arriving and this situation is aggravated by the fact of some of the northern and local mills having shut down, being compelled to do so from lack of supplies. In view of these conditions, the market is very strong and may advance again.

(Per ton, San Francisco.)

Beet Pulp, per ton .....$38.00@40.00
Alfalfa meal, per ton..... 26.00@28.00
Bran, per ton ..... 40.00@41.00
Oilcake ..... 50.00@55.00
Coconut cake or meal..... 38.00@39.00
Cracked corn ..... 83.00@84.00
Middlings ..... 50.00@52.00
Rolled barley ..... 53.00@54.00
Tankage .....None offered
Rolled oats .....$56.00@58.00
Rice middlings .....None offered
Rice bran .....$30.00@33.00
Shorts ..... 43.00@45.00

POTATOES, ONIONS, ETC.

Some canneries are commencing the canning of tomatoes, which are very plentiful and considerably cheaper in this market. String beans and cucumbers have advanced. There is no slacking in the shipments to Eastern and Southwestern points of potatoes. Most of these never enter the San Francisco market, but are shipped direct. Consequently, this market has been disregarded lately, and arrivals have been few. Stocks coming in are easily absorbed locally. Onion situation unchanged.

Asparagus .....None
Peas, per lb.....4@4½c
String beans, per lb.....3@6c
Wax beans, per lb.....3@4c
Hubbard squash, per dozen.....40@65c
Summer squash, per box.....75c@$1.00
Cucumbers, per box.....50c@$1.00
Celery, per lug.....Nominal
Tomatoes, per lug box.....50@75c
Potatoes, Salinas.....Cleaned up
Oregon .....None
New, per ctl.....$2.50@3.00
Sweets, per lb.....5@6c
Onions, yellow, per sack.....$1.00@1.25
Reds .....85c@$1.10
Garlic, per lb.....2½@3½c

POULTRY.

Values are steady in all lines, in spite of heavy supplies, which find ready takers. Young stock is slightly stronger and shows higher quotations. Advices state that a car of Eastern poultry is on the way, and is due to arrive Thursday. It is not expected that this small importation will have any effect on present values. All lines of young stock are fetching, practically, the same prices. Belgian hares meet with good demand, but arrivals are dropping off.

Turkeys, live, per lb.....20@22c
do, dressed, large, per lb.....None
Broilers, 1½ to 2 lbs.....27@28c
do, 1¼ lbs.....27@28c
do, under 1 lb.....27@28c
Fryers .....27@28c
Hens, extra, per lb., colored.....20c
Small leghorn .....15@16c
Smooth young roosters, per lb. (3 lbs. and over) 28c
Old roosters, per lb.....12@13c
Geese, per lb.....12½c
Squabs, per doz.....$2.50@3.00
Ducks .....15@18c
Old 12½c
Belgian Hares (live) .....10@12c
do (dressed) .....12@14c

BUTTER.

Predictions that butter values would soften have been verified by the past week's transactions. Local requirements do not warrant the prevailing high prices of a week ago. Exportation having stopped and Alaskan orders having been filled, the market became top-heavy and sagged perceptibly. Retailers complained that consumption had fallen off and the maintenance of the abnormal prices became impossible. Australian butter is expected in this market by October and operators who have been buying for storage, fearing the future, have ceased to buy.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43½	42½	42½	40	41½	41
Prime firsts	42	42	42	39	41	40

EGGS.

After several fluctuations during the week, the market, on Wednesday, emerged strong at the quotations of a week ago. Apparently, receivers are holding extras, in order to improve prices of their storage holdings. Receipts for the week were 11,545 cases against 10,845 cases for the previous week.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	42	41½	40	40½	41	43½
Extras 1sts....	41	41	39	39	40	42½
Extra pullets.	37	36	36	36	37½	40
Ex. 1st pul....	36	35½	35½	35½	36½	36½

CHEESE.

There has been very little trading in cheese during the week, and prices are unaffected. Young Americas have received a little more attention than they received the previous week. Jacks, or Monterey cheeses, are going begging at prices which quotations do not fairly indicate. Receipts for the week were 347,900 lbs. against 304,400 lbs. for the previous week.

Y. A.'s 24c
Fancy California Flats, per lb.....23½c
Monterey cheese .....8@18c

DECIDUOUS FRUITS.

Growers are shipping Gravensteins direct to the East, where a heavy demand has developed, and values have improved materially. The same condition is found in cantaloupes and some growers report having sold for $3.00 a crate, delivered in the East, which, after deducting charges, would leave about $2.00. The market is heavily stocked with figs and they are cheaper. Grapes, being more plentiful, have declined. Same Casabas are in the market, selling at $1.00 a dozen.

Apples, Gravenstein, per box....$1.50@2.00
Pears, per box.....75c@$1.50
Cantaloupes, per crate .....$1.25@2.00
Currants, per drawer.....None
Cherries, per drawer.....None
Apricots, per box .....75c@$1.50
Peaches, per box.....50c@$1.00
Figs, per box .....50c@1.25
Plums, crates .....50c@$1.00
Watermelons, per doz.....$1.00
Grapes, Malaga .....50c@1.00
do, Seedless .....50c@1.00

CITRUS FRUITS.

Lemons and oranges are not moving freely in this market because of cool weather. In the valleys fresh fruits have taken the place of citrus, and were it not for the strong eastern demand the languid local interest in citrus fruits would force declines.

Oranges:
Valencias, fancy $3.50
Valencias, choice .....$3.00@3.25
Lemons:
Fancy, per box $8.50
Choice 7.50
Standard 5.50
Lemonettes .....$5.00@6.00
Grapefruit, fancy ..... 3.50@3.75

DRIED FRUITS.

There is a very quiet market, on account of export conditions. France has placed an embargo on the importation of dried and canned fruits, which keeps packers from buying. Also, the suspense while awaiting action by the recently appointed Food Controller serves to weaken the market. The heavy output of dried fruit makes domestic marketing a serious problem, and prices may decline. At present peaches are a little firmer.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop .....9½@10c
Apricots, per lb.....12@14½c
Figs, black, 1916.....None
do, 1917.....5¾@ 6¼c
do, white, 1917 .....6½@ 7c
Calimyrna, 1917 .....10 @11 c
Prunes, 4-size basis, 1917.....6 @ 6½c
Prunes, 1916, basis.....8½c
Pears .....8 @10 c
Peaches, 1917 .....8 @ 8¾c

BERRIES.

The berry season is gradually drawing in. Banners are plentiful and of good quality, but Longworths are no longer offering. Logans scarcer and they are arriving soft and depreciated in quality. Blacks and raspberries remain about the same condition of price and supply as during the previous week.

Strawberries, Banners, chest....$5.50@7.00
Longworths .....None
Blackberries, per chest..... 4.00@ 5.00
Raspberries, per chest.....10.00@12.00
Loganberries, per chest ..... 7.00@ 8.00
Gooseberries .....None

HONEY.

Comb honey is somewhat cheaper, but extracted shows up firmer this week. Receipts of comb have been curtailed but extracted arrives with more freedom. Prices are very steady.

Comb—
White honey .....13@15c
Light amber .....11@13c
Amber ..... 8@10c
Extract—
Water white, per lb.....12@14c
Light amber, per lb..... 9@11c
Amber ..... 8@10c

HOPS.

The range of prices for 14, 15, and 16 is wide, as indicated by the quotations. Futures are quoted at 29 to 31 cents. Advances are checking trading, and market is quiet. Packing has commenced in the Sacramento Valley.

Baled, per lb.....8@20c

LOS ANGELES.

Los Angeles, August 14, 1917.

BUTTER.

Receipts of week ending August 14, 388,200.

Receipts of same week last year, 274,700.

Since the opening of the current week the market has taken a downward turn. The receipts the past week were better and high prices checked consumption. Cold storage stocks here are still 181,949 pounds lighter than this time last year, and this must account somewhat for the market still being 15c per pound higher than this time last year. Chicago is ½c higher than last week and New York is ¼c up, but this failed to influence the local markets. Tuesday brought no change. Receipts were heavy and eastern markets unchanged. Hence on call the prices were made the same as the day before.

We quote:

California fresh creamery, extra.....41c
California prime first 40c
California first 39c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	44	44	44	44	41	41
1916—						
Extra	26	26	26	26	26	26

EGGS.

Receipts (railroads) for week ending August 14, 1917, 906 cases.

Receipts (railroads) for week ending August 14, 1916, 1412 cases.

Receipts continue much lighter than a year ago, but the high prices of last week checked consumption and caused withdrawal of some cold storage eggs and the market in consequence has worked lower. Demand fair, at the decline. The break of 3c in the San Francisco market up to Monday also had its influence. Chicago, while firm at last week's prices, is lower than markets on the coast, making it possible to draw eggs from the Central West to these markets and having a bearish influence. Tuesday, with but few eggs in and the markets both east and west stronger, there was pretty general buying on call and extras and pullets were advanced ½c and case count 1c and this improvement was maintained.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extras	42	41	37½	37½	39	39½
Case count ..	41	41	37½	37½	37½	38½
Pullets	38½	37	37	37	36	36½
1916—						
Case count ...	31	31	31	31	31	31

POULTRY.

A slow and weak market the past week. Light hens marketed freely, slow sale and weak. Broilers and fryers are also coming in freely and receipts of young roosters are better. Broilers and fryers in fair demand and so are heavy hens. Ducks, turkeys and geese dull. Roosters lower.

We quote from growers:

Broilers, 1¼ to 2 lbs.....20@22c
Fryers, 2½ to 3 lbs.....21c
Hens over 4 lbs.....21c
Hens under 4 lbs.....14@15c
Ducks 15c
Geese 12c
Roosters, 3 lbs. up (soft bone).....22c
Turkeys, heavy, 12 lbs. and up.....29@30c
Turkeys, light .....24@25c
Squabs, live, per doz.....$3.00@4.00
Dressed ..... 3.50@4.50

FRUITS.

Receipts of all kinds of fruit good; market slow for most everything. With exception of apples and grapes, prices were generally lower. Apples and grapes brought old prices; sales slow. Figs coming in more freely and fair demand, but at lower prices. Burbank and Satsuma plums coming in less freely. Peaches in good supply, slow sale and lower. Pears steady, but dull. Damsons lower and slow sale.

We quote from growers:

Apples, Gravenstein, per 4-tier box...$1.50
do, do, 4½-tier box.....$1.00@1.25
do, Alexandrias, loose, per lb.....2c
Peaches—
Freestone, local, per lug.....25@50c
Clings, Tustin, per lug.....25@60c
Northern, per lb.....1½@2c
Figs—Black, 2-layer .....$1.75@$2.00
Grapes—Malaga, per lb.....5@6c
Plums—
Burbank, per lug.....20@30c
Tragedy, per lug.....90c@$1.00
Satsuma, per lug .....40@75c
Pears, per lb. .....2@3c
French Prunes, per lug.....60@75c
Quinces, per lug .....65@75c
Damsons, per lug .....60@70c
Nectarines, per lug .....60@75c
Apples, green, per lug .....25@30c

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, August 14, 1917.

During the past week all markets have shown an advance over the satisfactory prices that ruled the week previous.

The supplies have been unusually heavy and in some of the auction markets to such an extent that it was impossible to sell in one day the entire offerings. This, however, seemed to have no depressing effect upon the demand and there seems to be no limit to the purchasing powers of the public.

A noticeable feature this season is the booking of orders, dealers requesting protection for supplies two and three weeks in advance. We judge this to be a good indication or forerunner of a successful grape season.

Light offerings of peaches from Eastern states have had no effect upon the demand for California stock and California Elbertas north of the San Joaquin Valley are being readily sold at 75c f. o. b.

Within two weeks the plum shipments will have finished and California will be out of the way of the heavy offerings that are expected in Italian plums from Idaho.

This week will practically clean up shipments of pears and plums from the Sacramento River, the season having been the heaviest and most profitable in its history. Bartletts from Suisun district will be finished within a week and Placer County, with the exception of Colfax, will be moving pears for two weeks. El Dorado Bartletts are now rolling and though there may be some competition from the Northwest, we look for prices to be unaffected.

Malaga grapes and Thompson Seedless will be rolling in good supply this week. Although the berries are small, due to extreme heat, the sugar content will be above the required test and stock should carry to better advantage. This applies also to Tokays, which will be ready to ship about September 1st.

The shook situation is considerably improved and all packers seem to be supplied and have sufficient rolling and under contract to take care of the season's crop.

There is an unusually heavy demand for Zinfandel, Mission, Muscat, and Alicante Bouchet grapes for wine-making purposes. This demand seems to come from various sections of the country and growers are experiencing no difficulty in disposing of their crop f. o. b. cars at $15.00 to $20.00 a ton.

Though this season's shipments of deciduous fruits are at present less than the previous year the margin will be cut down considerably within the next thirty days, and weather conditions remaining favorable, we anticipate the heaviest shipment of grapes in the history of the industry.

The following prices have ruled for the week:

New York: Bartlett pears averaged $2.93; Tragedy plums, $1.40; Diamond, $1.62; Wickson, $2.32; Burbank, $1.58; American Blue, $1.42; Grand Duke, $1.57. Crawford peaches, $1.20; Tuscan, $1.70; Elberta, $1.50; Malaga grapes, $2.70; Thompson Seedless, $2.46.

Chicago: Burbank plums, $1.85; Diamond, $1.48; Wickson, $2.15; Sugar, $1.61; Duane, $1.31; Tragedy, $1.51; Crawford peaches, $1.06; Foster, $1.09; Elberta, $1.10; Duke plums, $1.35; Egg, $1.41; Giant, $1.35; Thompson Seedless, $2.08; Malaga grapes, $2.53; Bartlett pears, $2.53.

For the week ending August 10th, total shipments from the State, by cars, were as follows: 569 peaches, 204 plums, 646 pears, 68 grapes.

Total shipments to date, 1917, 6236 cars.
Total shipments to date, 1916, 7454 cars.

HAY CROP SELLS FOR HIGH PRICES.

In the Livermore valley a normal crop of 20,000 tons was produced this year and has been practically all bought by San Francisco dealers at from $18 to $20 per ton, baled, f. o. b. cars. Around Escalon the price of alfalfa hay has jumped from $14.50 to $15.50, caused by the filling of a 1000-ton order from Humboldt county. The San Joaquin valley, from Stanislaus county south, will have very little hay to ship out. Large acreages planted to corn and sorghums will help supply hay shortage.

MELONS.

Receipts are liberal and market was lower all round under the influence of increased offerings. But at the decline there was a fair movement both in cantaloupes and watermelons. Casabas are coming in more freely. Honey Dew melons dull and lower.

Cantaloupes—
Local, Pineapple and Tiptop, jumbo crate .....75c@$1.00
Pineapple and Tiptop, pony crate .....60@70c
Columbia, jumbo crate.....75c@1.00
Paul Rose, standard crate.....50@60c
Watermelons, per cwt.....75c@1.00
Casabas, per jumbo crate.....$1.40@1.50
Honeydew melons, per box of 9-10.....75c

VEGETABLES.

The market for all good fresh stuff held up fairly well. The most noticeable change was in tomatoes, which broke sharply under free arrivals. String beans steady, but dull. Peas scarce and a little higher. Corn steady and firm. Egg plant dull and lower.

Potatoes, per cwt.....$2.75@3.00
Peas, Northern, per lb.....8c
Onions, Northern, per cwt.....75c@$1.00
String beans, wax, per lb.....1½@2c
do, Kentucky Wonders, per lb.....2c
Tomatoes, No. 1, local, per lug....25@35c
do, No. 2.....20@25c
Summer squash, per lug.....10@15c
Cucumbers, per box of 2½ to 3 dozen .....20@25c
Green corn, per lug.....40@45c
Cabbage, per 100 lbs.....40@50c
Lima beans, per lb.....2½@3c
Okra, per lb. 5c
Bell peppers, per lb.....2@2½c
Chile peppers, per lb.....1½@2c
Celery, per crate.....$2.50@2.75
Egg plant, per lb.....2½@3c

BEANS.

Offerings not heavy and with a freer movement the tone of the market was better. We quote from growers:

Limas, per cwt.....$11.00
Large white, per cwt..... 13.50
Small white, per cwt..... 13.50
Pinks, per cwt..... 9.50
Blackeyes, per cwt..... 8.00

HAY.

Receipts good, but with a fair demand both from the country and local buyers last week's advance was maintained. With a more confident feeling as to the future market, there is more or less stocking up.

Barley hay, ton .....$21.00@22.00
Oat hay, ton ..... 21.00@22.50
Alfalfa, northern, per ton..... 18.00@19.00
Alfalfa, local, ton..... 19.00@20.00
Straw, ton ..... 9.00@10.00

HONEY AND BEESWAX.

A quiet but firm market was had the past week. Eastern buyers still holding back, but as the crop is turning out shorter than expected, dealers here are bidding up full quotations.

We quote from growers:

Comb, per case .....$3.00@$3.25
Orange-water white .....12@12½c
White sage .....12@12½c
Light amber sage 10c
Light amber alfalfa 9½c
Beeswax 33c

Special Livestock Market Report

San Francisco, August 15, 1917.

CATTLE.—There is still a full supply of the unfinished variety of beef cattle arriving on this market. This would not be the case were consumption up to normal, which for obvious reasons is not the case. The small per cent of prime cattle are always in demand at top figures. Fewer calves are arriving. Last week's figures:

Grass Steers—
No. 1 weighing 900@1200 lbs.....8¾@9c
No. 1 weighing 1200@1400 lbs.....8¾@9c
Second quality .....8@8¼c
Thin undesirable .....6½@7½c
Grass Cows and Heifers—
No. 1 .....6¾c
Second quality .....6¼@6½c
Undesirable .....4@5½c
Hay-fed cattle ½c to ¾c higher.
Bulls and Stags—
Good .....5½@5¾c
Fair .....5@5¼c
Thin .....4@4¾c
Calves—
Lightweight .....9¼@9½c
Medium .....8¼@8½c

SHEEP.—The situation in the sheep market is comparatively unchanged. The demand for mutton is meager, and the supply is still more so. Mutton growers and mutton consumers are still far apart, and the breach is growing wider. Sheepmen are holding back their best stock for breeding purposes and breeding ewes are in urgent request, yearlings having the call. Lambs are more plentiful. Prices continue on about the same range.

Lambs—
Yearling .....11½@12c
Milk .....11½@12c
Sheep—
Unshorn wethers .....10@10½c
Unshorn ewes .....8@8½c

HOGS.—Hogs are in good supply and in good demand. Their condition is not all that may be desired, but some little improvement is noticeable. A few more weeks and some prime stuff may be expected. Quotations:

Hard, grain fed, 100 to 150.....13@13¼c
do, 150 to 300.....14¼@14½c
do, 300 to 400.....13¾@14c

DRESSED MEATS.

Steers—
No. 1 .....14c
Second quality 12½c
Cows and heifers.....12@12½c
Calves as to size, etc.....12@15c
Lambs—Suckling 22c
do. Yearling 20c
Sheep—Ewes 18c
Hogs 12c

WOOL.—The wool market is stagnant locally, and will not revive till the fall movement sets in.

Southern San Joaquin.....40@45c
Middle Counties .....50@52c
Mendocino and Humboldt.....55@60c
Lambs .....45@50c

HORSES.

While there is no special stir in the local horse market, the action of the Secretary of War in authorizing purchases of horse stock direct from farmer, breeder or dealer must soon give a new impetus to this phase of animal husbandry and its market possibilities. The quotations are for sound animals of good type.

Heavy drafters, 1700 lbs. and up.$240@250
Light drafters, 1550 to 1650 lbs... 150@175
Chunks, 1350 to 1500 lbs..... 150@175
Wagon horses, 1250 to 1350 lbs... 100@125
Delivery wagon horses, 1050 to 1250 lbs. ..... 90@100
Desirable farm mares ..... 75@ 90
Farm workers ..... 50@ 75

Los Angeles, August 14, 1917.

CATTLE—A fair demand was had the past week for both steers and cows, but as the offerings were good, the tone of the market was weak. The high price of feed forced many cattle to market before they are well fatted. But few well "finished" steers are coming in.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs.....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers..... 6.50@7.00
Calves, per cwt. ..... 8.00@9.00

HOGS—The past week brought no change in this market. There was a fair run of medium-fleshed hogs in from California, but few well-fatted. What are arriving are bringing a premium over quotations. While killers were all in the market, they bought lightly.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 250@300 lbs..$11.50@12.00
Mixed, 200@250 lbs..... 12.00@13.00
Light, 175@200 lbs..... 12.00@13.00
Rough docked 20 pounds, piggy sows 40 pounds and stags 40 per cent.

SHEEP—A steady market prevailed the past week, but it lacked life, the high price of mutton and lamb cutting down consumption and reducing requirements of killers. There were a fair number of sheep in from California and Arizona, but quality was not so good, which helped to make a slow market.

Prime wethers .....$ 9.00@10.50
Prime ewes ..... 9.50@10.00
Yearlings ..... 10.50@11.00
Lambs ..... 13.00@14.00

North Portland, Ore., August 13, 1917.

The market of the week opened at the Portland Union Stock Yards with splendid vim and spirit. The Eastern hog wave seems to have struck Portland about the time of the opening market and prices were boosted 25c in that department, which had a sympathetic raise in the steer and lamb market.

CATTLE.—Receipts 1600. Market was active to strong, 25c higher on steers. The cattle offered in the week's opening, with the exception of two or three car loads, were not as good as what was offered in the yards last week. The general feeling was, that in spite of the large number offered, cattle were a little stronger than at the close of last week. The following quotations obtained: Best steers, $8.25@8.75; good steers, $7.25@8.25; good cows, $6.00@7.00; ordinary, $4.00@6.00; heifers, $6.25@7.25; calves, $8.50@9.50; bulls, $4.50@6.00; stockers and feeders, $4.50@6.75.

HOGS.—About 1200 hogs found their way into a strong and active market, with the result that they cleaned up all offerings within the first hour of the market at an advance of something like 25c over the close of last week, and 40c to 50c over the corresponding day of the previous week. The market warrants the following quotations: Prime light, $16.15@16.25; prime heavy, $16.00@16.15; bulk, $16.00; pigs, $14.50@15.00.

SHEEP.—The transactions of the sheep houses were a little more active than they had been for the past two weeks and the general tone seemed to indicate an upward tendency through the day. The transactions established the following quotations: Yearlings, $8.75@9.50; wethers, $8.00@8.50; ewes, $3.50@7.00; Western lambs, $12.00@12.75; Valley lambs, $11.50@12.00.

Special Citrus Market Report

Los Angeles, August 14, 1917.

Shipments of citrus fruits from Southern California from November 1 to August 12: Oranges, 35,753 cars, and lemons, 7147 cars. Same time last year: Oranges, 28,253 cars, and lemons, 6174 cars.

There was a better tone the past week at the East and special sizes of good oranges brought more money. But the general run of receipts show little change from a week ago. Locally the past week was another very dull one. Grapefruit as well as oranges were dull. The weather has been too cool for the good of the lemon market; but with a short crop and stocks light, what selling brought good prices. Local packers are bidding 1@1½c in the grove picked for Valencias and 1½@2c in the grove picked for grapefruit. Best lemons still command 3@4c in the grove picked, but buying light.

AUCTION SALES.

New York, Aug. 13.—Market higher on Valencias of good condition and quality. Lower in spots on 216s and smaller; steady on 96 to 200s. Market strong and active on grape fruit, 80s and larger. Lemons active. Valencias averaged $2.45 to $4.05. Lemons averaged $7.15 to $9.10.

Boston, Aug. 13.—Ten cars sold. Market doing better on oranges and lemons. Valencias averaged $3.10@$4.30. Lemons averaged $6.60 to $8.70.

Philadelphia, Aug. 13.—Eight cars Valencias, one car of grapefruit, and two cars of lemons sold. Market higher on Valencias and lemons in good demand. Valencias averaged $2.30@$4.05. Lemons averaged $4.70 @ $7.85 .

1917 DRIED PEACHES WITHDRAWN FROM MARKET.

Be advised that all offerings of 1917 dried peaches are hereby withdrawn, effective this date. We are forced to this action because of the unprecedented volume of sales before the crop is harvested. The tonnage we will be required to handle is most uncertain, because of the quantity of peaches, commonly used for drying, which this year have been shipped green and used for canning purposes.

CALIFORNIA PEACH GROWERS.
A. J. Sturtevant, Jr., Sales Manager.

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WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

A PRACTICAL DAIRYMAN AND FARMER wishes to take a dairy on shares; must be close to school; references. Box 730, Pacific Rural Press.

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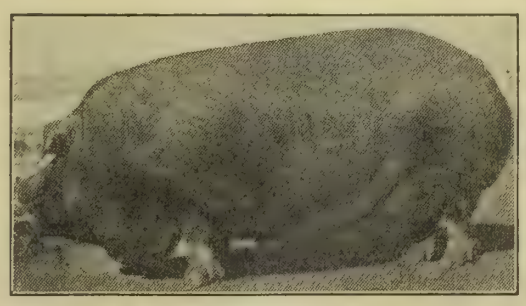

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A standard guide book for California vegetable growing.—Los Angeles Times.

Should be in the hands of every progressive farmer who believes in diversified farming.—Riverside Press.

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THE PACIFIC RURAL PRESS

Forty-seventh Year

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Winter Legumes Enrich Orchard Soils

[Written for Pacific Rural Pr

IT IS A FACT that our orchards are losing their fertility and productiveness. In many deciduous orchards the loss is not noticeable; but leading fruit growers are already acknowledging the fact to the extent of thousands of dollars spent in fertilizers. Now that fertilizers are becoming hard to get in large quantities and promise to become scarcer as the war proceeds, it is time to be growing our own fertilizers.

Dean H. J. Webber of the Riverside Experiment Station, the institution that has studied most thoroughly the fertilization of California soils and the relation of cover crops, says this: "Nitrogen is the element most needed in our soils and is the element most readily lost. A winter cover crop of some legume should not be neglected this year; as by this means the grower secures the cheapest possible nitrogen and organic matter, the two elements of fertilization most needed by California soils. It is also important to strongly advocate the careful conservation and use of all manure produced, and of all spoiled alfalfa hay and other organic materials. After groves have reached the age of eight or ten years, the writer feels pretty strongly that the greatest revenue to the grower and the greatest good to the grove will result from using all space available in growing green manures to turn under, thereby saving on the fertilizer bill."

"Plant roots are the best orchard cultivators," says E. A. Gammon of Sacramento county, who has allowed vetch and melilotus to cultivate his orchard this summer. They do not injure tree roots, they go deeper than any plow, and when they decay, the soil is opened up for water, and the humus added makes the soil far better physically. Adolph Schnabel, of Schnabel Bros. & Co., Placer county, notices that since cover crops have put humus into their orchards, they can't get over the ranch with the same amount of water they used to. The ground absorbs and holds water much better and does not bake. Where it used to be as "bare of vegetation as a cement walk," it is now carpeted with green in spring.

Vetch in Sacramento County Deciduous Orchard. Vetch, bur clover, horsebeans, and alfalfa grown in winter have been found the cheapest and greatest available improvers of soil, fertility, moisture capacity, and crops in deciduous orchard districts.

Melilotus in Tulare County Citrus Orchard. Melilotus, vetch, or Windsor beans for winter growth in citrus orchards are a practical necessity now that fertilizers are high priced. Summer cover crops are also becoming popular, where orchards have plenty of water.

Different Cover Crops for Deciduous and Citrus.

Deciduous orchard winter cover crops present a different problem from citrus cover crops because deciduous orchards are mostly in districts too cold in winter for citrus; and many of them are not irrigated. Two winter cover crops have been found successful in unirrigated deciduous orchards: bur clover and horse beans. Vetch has proved its worth on irrigated orchards of many soils, and in favorable winters does not need irrigation. Melilotus indica has been used with varying success in deciduous orchards, though almost universally used where citrus cover crops are grown. Grain cover crops are seldom to be encouraged, as legumes serve practically all the purposes of grains and are the cheapest, most efficient fertilizer known. Their activity in fixing nitrogen from the air in available shape for tree food, is the reason they should be chosen. All of the clovers, vetches, melilotus, alfalfa, beans, and peas are legumes. Grain cover crops, make humus but add no fertility. Melilotus seed is very scarce this year.

Plant Cover Crops Early.

Early planting on soil that is not sour or waterlogged is universally recommended by those who have succeeded. A good start before winter cold arrives, enables the plants to continue growth, especially of the roots, throughout the winter, getting ready for fast growth when warm weather comes and before plowing time. Contrary to the popular belief, it has been shown that more nitrogen is stored in the tops of legumes than in the roots and nodules. Therefore, the greatest top growth before plowing must be done, is most valuable.

Failures.

Failures are in most cases due to late planting. They are partly due to unsuitable soil. Where similar legumes have not grown recently, failures are often due to lack of the bacteria which work in the plant to supply it nitrogen from the air. In such cases, suitable artificial inoculation brings results the first year. In the absence of inoculation, nitrogenous readily available fertilizer, such as manure, nitrate of soda, sulphate of ammonia, etc., should supply the needed nitrogen until bacteria shall have multiplied enough in the roots.

Bur Clover for Heavy Soils.

Bur clover seems less adapted to sandy soil than vetch. Geo. H. Cutter of Sacramento county, points to the peach, plum, and pear ranch belonging to himself and his brother, where bur clover was tried several years on sandy soil deposited by river overflow. It was a failure, while vetch used the past two years has given fine results, especially where planted in September, after an irrigation to supply plenty of moisture. Bur clover, however, is luxuriant in Placer county granite and slate soils, where vetch has generally failed. There are spots here, however, surrounded by bur clover, on which bur clover has failed though inoculated and given good care. Hughes Madeley of Placer county, has a piece of old peaches, rather sandy, where inoculated bur clover has failed twice, but melilotus grows wild, due, he thinks, to its deeper, straighter roots. Neither melilotus nor bur clover would grow on certain low but well drained spots for C. E. Barber. Adolph Schnabel has succeeded with bur clover after failing on the same spots, by broadcasting manure on those spots at the second planting. John J. Fox, formerly Napa County Horticultural Commissioner, advises a heavy seeding of barley in October to turn under as preparation for bur clover where it would not grow previously.

J. E. Bergtholdt and J. F. Dudley of Placer county have no trouble getting a good stand by sowing late in September after an irrigation and harrowing it in. Ed Ames leaves tufts of bur clover projecting when he plows, and never harrows until dust will fly. By that time burs will have formed and the harrow will scatter them. Mr. Schnabel does not harrow until seed has formed. Mr. Madeley leaves a strip in the center to seed. J. A. Boyce, C. V. Freed, and Gerald Geraldson leave alternate

(Continued on page 179.)

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EDITORIALS

PARTING THE FARMER FROM HIS MONEY.

ACQUAINTANCES are stopping us on the city streets, as we go meandering along in our meditative way, with such ribald interrogatives as this: "What are your poor farming disciples going to do with all the money they are getting this year?" The question indicates a condition of the public mind to which some heed should be given. In the first place it is a perfectly normal condition of the urban mind: current events simply thin the crust of good behavior which generally overlies it and give it a chance for outbreak. The urban mind generally skips along the high spots and does not try to calculate the depth and width of the intervales. In its attention to farming it gloats in aggregates of production, multiplies them by the prices at the corner grocery, and each city man compares the colossal products of such multiplication with his own wages, shop receipts, or professional income, and shouts such a question as we have noted above at any one who is supposed to be an advocate of fairness to the farming interest: "What are the farmers to do with all the money they are making; how can they get away with it?"

Nor is the city mind shaken by what pierces its ears in the country. The city man on business or recreation bent often thinks of getting close to the farming interest as he threads rural scenes and so he fondly fraternizes with the loiterers at the railway stations or on the porches of the road houses and gives a glad hand as he asks: "Well, friend, how's business in these parts?" To which the professional rural loafer answers: "Business? — hell, there aint none: the pesky farmers is gettin' all the money and aint lettin' loose on a cent of it."

DOES THE FARMER GET THE MONEY?

AND so the common city man having looked into the matter in the country, finds his research confirms his previous personal observation and he reaches the irrevocable conclusion that the farmer gets all the money there is in the city and locks it up in the country. It does not matter to him that the facts are exactly the opposite of his conclusion. He is so lamentably ignorant and prejudiced that he can never learn that he and the men he works with or for, and those who are under and over him in city business and industry are really the only ones who ever see the money the farmer earns; that the farmer himself seldom sees it and the reason why "he aint lettin' loose on a cent of it" is because he does not have enough left of what is sent to him as net from his crop sales, after he has settled with tax-collector, store-keeper, and local money-lender, to buy gasoline for a joy ride!

Of course the reason why the city man has such an exaggerated idea of rural profits is because he does not stop to divide the statistics of aggregate productions by the acreage employed, and he does not know anything about the acre-cost of production and when prices rise he has no idea of how everything employed in production rises because everybody recovers the higher cost of living and of materials by adding it to the price of the service he renders the farmer to such an extent that actually the farmer often gets less for himself from a higher market price than from a lower one. This is a very plain matter in farming experience but the average city man has no conception of it, though the more deeply intelligent city men know well enough that the farmer as a producer is up against conditions analogous to those they are sometimes confronted with. When the city manufacturer encounters strikes, higher rents, higher cost of materials, etc., he tries to save himself by raising selling prices: but he too is apt to say: "I was making more money at the lower prices." So it may be with the farmer, but he, except in rare and newly organized efforts, cannot raise prices on a basis of higher cost of production: they may rise and they may fall from causes over which he has no control. When they fall he is in it to helplessly lose; when they rise, he has often nothing to sell or what he does have may have cost him more than the advantageous differential seems to charge him with receiving.

OH WELL: LET'S PLAY HE GETS THE MONEY!

BUT we are not going to preach all day about money which the farmer never gets. It is too old an exaction to be recovered in a day. It probably began when Belshazzar established his ancient octroi collectors at the gates of Babylon to make the farmers of the outside country pay the cost of his heavily irrigated banquets. It is our conviction that farmers as a class have never in the world's history secured what properly belonged to them as producers of the world's sustenance. In all times past they have received less and they are receiving less today than their unusual efforts and outlays entitle them to. In fact they are now receiving less than they deserve from current market values and they are assuming risks and obligations relatively greater than any other class of producers of things the world counts needful! But we declared we would not longer preach and still we go on mauling the cushions!

Let us suppose, then, that the farmers of California are getting lots of money this year, for their products surely will reach great money-value. According to the Census of 1910, the value of all California farm crops, as they left the farms, was $153,111,013. This year we count them worth $250,000,000 at the farm gates. The State Development Board figured them worth in 1916, $450,000,000—but that was after transportation and city handling had added their values. The producer then gets about 55 per cent of what the consumer pays; "what can he do with all that money?" We conceive it to be our duty to help in the settlement of this serious problem.

In the first place the farmer should tear off from his great roll (speaking like an Eastern green-backer) enough to pay his subscription to the Pacific Rural Press in advance to the end of the war—which for this particular purpose we officially estimate to be five years distant. Second, he should order all the California farming books which we publish for his entertainment and enwisening. Third, he should subscribe for enough of this fall's offering of Liberty Bonds to make a deep dado around the walls of his dining room, so that all the splash from his brimming bowls of luxury shall fall to patriotic purposes. When he has done these three great things for humanity, he can begin to spend money freely for the good of his farm and of his own future in food production.

CLEAR OFF OBLIGATIONS!

WE have not said much recently about the joy of owning good land and good farming outfit free from encumbrances, because the desirability of securing low rates of interest and long terms of payment seemed so great for men to run along with when there was no chance in sight for them to have so much money as they are now reputed to have. But the old idea of killing off obligations to get a free hand in the fight for competence is just as sound as ever and it has been of great advantage in the stability of California farming. Every time California farmers have secured for themselves by organization a fairer share of the consumers' money there has been a lifting of mortgages, less noisy but no less effective than Gen. Haig's lifting of the crest of Messines ridge with its whole population of burrowing autocrats. Remember, for example, the first joint-action of the raisin growers of the Fresno district nearly twenty-five years ago and recall how the proceeds of it started a killing of mortgages, with the mortality of a rabbit-drive and laid the foundation for the present wonderful development and prosperity of the central San Joaquin Valley. Every successful business organization of California producers has done something in the same line since that time and there are others which will score great gains for producers this year if the members resist temptation and stand solid behind their own organized production.

It is particularly important to remember now the courage and independence which have come in the past by cancellation of burdens on the land. There are some things in the outlook which obscure the plans for greatly increased production which are being so patriotically laid. It is going to take much longer than calculated to get the cheap money which would warrant free investment in farm improvements and equipment, and it begins also to look doubtful whether the manufacturers would be able to come through with the equipment for power and the uses of it, which are so desirable and, in fact, indispensable for rapidly increased production. Besides there is nothing hopeful at all, so far as we can now see, that the labor supply will be improved either in numbers or in quality—unless the farmers should get together and force the issue with the politicians by supporting their own officeholders, as has been done in Dakota. And we are calling up all these disagreeable possibilities, not for the sake of indulgence in pessimism, which we detest, but that we may indulge rather in looking on the bright side of things, which is our constant joy. And it comes about in this way: the farmer who has no debts nor mortgages and with his subscription paid to the end of the war can sit in the shade in summer and in the sun in winter, reading the Pacific Rural Press and living high on hot cakes and syrup from the sorghum which will volunteer freely enough until the public comes around to the conclusion that the American farmer knows what he needs and is not fool enough to start on largely increased production without the means of coming through with it. The best preparation for such production as a man really can undertake is first to pay his debts and then get into lines of production which will enable him and his family-helpers to use their time and working force in production which promises most concentrated value. Therefore pay your debts and then, what?

WHAT SHOULD A MONEYED FARMER DO?

OF COURSE, we cannot work out this thesis in detail, even if we knew enough. And we could not be sure to fit it practically to every moneyed man even if we knew it all in theory. And it is fortunate that the California farmer, as we know him, needs no such prescription. He is used to thinking out things in their general relations to success and in their particular relations to his own desires and abilities. If this were not true, California would not now be producing those greatest things which no other State can rival and is at this moment marketing them in all parts of the world, in spite of the Kaiser's submarines. It would, therefore, perhaps, be wisest to say that each man who now finds himself one of "those pesky farmers who's getting all the money," as the station loafer said, to keep right along with his getting in a line which he understands and is outfitted for, because all our large lines of production, except wine-making, perhaps, are commanding high selling prices and have well-assured prospects. Our chief producers, the fruit industries, were never so capable, so self-respecting with their matchless self-handling organizations nor so confident of the future. It was very fortunate that such strong feeling developed before the nursery budding-season came along, for so sharp has been the call for next winter's planting that buds will probably

be stuck into everything that stands upright—from a fence-post to a mule's leg, and the latter will not be the only stock that will go off in dormant bud. It is surely great to have fruits go in masses at the prices which are now current, and though buying for the armies is a great present factor in dried and canned fruits, it must be remembered that quite an area of European fruit lands in Belgium, France, and the Balkans has been laid waste and cannot be restored in years. California cured fruits offer more real food for the money than anything else except roots and grains, and therefore Europeans will buy them freely after the war, no matter how impoverished they may be for a time. It is perfectly rational for a moneyed fruit grower to plant more fruit of the kinds he knows how to grow and handle.

Of the coarser field crops, which are not so distinctively Californian as fruits, we are not so confident because no one can tell how much the eastern states and Europe will need to go so far to secure; or, if the war continues next year, can get ships for. We shall know more about barley probably before another sowing time comes. If the Northwest, from Wisconsin to Montana, grows much barley, the longer rail transportation will handicap us in the race to make Milwaukee and St. Louis famous. Also there may be greater trouble than ever to get our surplus to Europe, where it has chiefly gone hitherto, no matter how thirsty they get over there. Therefore it seems to us that barley will need watching, for apparently we have not stock enough to eat it all profitably. Of wheat there promises to be no adequate supply, and as we write a great wheat-promoting effort is on at Washington, the result of which we shall have later. Our California College of Agriculture is making a drive on wheat production which will soon appear in several timely and pertinent publications. We have urged wheat increase in California to save our buying it from other states as we are now doing—thus reducing the world's supply of a rare grain, for the buying of which from the outside we really have no excuse. But of course the moneyed farmer who is attracted by such arguments must calculate whether he can get the machinery and labor which a recourse to wheat will require and he must be assured that the price next year will not be held down to the minimum of $2 per bushel, for, considering the cost of production and the prices of other grains not under specific control, two dollars a bushel is not a fair price for wheat. There are also points to weigh carefully about beans, but as they do not go into the ground until the spring of 1918, we may all be wiser by that time. Onions and potatoes probably can never move profitably from California except in the case of Eastern shortage, which seems not likely to occur with the stimulation which last year's experience gave to Eastern production. In all these things, then, it seems to us that the farmer with a pocket full of alleged money should watch out and not plunge at anybody's command. All these coarse, low-priced products require labor which at present, in the matter of wages, hours of work and working force, makes requirements beyond reasonable forecasts of value in the products contemplated.

ANIMAL PRODUCTS SAFE AND PROMISING.

FOR the moneyed farmer animals and animal products stand subject to the least possible doubt of good prices and inadequate supplies. Prices are sure to be good for some time, but of course such prices are not net to the grower, as our querist in the first paragraph and all like him probably think. Dairy products are high, but if one wishes to know how producing is related to these prices let him read the excellent letter of Mr. Edwards of Princeton on page 156 of our last issue. Other dairy producers should explain to the public what they really need to make their business tolerable and permanent for the general good. But, barring high costs of production, incompetent and overpaid labor and threatened restrictions on trade—all of which are capable of correction or adjustment to selling values, if the public is adequately informed and properly influenced — the outlook warrants the owner of suitable land, with a liking for the beasts, to relieve his pocket-pressure by investment in the animal industry. In the Hooverian philosophy of agricultural production, in which we are deeply read, we find this:

A careful estimate of the world's supply of animals shows the following: Increase of cattle in the United States, 7,090,000; decrease of cattle of western allies, 8,420,000; decrease of cattle in other countries, including enemies', 26,750,000. Total net decrease, 28,080,000. Sheep show a net decrease of 54,500,000; and hogs, of 32,425,000.

Destructive forces have given rise to reactions in many directions. The world's supply of meat and dairy products, of edible fats and industrial fats, wool and hides are all involved not only now, but for far into the future.

The impact of European demand upon our animal products will be maintained for a long period of years after peace. We can contemplate a high range of prices for meat and for animal products for many years to come.

And the corollary to the foregoing indisputable proposition is this, and it should appeal to the farmer with money burning in his pocket for wise spending: The animal which goes farthest in responsive return and arrives soonest with the greatest weight of product for the food and care bestowed, and the most numerous progeny, all of which bring the highest price and therefore the greatest profit for every pound of flesh, milk, fat, wool, and hide, is the purebred, and next come those next of kin to the purebred.

Now, then, you farmers of ours who are "getting all the money," loosen up and buy good stock, feed, breed, and tend them well, and we will never tell a soul how rich you really do become until after your heirs have fought off the inheritance tax collector—providing, of course, that every one of them pays his subscription to the Rural Press five years in advance!

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

The Time to Develop a Spring.

To the Editor: Is not this a good time of the year to develop a spring or seek for water? We have a place on our ranch which for years has given indications of water, so far as an inexperienced person can tell. We are very anxious to have some expert advice before doing any experimenting. I understand that water is not a thing to be carelessly tampered with. Can you recommend some one who could give advice? Any advice you could give would be very welcome.—C. H., Los Gatos.

We are not an expert, nor have we any acquaintance in that line which warrants particular reference. If you have no outflow which indicates a spring definitely, but only a moist place it is a good time to begin on the low side and dig a trench in about two feet deep, watch for a particularly wet place and go in that direction carefully to see if you can discover a trickle and keep watching and working rather shallow until you can see where it is coming from. It is a good time to do it now because you are less likely to be deceived by seepage, and if you can find a trickle now it is most likely to come from a spring. You are not in much danger of losing it so long as you proceed with "uncovering"; the danger is in picking or blasting, which may unsettle rock-openings and send the water away through some other channel. When you get to what seems a rock crevice yielding water, basin around it as much as you like without disturbing the crevice.

Fertilizing Alfalfa.

To the Editor: What is a good fertilizer for alfalfa for winter use? What form of lime would be good to use? I intend to try several different kinds this winter, but do not want to buy something that only helps a cutting or two. My land is a sandy loam and uses lots of water. I irrigate once per cutting until June; then twice until September, and then once until winter. I cut seven times a year; the last one to feed green. My alfalfa does very well the first two cuttings, but after that it grows about 16 or 18 inches tall and blooms, but has very few leaves.—F. M. B., Hanford.

Stable manure is good for alfalfa and a winter application will give continuous action for a year or more. Any kind of lime is also usually helpful to alfalfa, and air slaked or hydrated or gypsum are also in action some time. It is not desirable to apply stable manure and lime at the same time—except gypsum and ground limestone, which have no caustic action on the manure. It is usual to apply gypsum later and it can be used between cuttings in connection with irrigation water. Super phosphate can also be used to advantage between cuttings. Unless you have stable manure, we would advise a winter application of lime, and a summer application, to brace up the later cuttings, of a complete fertilizer of soluble ingredients, such as any reputable manufacturer can furnish.

Pear Slug.

To the Editor: Enclosed you will find some leaves from pear trees planted last year. Some of the trees are quite badly infested, but most of them only slightly. What is the cause, and what is the proper remedy, and when should it be applied?

The leaves are skeletonized and killed in spots by the pear slug. It is a black, shiny, slimy beast, which grows from nearly nothing to half an inch in length, chiseling off the upper surface of the leaf and was active a month ago. You now see only the places where he has been. Watch out earlier next year and as soon as you see the first of him on young trees dust the upper sides of the leaf with lead arsenate powder and flour, half and half, shaken out of a cheesecloth bag on the end of a stick. On larger trees use a dust-spraying outfit. Such an amount of injury as your leaves show will not hurt the trees, but take care not to get too many slugs next year.

The False Chinch Bug.

To the Editor: The enclosed specimens of insects and their work speak for themselves. A combination spray of arsenate of lead and blackleaf does not seem to get them. Their outbreaks are sporadic and very local, though their damage is quite bad. I want to get the combination that will put them out of business as soon as possible.—Reader, San Luis Obispo.

The insect is the "false chinch bug" (Nysius Ericæ). It is found chiefly on weeds and other wild plants, but sometimes takes to garden plants and young fruit trees and vines and puts their foliage out of commission. As they are sucking insects arsenate of lead does not trouble them. Soap emulsions and black leaf are the doses for them, but they must be applied with considerable force to get good contact with their bodies. The best protection against them is to begin earlier in the season and clean up weeds which are their breeding places.

Winter Pasture.

To the Editor: I have ten acres of corn land which will be cleared of crop in October, and being short of feed would like to sow pasturage. What kind would you suggest? The winters here are probably about the same as the rest of San Joaquin Valley. How about barley? If I pasture barley through the winter, would it make a crop of grain in the spring? Of course, I expect to irrigate.—A. B. K., McFarland.

Rye or oats sown in the fall with vetch will make a good lot of winter feed. Either of these grains is surer of early winter growth than barley. Grain may come after "feeding off" to some extent, but would hardly stand what is usually called "pasturage" and come through with much grain. Irrigation will help to get the plants started early and keep them going during the winter, if the rains are too scant or far apart.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., August 21, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.02	.14	64	50
Red Bluff	...	...	...	104	60
Sacramento	...	...	...	94	52
San Francisco	...	...	.01	68	50
San Jose	...	...	.02	84	52
Fresno	...	...	...	100	60
San Luis Obispo	...	.01	.03	76	52
Los Angeles	...	...	...	80	58
San Diego	...	...	...	72	60

Greater Raisin Tonnage and Better Quality

[Written for Pacific Rural Press.]

Early rains last year have scared many people into the determination to pick raisin grapes early. From the marketing standpoint, there still seems every reason to get a high percentage of sugar before picking, as such grapes make plump, heavy, fine-colored raisins that command the most ready sale at high prices. No connection between high sugar content at picking and the crystallizing of sugar in the raisins has been established by the Associated Raisin Company's investigations. The sweetest grapes make the heaviest tonnage of raisins, so the grower who successfully dries only those over say 22 per cent sugar, gains both in quality and in quantity. Tests made by the University of California have shown that Muscats picked with 18 per cent sugar dried 4.8 to 1, while those with 28 per cent sugar dried 3.1 to 1; and the ratio of drying between those extremes was proportional to the sugar content. Their conclusions were that first-class raisins cannot be made from Muscats before they reach 25 per cent sugar or from Thompsons under 23 per cent, with drying ratios 3.4 to 1 and 3.8 to 1, respectively. Later picking, however, means longer curing, which in turn means better quality again.

RAIN HURT GREEN RAISINS MOST.

In the rains last year, it was very notable that ripe grapes came through far better than greener ones. Geo. E. Rice of Reedley, who sulphured his crop and saved as No. 1 raisins all but 1500 pounds out of 15 tons, noted that the greener grapes rotted and molded more quickly; held a sulphur taste; and because of their greenness had dried more slowly. The nearer dry the raisins were when rain came, the less they were hurt, on account of their toughened skins. He "would rather stack half a dozen times than pick greener than last year." Such a rainy fall comes not oftener than once in ten years; and Mr. Rice intends to let even his Thompsons ripen until about September 5th. His Muscats are to be picked about September 8th to 15th. Field man Barry of the Selma district for the Associated Raisin Company., who watched the raisins last fall, also noted that the green raisins soured and fermented; while out of his own 32-ton crop picked with 22 to 24 per cent sugar and rained on, only three-quarters of a ton had to be sold for culls. Good ripe raisins, says he, were not seriously hurt where any kind of good care was exercised. Green grapes come from young vines, second crops, and too early picking of the main crop.

SEEDLESS TRAYS FOR MUSCATS.

O. Peterson, managing W. M. Giffen's ranch near Dinuba, expected Thompsons to be dried in time to use the same trays for Muscats. As trays are very hard to get, this may be necessary on other ranches, especially since Thompsons thoroughly ripened on the vines are likely to shatter off—another excuse for early picking of that variety.

In Kings county, C. A. Bloyd finds that if he waits until September 1st to pick his Thompsons, they are so well sugared that they can go into the sweat box after two weeks or even less outdoors in good weather. He, also, has until last year always used the Thompson trays for Muscats afterward. When any delay in Muscat picking was caused by this system, they simply got more sugar, and more of the second crop made good raisins. Kings county grapes generally ripen a week or two later than Fresno on account of heavier soil.

Both Mr. Bloyd and Mr. Peterson believe that two pickings of Muscats are better than one, though Mr. Bloyd has found it hard to prevent men from picking the second crop the first time over. Mr. Peterson points out that taking the first crop off first very nearly insures its safety and at the same time allows the vines to ripen up the second crop heavier. This permits the lower-grade second-crop raisins to be kept separate; and if any must be dried artificially, it will be these. Their general red color and scanty meat make second-crop raisins undesirable if mixed with first-crop.

FASTER DRYING.

Time is saved in drying by a little preparation which some people are unwilling to give. These may later have rain damage while others have their raisins in the stack. N. C. Christensen of Selma, Fresno county, has dried Muscats with 11 days in the sun; but in usual weather, it takes a month. A week may be saved by running a V through to slope the north side of each center enough so the sun's rays will hit the slope almost squarely. This ground warms up more thoroughly and helps the drying. Then the sun's heat hits the grapes more squarely, too. Mrs. Lillian Powers of San Diego county simply rests the north ends of her trays on the vines to slope them.

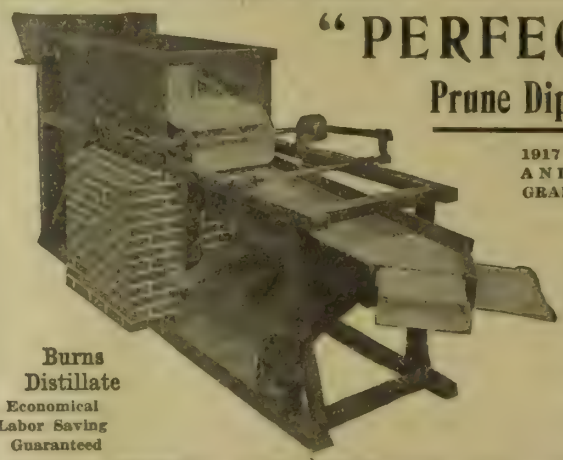
The effect of faster drying, according to Mr. Christensen, is to dent the raisins instead of simply wrinkling them; and there is danger of over drying in hot weather, but no danger of sunburning or giving raisins a burnt taste. Another aid to fast drying is to cut the biggest bunches, as Foreman Hervey does for M. Mathiesen of Reedley. Another, noted by Kings County Horticultural Commissioner Fred K. Howard, is to save several days by reversing the trays end for end when half ready to turn, to get direct sunlight on the opposite sides of berries. One man did this last year without much bending by using two flat sticks with nails driven through their lower ends. The nails would be inserted under the tray edges and the tray lifted and quickly turned, the operator's arms having been crossed before lifting. Mr. Howard suggests an improvement on this by using a stiff wire in the shape of a two-toothed rake with a loop at the upper end for a handle.

NURSERY TREES FOR 1917-18 PLANTING TWO-THIRDS OF NORMAL SUPPLY.

Nursery stock for fruit planting is surprisingly short this year according to reliable advices resulting from a survey of all the important nurseries of the State. Three years ago nurserymen had a not very profitable season. Two years ago, many lost heavily, while others broke even. One nursery lost $25,000; another, $10,000. The nurseryman's crop must be burned if not sold by the end of the season. This resulted in light planting of seedlings a year ago last spring and there was a poor stand in what was planted, especially of peaches and myrobalan. Last spring, there was a heavy loss of buds on what remained of the seedlings, due to bad weather and cutworms mostly. The following figures are based mostly on actual counts of the various nurserymen's stocks last May, with due consideration of normal losses in the months since then. In the cases of only two or three nurseries were the trees only estimated.

AVAILABLE NURSERY STOCKS IN PER CENT OF NORMAL SUPPLY.

Pears	65%	Prunes	60%	Cherries	80 to 85%
Almonds	80%	Shipping plums	70%	Figs	90%
Cling peaches	35%	Apricots	80%	Olives (est.)	75%
Freestone peaches	40%	Apples	75%		



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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

CITRUS FUMIGATION COSTS.

Citrus fumigation is thoroughly supervised and carried out in Ventura county, where the costs are recorded annually by Horticultural Commissioner A. A. Brock. The amount and cost last season are shown in the table below. This is about the usual amount expended in fumigating black scale in Ventura county orchards:

District.	No. of Trees.	Cost.
Fillmore	62,448	$15,668.77
Nordhoff	15,956	4,092.26
Santa Paula	108,630	28,046.66
Ventura	10,291	2,246.89
Total	197,325	$50,054.58
Average cost per tree		$0.253

The county has owned one outfit of fumigation tents and machines for several years. These are about played out and Mr. Brock estimates that the new outfit already ordered will cost about $1600, which will be paid back to the county in the charges made for fumigation during the years it will be in use.

TREES PER OUTFIT.

Says Mr. Brock, "The trees mentioned above were fumigated by several outfits owned by individuals, associations, and the county. There were twenty operating here last season. One outfit can fumigate only about fifteen thousand trees in a season. This takes into consideration break-downs, shortage of labor, and delays caused by bad weather, transportation of fumigation supplies, etc. We have fumigated with the county outfit as many as seventeen thousand trees in one season on account of an uneven hatch which permitted us to work early in the winter."

CUT PEAR BLIGHT NOW.

When pear pickers have finished is a splendid opportunity to cut out all twig blight thoroughly. The deadened leaves show at a glance where the disease is. There is no bloom or heavy sap flow to help its spread. R. D. Stephens II., of Sacramento county, however, says he stops any job to cut out blight whenever it is found. The disease was serious in his orchard four or five years ago, but is scarcely noticeable this season.

DRIED-PEACH WORMS.

Whiskey prevents worms in dried peaches or drives them away, according to O. A. Henry of Fresno county, who learned the trick while working several years ago in a dried peach warehouse. After he found its effect on some old black wormy peaches, about a gallon per ten tons was sprinkled on the fruit every three months. The whiskey smell blows away.

DRIED TUSCAN CLINGS.

Undersized Tuscan clings have been dried and sold readily at 7¾ cents by the Feather River Orchard Company of Yuba county this season, according to R. Richardson. Fifteen dollars per ton was offered for the fresh fruit; but by drying, it netted $27.50 at the ranch after paying cost of drying.

SIMPLE ACCOUNTS SATISFACTORY.

Knowing whether you are ahead of the game is simple if you keep accounts like C. C. Graber of San Bernardino county. Every evening he puts in the sales column of his book whatever money has been received that day for fruit and whatever paid out, indicating what it is paid for. This makes interesting reference a year later.

SMOOTH WALNUT GROUND.

The ground in walnut orchards ought to be plowed September 1, harrowed, and smooched down so smooth that nuts won't be lost among the clods, says Horticultural Inspector J. R. Hyans of Los Angeles county. "Help is going to be scarcer, too, where ground is cloddy."

GRAPES PILED ON TRAYS ROTTED.

Less rotting of rain-wetted raisins occurred on that part of a Kings county vineyard last year, where the grapes were placed evenly on the trays when picked, than where they were piled on the trays and pawed down to spread them out.

BUR CLOVER ON BARREN SPOTS.

In sowing bur clover cover crop on spots where it does not naturally grow though surrounded by good bur clover, use plenty of manure just before or after seeding, says Adolph Schnabel of Placer county, who has obtained good stands on such spots.

CANES SPLIT IN GRAPE PICKING.

In picking grapes be careful not to bend the canes or twist them enough to crack them lengthwise at places where they may be needed for next year's fruit canes, says Kings County Horticultural Commissioner F. K. Howard.

GOPHERS LIKE APRICOT ROOTS.

Apricots on apricot root are a fine proposition in well-drained orchards if they are not gophered. But these roots are sweet and especially liked by the pests. Get next to your County Horticultural Commissioner's gopher plans.

PREPARE FOR APPLE PICKING.

Box shook for apples seems not to be scarce; but it is time to be making certain of a supply and making it up; also to get ladders, picking sacks, lug boxes, etc., ready for the rush time.

Set strawberry plants with the crown even with the surface of the ground.

RED SPIDER WORST EVER.

After a trip through the Sacramento Valley and Northern California counties, State Horticultural Commissioner G. H. Hecke reports that red spiders have been worse than ever in history. The early hot weather was favorable for their spread and many growers were unprepared. Many prune, almond, and apricot orchards were entirely defoliated. Early, thorough, and repeated dry sulphuring or atomic sulphur or lime-sulphur spraying would have avoided their damage to this year's crop and the next.

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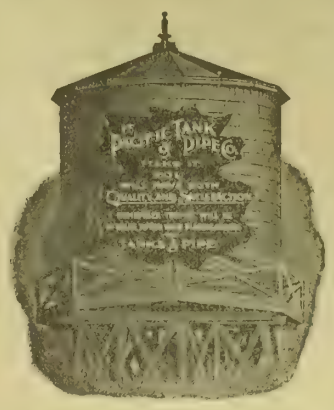

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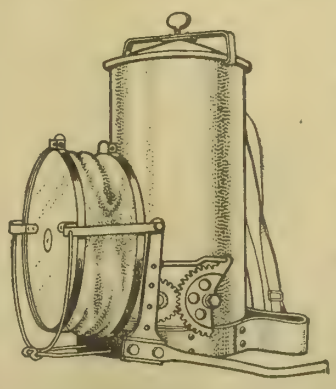

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Fall Work in Orange County Lima Beans

[Written for Pacific Rural Press.]

"I am raising lima beans on a piece that has produced lima beans 14 years consecutively. Ten years ago, a dozen sacks per acre was a bumper crop. I raised 20 sacks per acre on that piece last year and the year before; and it looks like 20 sacks this year," said W. C. Jerome of Orange county when we asked about the need of a rotation. Mr. Jerome is a leader in one of the Orange county locals of the California Lima Bean Growers' Association; and his long acquaintance with the industry enables him to speak with authority on methods used there. "Each year we are learning better methods and increasing the yield. The longer you grow beans on the same ground, the better," says he.

Last year, according to figures gathered by Mr. Jerome for the County Council of Defense, Orange county produced and marketed 378,-321 80-pound bags of lima beans on 35,000 acres, besides seed for the present year's 35,000 acres. The total State crop last year was figured after harvest at 1,800,000 bags. Practically all of the genuine lima beans grown in America are raised within 15 miles of the Coast south of San Francisco Bay. They require the foggy climate and the lower summer temperatures promoted by it. Limas make strong vines away from the Coast, but do not set well where temperatures rise to 100 degrees. Yet the June hot spell did not hurt them much. On the other hand, limas do not thrive in the shade of bearing orchard trees. They require 100 to 125 days to mature. Planting begins May 1 and the last threshing is done about November 1.

UPLAND AND LOWLAND FOR LIMAS.

There are two distinct sets of conditions in Orange county lima bean districts. Over half of the crop is produced on the "dry uplands," which yield five to 21 sacks per acre with 10 sacks as a fair average. The San Joaquin ranch last year averaged 12 sacks. The low, wet land yields up to 40 sacks per acre. Different methods of culture are necessary. On the lowland, it is a continual fight to get fields dry and warm enough on the surface. Fungi, weeds, and parasites are worse. All the lowland is tile-drained to open lateral ditches, thence into main ditches and into the ocean. There are four drainage districts, in each of which limas are grown. In many places water would cover the ground; but tile hold the watertable about four feet down.

HARVESTING.

Harvesting begins on the upland about August 25. Threshing begins ten to twenty days later, lasting about a month, when it begins on the lowland for about the same period. Sleds with knives sloping diagonally backward and toward each other, cut the bean stems of two rows below the ground and slide them into a single winrow. Three winrows are shocked together by hand shortly after cutting. The vines mat in the rows, and with the heavy growth on the lowlands, rolling cutters must precede the sled cutters. On the dry land, a divider on the sled separates the vines from uncut rows.

The vines are likely to rot in the shocks if weather is continuously wet, but the beans are protected by a fibrous hull almost like celluloid, and are not damaged unless they pop open. These hulls are heavier on the lower, moister land. They do not open in uniform weather of any kind; but sunshine after rain pops those exposed. They are threshed from the field. About a dozen net wagons haul to one machine, which threshes 1500 to 2000 sacks per day.

More care is being exercised to avoid getting clods and dirt among the vines at harvesting; and some of the warehouses last year installed belts for hand picking to take out beans that would reduce the grade.

MARKET PROSPECTS.

Last year the State Association sold nearly to the limit and then lost a lot by rain, which put them into difficulty. This year before July, they had sold 25 per cent of the estimated crop at 9 cents; while according to Mr. Jerome, outside farmers had up to that time sold to speculators at a lower average. The association was holding back the rest of its 35 per cent of the total State crop to await harvest and the certainty of having beans to sell. "There is no question but that the market will hold up," said Mr. Jerome.

SUBSOILING HOLDS MOISTURE.

Mr. Jerome's experience is mostly on the uplands, where the fight is in most fields to hold moisture enough from winter rains to mature the crop. During the past two or three years, deep subsoiling has grown rapidly in favor, so that last fall about half of the upland bean fields were subsoiled; and still more will get it this fall. There is less object in subsoiling the lowlands, though the deep aeration should prove beneficial.

MOIST SIX FEET VS. 2½ FEET.

On the Irvine ranch holes were dug last spring in different fields of similar soil and treatment, except that one had been plowed deep and worked down roughly, while the other had been subsoiled. After the rains, moisture extended 2½ feet down on the plowed land; while it was six feet to dry dirt where subsoiling had been done last fall. "It may not benefit sandy soil so much, but there is no question that it is best for the heavy uplands."

This subsoiling is done while the ground is still dry in the fall, cutting 12 to 15 inches deep and 15 to 18 inches apart. The subsoiler heaves this entire layer loose by lifting it several inches. It takes at least a 40 h. p. tractor to pull the 5-beam subsoiler cutting a strip 75 inches wide at a trip, over an acre and three-quarters per hour. This is fine to prevent erosion on hillsides, also.

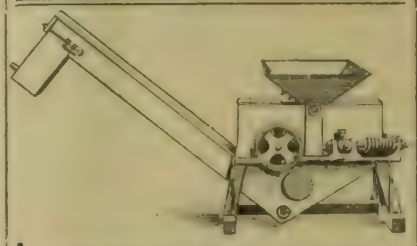
The subsoiled fields are worked down as after plowing, keeping weeds down and working the soil fine before planting.

FENCING ROUGH LAND.

In making fences over rough land, instead of weighting the posts in sharp sags, and depending on the staples to hold wires down, weight the wires.

Arizona Melilotus Seed.

To the Editor: Answering your inquiry, I think there is a fair supply of melilotus seed available at mills in Southern Arizona. For instance, the Mesa Milling Company, Mesa, and the Phoenix Milling Company, Phoenix. There is considerable demand for this seed and I would advise an early application to these or other mills in Arizona. This seed is derived from the wheat and barley crops that have recently been harvested and which are now or are soon to be recleaned.—R. H. Forbes, Dean and Director, Arizona College of Agriculture.



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are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.
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Field and Garden Suggestions

[Written for Pacific Rural Press.]

ST. JOHN'S WORT—A BAD WEED IN HAY.

To the Editor: Will you through the Press kindly tell me what the enclosed plant or weed is? What effect will it have on stock, etc.? It is badly mixed with the hay. Answer will be appreciated.—J. N., Nevada City.

[Answered by Dr. H. C. Hall, University of California.]

The plant is known in the Eastern States as common St. John's wort (hypericum perforatum) and is one of the worst weeds that has ever reached California, although its profuse yellow bloom is quite ornamental. It is a native of Europe. It is of rather recent introduction on our coast, and apparently made its first appearance in Del Norte and Humboldt counties, where it is known as Modoc weed. But Modoc county cannot be blamed for its introduction. It is very plentiful all through the foothills around the Sacramento Valley, especially on the east side.

Its rapid spread is due to its abundant seeding habit; also to its strong spreading perennial root stocks, which make extermination almost out of the question. The juice is bitter and the herbage is seldom browsed by animals, but a number of cases have been reported of poisoning by this immigrant, as well as by our few native species; and so it must presumably be classed as poisonous. Our native species are well behaved and seldom if ever invade fields or act as weeds.

DON'T PLANT FOUL SEED.

Last year, when Russian thistle, Johnson grass, and other weeds were found among seeds about to be sown, there was no way of preventing introduction and spread of such weeds except by persuasion. Ranch owners would see the point quickly; but renters would not. Now, by the new law, horticultural inspectors can examine seed and hold it up if foul.

That one man's license heretofore was another's damage was shown by one orchard, where waste irrigation water followed a road perhaps a mile, then turned and crossed under the railroad track to a large hollow, distributing noxious weed seed all the way and establishing it along many other ranches. The owner of the first orchard has cleaned the pest out of his own, but despite efforts of the inspector several patches still remain along the drainage course.

SOUTH-OF-BAY HAY CROP.

The hay crop this year around Hollister, where one-fifth of the market hay of the State is grown, amounts to about 14,000 tons or 70 per cent of a normal crop, according to R. P. Lathrop, who has been in the hay dealing business there since 1874 and usually receives an average of 1000 to 1500 tons per month through the year. The crop this season consists of barley, barley and oat, red oat, wheat, wheat and oat, and alfalfa hay.

Most of this will go to nearby points, including Santa Cruz, Monterey, Pacific Grove, Salinas Valley and as far north as San Jose. About 2500 tons will be used around Hollister.

There is practically no volunteer hay in these districts or in San Luis Obispo county. The old crop is exhausted. There is little alfalfa, and it will be used where grown. Hay users are storing more than usual on account of the lesson learned from the shortage last year. A larger proportion of barley was saved for grain than usual in recent years. Very little was cut for hay in Salinas Valley.

BEAN CROP NOTES.

White beans in Salinas Valley fine. Some damage in Sacramento Valley to most varieties, but probably normal total yield. Pinks around Stockton damaged slightly. Very poor outlook from Manteca south to Modesto. About 94 per cent of last year's yield around Ripon. About normal production around Modesto. Sixty per cent of normal yield around Turlock, but acreage 13,000 as against 3,000 normal. Blackeyes looking well along coast; a large acreage of beans on highlands, where never grown before, are rather poor; in south, reports of blossoms dropped. Limas some damage, but increased acreage probably will bring the crop at or above normal, 2,000,000 bags. Bluepods planted exclusively in Lompoc Valley and looking fine, except for spots, where poor stand due to drying out. Many acres bluepods farther south along coast. Garvanzos did poorly on account of early planting and bad weather at that time; many plowed under. Horsebeans large acreage, heavy damage by aphis, and crop harvested too weevily to handle much on market. Great increase in tepary acreage southern half of State, doing fine, mostly contracted before planting, but market not wanting them very much.

ASPARAGUS PLANTED TOO DEEP.

"I have learned not to plant asparagus roots for early shoots, too deep," says Ray Henderson of Imperial county. "My first two acres, planted about eight years ago, were set with two-year roots eight inches underground in listed furrows. The first three or four years, I picked that piece fully three weeks later than the rest. Now the crowns have built up near enough to the surface so they come as soon as the rest. Hereafter, I will plant not over four inches deep."

ALFALFA FADES BUT LEAVES STICK.

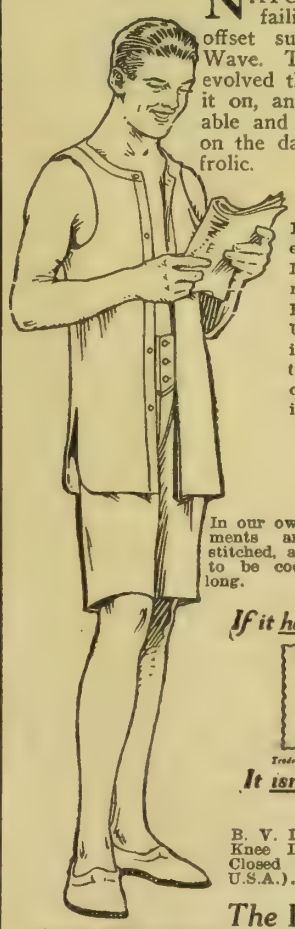
Cut alfalfa for cows before it gets so woody as usual; and leave it flat as long as necessary to get all the juice dry, so it won't mold. Then haul while the dew is on so the leaves won't shatter, says A. W. Morris of Woodland. It may discolor a little but that is lots better than to shatter the leaves.

LIME SULPHUR ON BEANS.

Sacramento county bean growers have been using lime sulphur 1 to 40 with good results against red spider. Upland beans have been worse affected than on lowlands, except where the latter dried out, as observed by Carl J. Williams. They were especially bad where thrips had injured the beans.

The Cool-off Three—
Wind, Wave and B. V. D.

NATURE has created two unfailing agents of coolness to offset summer heat—Wind and Wave. The ingenuity of man has evolved the third—B. V. D. Put it on, and you're more comfortable and competent for anything on the day's slate, from work to frolic.



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Lady bugs help the farmer in his campaign against scale insects and other similar enemies of plant life.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

SOUTHERN CALIFORNIA TRACTOR DEMONSTRATION.

The tractor demonstration to be held from September 18 to September 22 on the Vail property has been aptly likened to the Farmers' Produce Market, as there will be assembled, both for inspection and demonstration, every known reliable make of tractor on the market today. The conception of this annual gathering of tractor manufacturers had its birth through the multitude of inquiries received by the various makers, and it was thought advisable to institute these meetings where inspection of the different makes was open to all. Not the least important of the many helpful results from these demonstrations, is the opportunity offered for a better knowledge of the working parts of the machines, and how to overcome difficulties that are liable to occur to the best of machinery. The mechanics will be on the ground ready to cheerfully instruct and advise, and it is safe to assert that none interested in farm life can attend this demonstration without being benefitted in many ways.

Coming, as it does, when the ranchers and growers are through with their harvests, this demonstration offers a pleasant opportunity for an outing for the whole family. The railroads will have in effect fare and one-third rates for the round trip from all points in California, Nevada, and Arizona, and there is to be a large and interesting exhibit aside from the tractors and implements being demonstrated. This exhibit will comprise automobiles, motor trucks, motor accessories, and electric motors and appliances—oils, furniture, and food products.

It is admitted by all that the present food output, under existing farm methods, will not even suffice for our own needs, not to speak of the needs of our starving allies, and the only solution of the situation is to get a tractor, good implements, and "go to it."

STATE FAIR TRACTOR SHOW.

[Written for Pacific Rural Press.]

If you work land and if you feel the labor shortage, you want to know if there is a tractor to suit your conditions. You know there are a lot of different tractors available. Which one to choose is your problem. If you travel from one salesroom to another through the whole list, you will want to go back over the list again to check up on points overlooked on your first inspection. But the chances are that you will buy one of the first three or four you see and perhaps later see one you would like better.

Your chance to look into practically all makes under one tent and to talk with men who know most about each, will be on Tractor Field at the State Fair September 8 to 15. The California Tractor and Implement Association decided at its meeting in San Francisco August 18 to accept the offer of the State Fair to furnish a tent with 25,625 square feet of floor space in which to exhibit. The entire space was provisionally reserved at the meeting by about 17 exhibitors of tractors, accessories, and tractor machinery. The tent is to be on the field used the past two years for tractors; but this year there will be no dust. The floor and the approach from the main Fair Grounds will be covered with shavings and there will be no tractors cavorting and cutting up the ground and blinding visitors with dust. Space to be occupied by various exhibitors and the specialties you may expect to see there will be announced in next issue.

TRACTOR VINE DIGGER.

[Written for Pacific Rural Press.]

J. T. Onstott of Sutter county wanted to replant some vineyard with fruit trees and didn't want to waste several years getting the grapevines out. He hired Hindus at $12 and $10 per acre for two years, wasting time getting them, and finding that while they got 32 acres grubbed out in the two years, they left big roots in the ground that would catch the cultivators. So he had them chop off the vines at the surface of the ground and got a 45-horsepower tractor with a digger that cleared 80 acres of 30-year vines quickly. After chopping the stumps off, a furrow was plowed each side of them, the tractor digger lifted them loose, and they were easily picked out and thrown onto wagons. Twenty head of stock would have pulled the digger if the tractor had not been available. The digger looks something like a nursery tree digger, having a U iron fixed to a sled of 4x12's so its cross bar, shod with a cutting knife, runs deep enough underground to cut the roots below plow depth. A "gopher" follows the cutting edge so as it slides under the stumps it raises them out of the subsoil. Whenever men digging for trees struck these subsoiled rows, there was no trouble digging.

SANDUSKY ORCHARD TRACTOR.

[Written for Pacific Rural Press.]

The Sandusky tractor people have put out a smaller, more compact-looking tractor this summer, which is intended for orchard work, as their large 15-35 is not. The new one is 10-20 h. p., with plenty of reserve power as in the big one. The machine stands only five feet above ground, except the steering wheel, which is a foot higher. It has no batteries. The magneto starts with an impulse starter. Such a starter can also be put onto old 15-35's at a cost of $10, to abolish batteries. There is a water feed to the carbureter along with the distillate feed. Water vaporizes with the oil in order to prevent carbonization. The fan axle is boxed on a stiff bridge across the frame. The bridge is in two pieces and is so fixed that the axle boxing may be raised to tighten the chain belt of the fan. One of each model will be on exhibit at the State Fair and one of each model will be demonstrating probably on the field used last year for the State Fair tractor demonstration.

YOUR OPPORTUNITY
TO WITNESS THE
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Ever Held in the Southwest
VAIL RANCH
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Every Farmer in America
should make his farm produce crops to the limit. The present war conditions—the high price of all foodstuffs is only an indication of what we may expect to continue indefinitely. Do your share—plant every acre available with some one of the crops the world is calling for. Every manufacturer in this country is doing his utmost to produce Farm Tools that will cut the cost of production on your farm.

FARM YOUR FARM
as it should be done. Don't merely scrape the soil. You have never had a better opportunity to make your farm pay than now. This Tractor and Farm Machinery Demonstration will prove to you the thing most vital today in the minds of the American people: More food must be produced—the cost of production kept down. Learn for yourself how this can be done. Plan to be with us on the dates mentioned. Many new and interesting features in connection with this demonstration you have never seen before. Make this your vacation—we will expect you.

Special Railroad Rates
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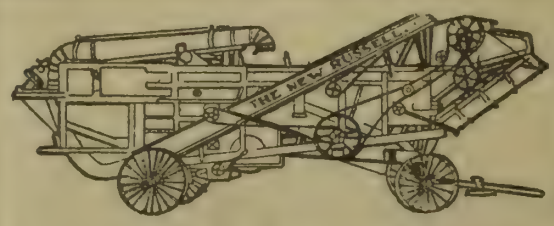

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THRESHER
Guaranteed to thresh both
Beans and Grain
Built specially for California work
A. H. Averill Machinery Co., San Jose

PLOWS OUT SAGEBRUSH.

[Written for Pacific Rural Press.]

Instead of grubbing out the sagebrush by hand or with railroad irons and then plowing the ground, John Boyle plows the sagebrush out as told by Wm. Baldinger, working on the Antelope Valley ranch in Los Angeles county. Since the middle of June, with an 18-30 tractor and a three-gang moldboard plow, an engine driver and a swamper have cleared about 50 acres that had not been plowed for 20 years and was thickly grown to sagebrush and greasewood. Some of the latter had to be grubbed out ahead of the plows; but for the sagebrush, it was just a steady run with no difficulties except clogging the plows. Dirt is turned over eight inches deep where soft, and less where hard. The brush is dry enough to burn in a day or so. It is pitchforked into piles and burned, leaving the soil all ready for the cultivation, harrowing, and planting to beans. Horses could scarcely plow out the brush, because the required number would get mixed up in the brush, and would be unavailable anyway. The tractor just runs over everything.

SAFE SPEED FOR AUTOMOBILE.

Anyone who has ever ridden in a machine will be interested in the answer as given by a recent editorial in the Los Angeles Times. The writer says:

"Thirty miles an hour on a country boulevard with a clear road ahead and no tracks to cross may be considered a safe speed, but thirty miles an hour inside of the city limits is altogether too fast.

"Likewise twenty miles an hour on a city street, between crossings, might be considered a reasonable and safe speed, but twenty miles an hour over a street crossing in the downtown district is so dangerous that ordinances have been passed to prevent such recklessness. Here, according to traffic officers, a speed of eight miles per hour is none too slow.

"Safe speed, then, is a matter of location largely, and even eight miles an hour is too fast when crossing a railroad track, unless the driver knows the way is clear.

"It takes an instant to slow up. It may take a moment to 'stop, look and listen.' It might require a loss of two minutes to set the brakes, walk ahead and see if the road is clear, return to the car and drive safely on.

SLOW ENGINE FOR HEAVY WORK.

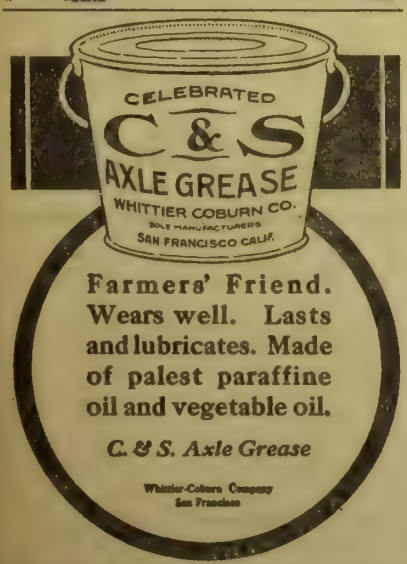
"I like a slow engine for heavy work," says E. T. Nielsen of Santa Clara county. "I got a 40-horsepower engine in 1913 for irrigation at the same time several neighbors got engines of another make. Mine ran at 350 revolutions per minute while the make most generally used by my neighbors ran 450. After these years of running, I like best the way my slow-speed engine works."

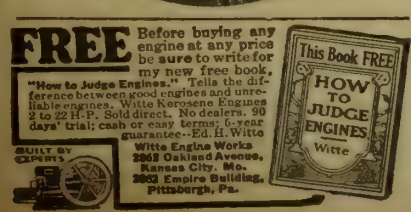
TRACTOR RUNS BEAN THRESHER.

H. M. Thayer's 20-40 horsepower tractor has threshed beans for his neighbors for three years in Sutter county. Stationary threshers were used, turning out 500 to 600 sacks per ten hours. This takes about 30 gallons of distillate and two gallons of cylinder oil, according to Mr. Thayer.

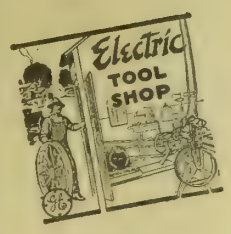
Arthur Swall, of the Swall Land Company, Tulare county, is enthusiastic about his automatic pneumatic air pressure system, which forces water through the house and barns, the farm buildings, and watering troughs. The tank is on the ground, and the air pump starts whenever pressure in the tank falls below 70 pounds.

"We never could have gotten the ground into condition with horses," says B. J. Foster of Tulare county, speaking of 60 acres plowed and worked down in a hurry with a medium-sized tractor in time to plant fruit trees and vines.





The Dependable Hired Man



If you had a hired man available at any hour of the day or night—ready for all kinds of work, in the house, in the barn, or out in the field—your greatest trouble would be over.

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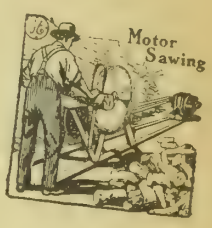

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General Agricultural Review

Field Crops.

Lima bean harvesting began August 13 with great activity on coast sections in Los Angeles county.

A number of the beet growers about Santa Ana are employing school boys in the field in the place of the usual Mexican.

Albert Slack of El Monte is reported to have just harvested his potato crop at 3 cents, his crop running 150 sacks to the acre on peat land.

A large lima bean rancher of Los Angeles county is hand picking his beans, leaving all green ones on the vines to mature and get in a second picking.

Lima beans in the vicinity of Los Angeles county show 30 per cent less than last year's crop. There are many unmatured pods and scantily filled ones.

At the California State Fair this year the vocational department of the Fair has taken on an importance that promises to outstrip in interest and educational value similar features of any previous Fair.

A. S. Bomberger of Manteca recently sold some alfalfa for $16 per ton, baled. He has one of the best producing alfalfa fields in the county, and believes in using gypsum on the land.

E. M. Chase, chemist of the United States Department of Agriculture, who worked out the eight to one test now used universally to determine the maturity of oranges, is in Imperial valley, to develop a sugar content test for melons.

The Japanese truck gardeners in the vicinity of Los Angeles complain that the unusual conditions of the present are taking all the profit out of their business, while the white men who grow potatoes and tomatoes are prospering.

An Orange county man has succeeded in growing sturdy tomato plants from cuttings. Whether the application of the discovery will work a change in the tomato culture is yet to be seen, but the fact that a tomato vine may be produced without seed is interesting.

Hop picking began in the vicinity of Ukiah on the 23d. There will be a scarcity of help on account of the number of people employed in picking pears, this crop being only about half harvested. Fruit pickers are earning as high as $4 a day, whereas the hop growers are so far offering their help the old scale of 1 cent a pound. The high prices of hops haven't done the growers much good, as a large quantity were contracted for at from 11 cents to 16 cents. A small part only is held, and sell for as high as 31 cents.

Deciduous Fruits and Nuts.

Plum harvesting is finished in Sacramento county. The season was good.

The outlook in Spain for almond, walnut and olive crops this season is good.

L. D. Ross of Healdsburg has a large crop of prunes on his 38-acre ranch.

Henry Ballard, Graton, has just finished spraying Roman Beauties for codling moth.

G. L. Hammeken and G. P. Sanborn of Healdsburg are building driers for their own crop.

The Green Valley Canning Company has started work on pears. They employ 100 men and women.

The almond harvest around Paso Robles commenced last week. Indications are a 60 to 70 per cent crop.

William Marshall of Graton sold 100 tons of pears from 425 trees 45 years old—60 per cent shipping pears.

A disease has broken out in apricot orchards of Ventura county, known as the "black heart," and is being investigated by the state and federal officials.

Harvesting of Tulare county's tremendous prune crop is now proceeding. The crop this year is large.

A. C. Merritt, manager of the Apple Growers' Union, Sebastopol, reports six cars a day during run on Gravensteins.

The California Peach Growers, Inc., through the Fresno county department of weights and measures, is conducting experiments to determine the shrinkage of dried peaches in transit to market.

The Garcia & Magginni Company is building a four-kiln dryer at Watsonville with a capacity of 400 tons dried fruit a season. Their Watsonville packing house capacity is 150 cars green fruit.

The Pioneer Fruit Company is now shipping East from Contra Costa county ten carloads of Bartlett pears every day. The pears are selling for from $50 to $80 per ton, according to demand and quality.

Approximately 1500 tons of apricots went to waste in Santa Clara and Alameda counties on account of the late strike of the cannery workers, according to an official of the California Fruit Canners' Association.

Alfred Ross of Forestville sold through the Apple Union 1,700 boxes of Gravensteins from 150 trees and 25 tons to the dryer. The hot weather caused the apples to fall, which was the cause for the large amount of dryers.

The fruit growers of Sutter county are discharging Hindus and getting Chinese help to take their place in the orchards picking fruit. They find the Chinese give value received for the money paid them, while the Hindus do not.

The first apples to be shipped from the Pajaro Valley under the O. K. of the State inspector were sent out by the Loma Fruit Company, the car consisting of 706 boxes of Gravensteins. The fruit was pronounced of first-class quality.

The Pacific Coast Canning Company of Oakland, charged with short weighting of orchardists, has been cleared. The company has made full restitution, claiming that pieces of boxes made from green lumber had caused them to unknowingly violate the laws.

Just as the orange, the "Queen of Fruits," is gaining sway in Central and Northern California, so is the apple, the "King of Fruits," steadily growing in power in Southern California, declares Austin Holcomb, apple expert for the New York Produce News.

The peach crop of Tulare county has come out wonderfully of late. Peaches there that early in the season it was thought would be almost a failure are turning out a 100 per cent crop and are being contracted at $35 per ton, against $15 to $16 per ton last year.

The Peach Growers' Association is said to have disposed of the bulk of its holdings and has temporarily withdrawn prices. It is estimated that the member growers will receive on an average of 7½ cents per pound, or about 4 cents above the usual price.

Almond harvesting is proceeding on the Snider place near Davis. The Nonpareils have been contracted at 20 cents; the I. X. L.'s at 17½ cents, and the Ne Plus variety at 16¼ cents. The crop on the Anderson place nearby has been contracted for on the same basis.

The apple and pear crops of the Antelope Valley, says W. F. Fabe, Horticultural Inspector of Lancaster, promise fairly well. While the pear yield is little short of last year's, the quality of the fruit is fine. There will be 75 per cent of an average apple crop and of good apples.

One of the interesting features of the Placer County Farm Bureau Fair will be competition in fruit packing. The fruits to be packed in this contest will be pears and plums. The contestants will be men and boys, girls and women. The decision will be based on speed, neatness and other requisites which go to make up a perfect pack.

Reports from the walnut orchards in Los Angeles county are more encouraging. William Wood, Horticultural Commissioner, says the crop has come out a good deal of late. Towards the ocean the damage by the heat wave was light, and while further back, where the ocean breeze failed to reach, the loss was 25 per cent or over. A conservative estimate now is 90 per cent of an average crop.

A field man for the California Walnut Growers' Association has recently been employed to work in cooperation with walnut investigators of the Riverside Experiment Station in solving growers' problems. W. E. Goodspeed, formerly of the Utah Experiment Station, is the new field man. As part of his work he will lay out plots in various orchards, suggest their treatment, and gather data on results.

To discuss a uniform interpretation of the term "practically free from defects" in the fruit standardization law, the horticultural commissioners of Sacramento and adjoining counties have been called by the State Horticultural Commissioner to meet August 25. It is thought that the standard specified in the apple law may be adopted—not over 3 per cent of any one defect or over 10 per cent of all defects.

The Geyserville Cured Fruit Association has remodeled the Walden cannery building at Geyserville. The size of the building is 90 x 170. It is also installing a new processer, power press, box-making machines, and a concrete steam box for steaming facers. The capacity of the plant is 1500 tons per season. It will employ about fifty people. Mr. W. V. Griffith, president of the Geyserville Cured Fruit Association, reports prunes in fine condition—65 per cent.

Citrus and Semi-Tropical.

Important additions are being made to the Curtis packing plant at Long Beach and will soon be completed. It will handle olives and pimientoes on a large scale this season.

The San Dimas and Charter Oak Valencia crop for next year promises to be 70 per cent of the normal, but the navel outlook in some districts will be as low as 20 per cent.

J. B. Vaile of San Dimas, a well-known orange grower, says the outlook in the vicinity of San Dimas and Charter Oak grows better from day to day. The lemon bloom has been coming on slowly since the hot weather, but it now seems to promise a 50 per cent crop.

The County Assessor of Imperial county puts the number of date

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palms in the county at 20,545; apricot trees, 12,838; fig trees, 6,605; olive trees, 5,910; pear trees, 8,163; grapefruit trees, 46,152; and orange trees, 6,018.

Over in the Riverside district, where there are a great many orange seedlings, expert opinion says ranchers may clean up the full value of their acreage next year. Prices will be high because of light production. Florida's prospects regarding its crop are very poor, and all citrus fruits next winter are sure to bring big money.

Avery S. Hoyt, field deputy of the Southern California district, of the State Horticultural Commission, under direction of the State Horticultural Commission in Florida, has left for Florida and other Southeastern states to gather data regarding the citrus canker, which it is hoped can be used to advantage in protecting the growers in California.

A late canvass of the growing orange and lemon situation by Acting Manager Dezell of the California Fruit Growers' Association revealed more young oranges and lemons than heretofore expected. While the hot wave in June did much damage it did not altogether ruin the crop. Mr. Dezell says that next year's orange crop will reach about 20,000 cars. Having looked over some of the biggest groves in Los Angeles county, he states that fruit is not so scarce as some growers suspected. "I surmise," he says, "that some of the orchardists are looking through colored glasses. Consider the men who own groves of seedlings."

Grapes.

Reports from grape growers in Tulare indicate a bumper crop of raisins this year. The vines are reported heavily set with fine-appearing clusters well filled out.

The United States Senate, on Friday, voted to place a tax of $1.10 on brandy used in the fortification of sweet wine, instead of the 10 cent tax imposed in the House bill.

A Lodi grower has sold his crop of Tokays and Zinfandels to a local fruit firm, receiving $100 per acre for 15 acres of Tokays and a guaranteed price of $15 per ton for his Zinfandels.

Miscellaneous.

Turlock will participate in the Stanislaus County Fair and Livestock Exposition to be held in Modesto in September.

Preparations are being made by the Chamber of Commerce of Lancaster for holding its first fair there September 26 to 29.

Anaheim beet men have been handicapped by the labor shortage caused by the refusal of the Mexicans to work for current wages.

Under the auspices of the San Joaquin County Farm Bureau the farmers at Escalon in the South San Joaquin Irrigation District are organizing the first co-operative marketing association in the county.

The University of California College of Agriculture says seed selection should be practiced by the farmers of California for potatoes, grains, the annual forage crops and for all the vegetables. The farmer should select and grow his own seed.

The State Railroad Commission has authorized the Farmers' Transportation and Sacramento Transportation Companies to increase the freight rates on grain, beans and potatoes fifty cents per ton between points north of Sacramento and Sacramento.

Active steps are being taken to establish a fruit and vegetable dehydrating plant at Concord, Contra Costa county. It is said that dehydrated products resemble ordinary dried fruits and vegetables in appearance, but they return to their original fresh state after standing in water.

The Crop Reporting Board of the Bureau of Crop Estimates of the United States Department of Agriculture estimates that the area of cotton in cultivation this year in the United States is about 34,600,000 acres, as compared with 36,052,000 acres a year ago, being a decrease of 1,452,000 acres or 4 per cent. California has 66,000 acres under cultivation, with 93 the average condition, based on a seven-year average.

Wann Bros., who operated a fruit and vegetable drying plant in Payette Valley, Idaho, for the past five years, are building a 40 x 60 plant at Healdsburg. The dryer is of their own patent. It is so arranged that each tray receives the same amount of heat. The capacity of the plant will be 15 tons of green fruit and vegetables a day. The following-named vegetables will be dried at the new dryer: String beans, onions, rhubarb, corn, tomatoes, pumpkins, squash, cabbage and cauliflower.

Growers' Cannery Grows.

The Placer County Growers' Co-operative Canning Association of Lincoln packed 30,000 cases of peaches in its first season, 1914. This year they are putting up a pack estimated by Manager H. C. Gordon at 75,000 cases, including peaches, plums, pears, and tomatoes. This is the first year with vegetables. The factory started canning July 30 and had 10,000 cases up by Aug. 14. J. B. Adams is now president and A. Fereva secretary.

WINTER LEGUMES ENRICH ORCHARD SOILS.

(Continued from first page.)

strips unplowed through the summers. H. A. Clark of Santa Clara county says it is a waste to sow bur clover without irrigation, except in the burs; but it can seldom be bought in the burs. Mr. Fox would not harrow bur clover seed in at all.

VETCH, MELILOTUS, ETC.

Vetch inoculated and drilled one way in an orchard on the Sacramento river and melilotus drilled crosswise have done finely for E. A. Gammon and also for F. D. Barnhart of Santa Clara county. Mr. Gammon planted in October and left the cover crop all summer. Both kinds grew luxuriantly and went to seed for next year, the trees meanwhile bending to the ground with their load of fruit. He would plant in September if it were necessary for him to plant at all.

Melilotus alone did well for Judge S. F. Lieb of Santa Clara county. J. W. Barnicott of Placer county grew three acres of vetch in a level cherry orchard by flood-irrigating last September, plowing, inoculating the seed, and planting in early October. Mr. Gammon has kept alfalfa among pear trees two to five years old. The trees did "bully" where they had plenty of water, but were stunted when water was short. The latter have recovered this year with plenty of water. One block planted to vetch and oats produced this year a heavy cover crop and magnificent growth of trees.

The Sespe Ranch in Ventura county planted 30 acres of young lemon trees to alfalfa two years ago last summer, with five acres unplanted for comparison. They cut and fed the alfalfa, having given it plenty of water, but keeping some of the water away from trees by borders. No bad results could be seen, according to Ass't Mgr. H. F. Pressey.

Mr. Fox of Napa advocates horse-beans for coast counties planted in rows 30 inches apart, 200 pounds per acre, in October. They make good winter growth in most any soil, penetrating deeply, filling the subsoil with humus and channels for drainage.

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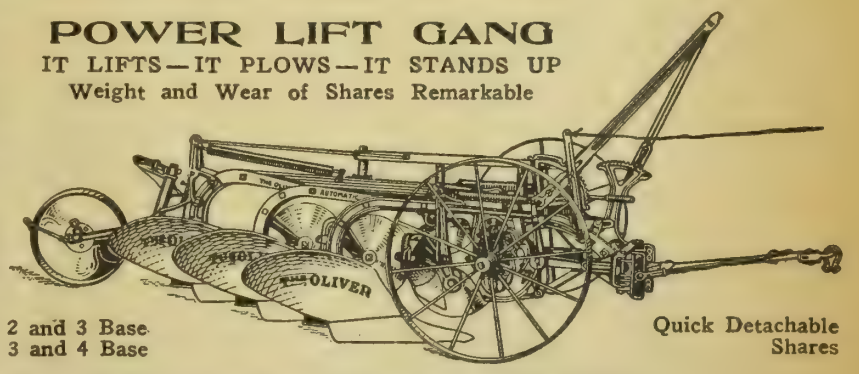

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High Top Burbank	R. C. Falkenberg	King City.
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In and Around the Dairy

[Written for Pacific Rural Press.]

PUREBRED SIRE INCREASED PRODUCTION.

[Written for Pacific Rural Press by J. W. Coppini, Ferndale.]

Lady Mac, the leading grade cow of the five which won the Pacific Rural Press prize in the State Dairy Cow Competition for high production, is out of a common cow that was beefed as soon as the Babcock test during her last two months of lactation showed she was testing 2.3 and 2.6 per cent fat. The test was probably lower when she was fresh. A registered Jersey bull bred to this poor cow produced Lady Mac, the winner. She made 72 pounds fat in April, 81 in May, 73 in June, and 70 in July. Her test was 3.6 during the first three weeks after freshening and she milked as high as 60 pounds a day. She is testing higher in the past few months. She is now 12 years old and has been a regular breeder and persistent milker. As a two-year-old, she produced 302 pounds of butterfat; as a three-year-old, she produced 370; since then she has produced every year 430 to 471 pounds fat in her usual 10-months lactation period. She never was fed concentrates of any kind until this year. Pasture in the spring and summer and beets and carrots with hay in the fall and winter have been her feeds. This year she is receiving a mixture of cocoanut meal, beet pulp, and bran, wetted. At first she did not relish it; but now she eats about five pounds daily and her production has greatly increased, as noted above.

The other four cows are receiving the same ration and have always finished their year's work close to Lady Mac. They are younger daughters of a purebred Jersey bull.

WELL-BRED CALVES NEED GOOD START.

"Dairy calves to be saved for milkers must have a good start with whole milk, changing very gradually to skim milk, fed in clean dishes; and their quarters must not be filthy, as many are." John Belloni, a Swissman, who started working on F. B. Newell's dairy in Humboldt county seven years ago and bought the herd two years ago, has had great success raising calves and now has 76 head all told. "Fine bulls are the first consideration," said Mr. Belloni, "but people generally fail to develop a well-bred calf's possibilities because they won't give it a good start. Where they feed in troughs, some calves make hogs of themselves and bloat. Most trouble with scours is from overfeeding. Reduce the milk if calves scour, or they will get thin and rough while overfed. You can regulate the feed if you have individual buckets or dishes; and you can sterilize and keep them clean. There is no need of having scours. Shed floors should be kept sweet and clean with elbow-grease and lime."

TUBERCULIN RETESTING SHOWS HERDS CLEAN.

A total of 31,716 animals had been tested for tuberculosis up to July 31, 1917, under direction of the State Veterinarian, as provided by the dairy law. Of these, 5378 or 17 per cent reacted. Where the reactors were removed, 3271 of the non-reactors to the first test have been tuberculin-tested the second time during the past few weeks. Of these, only 181 or 5.5 per cent reacted. This indicates to Dr. Keane the searching reliability of the intradermal test in detecting incipient cases; and confirms his belief as expressed before the law went into effect. Over half of the herds which had reactors before have none now, the reactors to the first test having been either slaughtered or sold to dairies which pasteurize their milk. Small herds have a smaller proportion of reactors to the second test than larger ones.

CORRUGATED CEMENT DAIRY FLOORS.

Some dairy barn cement floors get too slippery for the safety of man, cow, or milk. S. J. Lowe of San Luis Obispo county has a cement floored and sided milking barn in which the cows do not skid; and yet which drains perfectly. The barn is 87 feet long. The floor slopes one foot, with the gutter of uniform depth. Where the cows stand, half-inch grooves run lengthwise of the floor about four inches apart. Crosswise of these grooves, about every five feet, is another one draining to the gutter. Back of the gutter is a six-foot alley in which grooves four inches apart all drain to the gutter.

CHEAP DAIRY CALVES.

Humboldt county dairymen have a surplus of dairy calves which, if given a chance, would make better producers than probably 25 per cent of the dairy cows of the State. These calves are sold at a dollar or two per head for their hides.

BREEDING POOR PRODUCERS.

A bull with high-producing ancestry and good dairy appearance is the only excuse any one can have for keeping a cow which costs more than she produces. The offspring of such parents may be profitable. It may pay to breed such a cow if the bull is right and if you haven't enough better ones to replenish your herd.

POOR DAIRY COWS SHOULD BE BEEFED.

Now, while cows can be sold at high prices for beef, while dairy help is almost impossible to get, and butter fat is none too high in relation to cost of production, now is the time to be testing dairy cows and beefing those you are milking at a loss.

DRYING UP A COW.

W. S. Cunningham, Asst. Animal Husbandman, U. of A. Agricultural Experiment Station, says that many times certain cows are very difficult to dry up. The milking habit is so strongly developed that they tend to give a large quantity of milk right up to calving time. The proper way to dry up most cows is to cut off all grain in the ration and milk only once a day for a few days. Then lengthen the periods between milkings by milking only once in two or three days until the secretion of milk is nearly stopped. In very persistent cases the feed supply may have to be cut down more severely. However, there is little danger of injuring the udder if reasonable attention is given.

As soon as the skim milk leaves the separator, whole milk should be added at the rate of one gallon to twenty gallons of skim milk. This gives the mixture a fat content about like that of ordinary buttermilk. Use a large quantity of a pure culture of lactic acid bacteria.

RETROGRESSION IN THE DAIRY BUSINESS SHOULD BE CHECKED.

The continued advance in prices of dairy products the country over emphasizes anew the importance to the dairyman and small farmer of straining his resources to the utmost to conserve the dairy stock now in his possession. The high cost of feed, the shortage and costliness of farm labor, are trying conditions, but the steadily ascending prices of butter and the tendency latterly shown throughout our State toward an upward revision of whole milk prices should encourage owners of dairy cattle to hold on if possible, and increase rather than decrease the size of their dairy herds. More especially is it unwise to slaughter productive dairy cows and dairy heifers. It is believed our Federal Farm Loan Banks will soon be in position to extend financial relief to needy dairymen, who have had a year of heavy expense and are now facing a period of feed shortage due to drouth and cold weather.

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Hazel Aaggie of Oakwood Daughter	"	21208.5	"	860.9
Inka Tritomia Walker	"	21237.6	"	816.1
Princess Jetze	"	19981.8	"	786.9
Mary Acme of Oakwood	"	17977.3	"	702.9
Princess Niko Mechthilde	"	11773.9	"	620.4

An average of 20535.5 of milk and 831.2 of butter. This included one junior two-year-old, one senior two-year-old, and one junior three-year-old. Two of these being state records and one world's record for age.
Write for prices, or, better still, come and see our herd.
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DO NOT SACRIFICE HIGH-BRED TUBERCULAR BULLS.

Bulls of good dairy or beef conformation, from high-producing ancestry should be retained as long as their services are required, even though they react to the tuberculin test, provided they are kept separate from other cattle except during the act of breeding, which should be done in a small, clean pen, is the advice of State Veterinarian Chas. Keane. The only exceptions are the very rare cases in which the genitals of the bull are affected. In other cases there is no risk of transmitting the disease. It would be wrong to beef such animals; for that would mean the use of less desirable bulls to perpetuate the breed.

Wintering Beef Cattle on Rice Stubble

[Written for Pacific Rural Press.]

Beef cattle do better on rice stubble, together with a little rice straw, than they do on range such as was prevalent on the west side of the Sacramento Valley last winter. Such is the conclusion of J. L. Mendenhall of Colusa county, who with others carried 600 head of mixed cattle through the winter and spring months on rice stubble, rice straw and portions of fields which had been blasted before it filled and was left uncut on that account.

The cattle were turned into the fields about December 1 and while the ground was muddy all of the time because of continual irrigation all summer and fall, followed by winter rains, the cattle kept in good flesh all winter, seeming not to gain very much, but on the other hand, not losing in weight either.

While it was impossible to keep any accurate watch of the band, it was noticed that they seemed to relish the rice straw, which was stacked, as they would go to the stack and stand there for long intervals eating. While the unharvested grain undoubtedly was an influencing factor in the success of the experiment, a comparatively small portion of the land was in that condition. Hogs and sheep also did well on the same fields, although care had to be exercised with the sheep to keep them from foundering, but this also holds true with barley stubble.

Mr. Mendenhall states that the rice stubble cattle were in much better condition in the spring than those that had been pastured all winter on range pastures and that no losses could be attributed to rice hulls, which have sometimes been considered dangerous when fed to livestock.

GROW LATE CROPS FOR FEED.

Feed obtained by growing late crops can be used advantageously this fall to supplement a shortened ration of high-priced corn. Several kinds of crops can be planted on moist or irrigated land during July in time to make good yields before frost.

If grain is wanted, one of the very earliest maturing varieties of corn will, under favorable conditions, make a crop if planted by July 10. Of course, the yield will be light and the grain of a lower quality than early planted corn, but the point to consider is that the late crop will provide a certain lot of grain that otherwise would not be produced. The grain sorghums—Kafir, Milo and Feterita—can also be grown to good advantage if planted in the early part of the month. When the grain sorghums are planted late, feterita will ripen earlier than either Milo or Kafir, and it can therefore be planted later. If planting is to be made early in July, Kafir would be the choice, as it is useful for cured forage and ensilage, as well as for grain, while Milo and feterita are chiefly useful only for grain. Grain yields from the sorghums will be lighter from the late planting than from May or June plantings, but considerable yields may still be produced.

If a late crop of forage is wanted, Kafir or one of the sweet sorghums could be used. Sudan grass, cowpeas, or a mixture of cowpeas and Sudan, would also be successful.

THE ARMY'S REQUIREMENTS IN HORSES AND MULES.

Recent accounts from the battlefront relating the loss of hundreds of pieces of artillery by the Germans in recent operations state that the loss of these pieces was due recently to the lack of artillery horses.

It is fortunate that the United States is well supplied with both horses and mules at the present time, but it is incumbent upon us, if we are to maintain our resources so as to effectually back up our armies and maintain maximum production on our farms, to see that every good mare is bred to a first-class stallion this season, and that every effort is made to save the foals that will be coming within the next six weeks. The war may yet be decided by the number of horses available to the respective belligerents, for on the far-flung battle lines and in the reserve made up of our farm forces the horse is the most important single factor aside from man.

CONTAGIOUS ABORTION SERUM.

Serum treatment for contagious abortion of cattle is very promising though not definitely recommended, according to R. Richardson of the J. M. Henderson Company, Sacramento. The U. S. Bureau of Animal Industry has stated its confidence in the treatment. A University of California veterinarian has written that "we cannot recommend any serum, as they have not yet proved their worth, but the serum treatment is certainly a step in the right direction."

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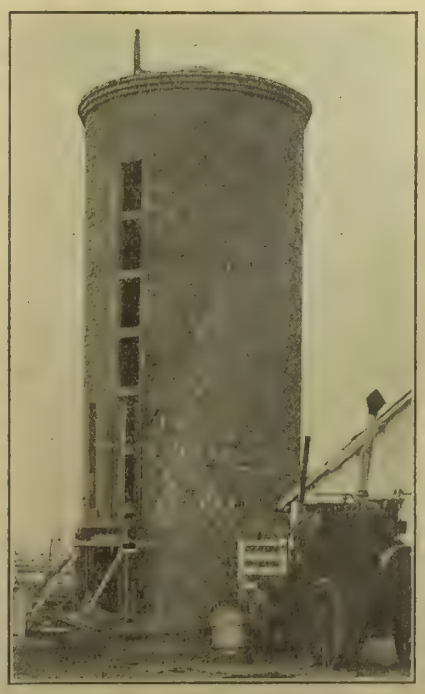

Silo on Lewis Moreing Ranch, Lathrop

BEST BECAUSE:

It makes the best silage, protects against air, moisture and temperature. It is permanent, everlastingly proof against time, storm, decay, fire and vermin.
It cannot crack, collapse or blow over. Distinctive in appearance, it will add to the value of your farm. Cost but little more than the temporary kind and the first cost is the only cost.
Requires no painting, adjusting or repairs. Can be extended at top for water tank of same construction.
Our present capacity is very limited. So if you want a silo this season fill out the coupon and mail to us at once.

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Please send me full particulars on the Iowa Silo.
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Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Eight charges are filed against Madera creamery men charging false tests given.

The cheese department of the J. N. Jensen ice cream factory in Visalia last month turned out over 7,000 pounds of cheese.

Modesto, Stanislaus county, is promised a branch of the Borden Condensed Milk Company, which will handle 100,000 pounds of fresh milk daily.

Butterfat prices are now at the highest point in the history of Kings county. The supply is rather lower than it was owing to a shortage of feed.

Prices paid for July butterfat in Tulare ranged from 45½ cents to 48 cents per pound, the average being about 3 cents higher than the prices paid for June butterfat.

J. A. Aggeler, director of the San Joaquin County Farm Bureau, was elected a director of the Milk Producers' Association, which has recently signed up a large number of dairymen in this county.

The Modesto branch of the Milk Products Corporation discontinued operations and the entire equipment of the factory moved to Gustine. The corporation operates branches also at Crows Landing and Los Banos.

With butterfat at 40 cents a pound and the total payroll to the dairymen $65,134.70, the two records were broken during the month of July, according to figures given out by the Danish Creamery Association of Fresno.

Another big dairy is to be added to the constantly increasing herds in the Oakdale Irrigation District, W. A. Patterson having closed a lease last week with Rossini Bros., near Modesto, by which they secure 260 acres of his ranch.

A petition for creation of the office of county dairy inspector was presented the Stanislaus Board of Supervisors this week by the Modesto Women's Improvement Club. The club believes that such an officer might greatly reduce the possible spread of contagious diseases.

The unusual appearance of anthrax in unexpected places throughout Yolo county is causing the State Veterinary Department considerable apprehension. While no charges have been made, it has been practically agreed that the spread of the disease is the work of the enemy.

With a bad grass and hay crop, with a great shortage of fodder imports, and at the moment, a suspension of grain shipments from the United States, the farmers of Holland have 500,000 cattle more than they want. The farmers want to get that number off their hands at all costs.

An effort is being made to organize the dairymen of the San Joaquin valley into a unit of the Associated Dairymen of California. The unit, when organized, will be known as the San Joaquin Valley Milk Producers' Association. The Associated Dairymen of California acts only as a buying and selling agency, and each unit controls its own affairs. The organization is designed to stop speculation in dairy products, and to aid the dairymen in marketing their products and buying feed and supplies.

Among the recent sales made by Gotshall & Magruder, Ripon, James High of Modesto purchased Moorland Captain Colantha De Kol. He was sired by Colantha Sir Pontiac Aaggie, owned by Abbott of Milpitas, and the dam was a 26-pound cow, Florence Nightingale De Kol, owned by Kunius of Modesto. Mr. High paid $750 for the animal. Genesco Crane was sold to D. McKay.

One of the largest single sales of registered cattle made in California this year was the sale of 30 registered Ayrshires from the Steybrae herd of E. B. McFarland, San Mateo, the purchasers being the Preston Industrial School at Ione, Amador county. The animals range in age from six months to four years. The bulk of the stock are young heifers bred to Mr. McFarland's bull, Robin Hood. L. S. Willard and Dr. Keane, state veterinarian, selected and passed on the animals, all of which had a clean bill of health. The 30 animals sold for $10,000.

Guy H. Miller, Modesto, reports recent sales of Jersey cattle as follows: C. L. Woodbridge of Modesto, the heifer Nina of Venadera (No. 384588). Nina is sired by our grand champion bull, Altama Interest. Her dam is Gladys of Venadera. Gladys is entered in the Register of Merit with an official yearly test of 515 pounds of butter made as a three-year-old. "I have sold to Sinsheimer Bros. of San Luis Obispo the young bull Pearl's Interested Prince (No. 154354). This fellow is also sired by our noted prizewinning bull, Altama Interest, and his dam is the great cow, Pearl of Venadera, holder of the State Jersey record. She is entered in the Register of Merit with an official yearly test of 826 pounds of butter. Have sold to Wallace J. Sinclair of Fairmead the bull calf Stella's Jersey King, a promising youngster by High-Born Jersey King, out of Stella of Venadera, one of the Register of Merit daughters of Altama Interest."

Swine and Swinemen.

Hogs touched a new record in Chicago recently when they sold at $17.95.

The outlook for high prices for grain in Oregon is causing many farmers to cut down on the number of hogs maintained, some disposing of all.

Mrs. J. A. Clark of Los Angeles county (Inglewood) is raising some fine hogs. The principal rations are sudan and alfalfa, half and half, chopped real fine, and one-third bran added and mixed with considerable water and tankage.

The Stanley Stock Farm, north of Ukiah, has recently changed hands. The new owners, a San Francisco syndicate, propose to raise Duroc hogs on a large scale. Mr. Gerard is manager, and the ranch will be known as the Improved Hog Raisers' Syndicate.

H. E. Boudier of Napa reports the sale of four sows to H. Ackley, McCloud; one boar to Mrs. Frances Moore, McArthur; one boar to Hiram Briggs, Healdsburg; one sow to J. C. Norton, Nevada City; unrelated sow and boar to G. P. Sowers, Nevada City.

A model hog farm will be featured at the Glenn County Fair by the Anchorage Farm, according to the latest plans of Mrs. E. A. Hardy, manager. An exceptionally fine group of Berkshire hogs has been gathered together for this model exhibit. Leading the string will be Star Leader, the $1,500 boar which won the championship at the Panama-Pacific Exposition.

Livestock Miscellaneous.

One of the most intensively farmed ranches near Pixley is the Whitten ranch of 160 acres. Forty acres of barley being harvested is yielding about 45 sacks to the acre.

Secretary Paine has commenced the tabulation of livestock entries for the State Fair. The premium list has been in the hands of the breeders for a short time only, but the number of entries already received show that the interest in the fair is widespread.

WORLD WILL BE LONG SHORT OF LIVESTOCK.

Predictions of a world famine of meat after the war were made recently by Viscount Lewis Harcourt in London. He said the decrease of pasture land resulting from more extensive cultivation would reduce the supply of cattle, and the supply of home-produced meat would be further affected by the decision of the war office to feed the army for three months on home-grown meat.

While at the Board of Trade last year he obtained estimates of the German government that it would take five years after the war to restore Germany's stock of cattle to the normal figure of 23,000,000.

He estimated that after the war Europe would want to obtain or import 16,000,000 to 20,000,000 head of cattle. For several years Germany would have to feed her people on imported frozen or chilled meat, and would come into a market where she had never bought before. Further, the men of the Allied armies had been taught to eat a pound of meat a day, and one could not expect that they would abandon that habit immediately.

DAIRYMEN INCORPORATE.

Articles of incorporation were filed recently with the county clerk of San Francisco by the Associated Dairymen of California, an organization designed to promote the general dairy business and "to furnish facilities and agencies through which dairy products and dairy by-products shall be marketed." The articles provide for the membership of the Northern California Milk Producers' Association, Milk Producers' Association of Central California, Associated Milk Producers, San Joaquin Valley Producers' Association and the California Milk Producers' Association, all co-operative organizations. Each is to be represented by two members in the new association.

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will give lasting satisfaction and prove far superior to the so-called "cheaper" tanks and silos.

All Remco Pipe, Tanks and Silos are fully guaranteed against defective material and are built on honor, from specially selected stock, by a company that has specialized in this line for nearly thirty years.

Place your order now for early fall delivery.
Catalogs furnished free on request.
State if you wish Pipe, Tank, or Silo Catalogs when writing.

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The World's Grand Champion Hampshires

Pure-Bred Hogs give more weight for less money in the shortest time.

Sows, Boars, Gilts, bred and open, from the World's Champion Hampshire Stock. All ages for sale.

Write to
F. V. Gordon, or F. A. Langdon

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Farm Books

California Fruits and How to Grow Them
By Prof. E. J. Wickson. Price $3, postpaid.

Second Thousand Answered Questions in California Agriculture
By Prof. E. J. Wickson. Postpaid, $1.50.

California Flowers, Trees, Shrubs and Vines
By Prof. E. J. Wickson. Postpaid, $1.50.

California Hog Book
By W. S. Guilford. Postpaid, $2.

California Poultry Practice
By S. Swaysgood. Postpaid, $1.

PACIFIC RURAL PRESS, Publisher, 525 MARKET STREET, SAN FRANCISCO, CALIF.

FALL FAIRS TO BE HELD IN CALIFORNIA.

Arbuckle—Almond Fair. Sept. 13-14. Chamber of Commerce.
Bakersfield—Kern Co. Agrl. Fair Assn. Oct. 2-6. T. F. Burke, Secy., care Board of Trade.
Dixon—Solano Co. Fair Assn. Aug. 1-4. A. C. Madden, Secy.
Ferndale—Humboldt Co. Agrl. Fair Assn. Aug. 22-25. W. S. Moore, Secy.
Eureka—Eureka Fair Assn. Aug. 15-18.
Fresno—Fresno District Fair. Sept. 24-29. C. G. Eberhart, Secy., Box 946.
Hanford—Kings Co. Fair Assn. Sept. 17-22. E. Gravatt, Secy.
Hemet—San Jacinto Fair Assn. Oct. 16-19.
Lancaster — Antelope Valley Fair Assn. Sept. 26-29. R. B. Cameron, Mgr.
Modesto—Stanislaus Co. Livestock Show and Expo. Sept. 17-22. F. L. Wisecarver, Secy.
Napa—Napa Co. Agrl. Assn. Week Sept. 17-22. Nathan F. Coombs, Secy.
Orland—Glenn Co. Livestock and Agrl. Assn. Sept. 26-29. E. A. Kirk, Secy.
Riverside—Riverside Co. Fair Assn. Oct. 9-13. Robert L. Taber, Secy.
Sacramento—Cal. State Fair. Sept. 8-15. Chas. W. Paine, Secy.
San Francisco — California Land Show. Oct 13-28. Edward Brown, Mgr.
Santa Ana—Santa Ana Fair Assn. Nov. 7-10. Dr. H. J. Stevens, Secy.
Santa Maria — Santa Maria Fair Assn. Oct. 24-27.
Santa Rosa — Sonoma and Marin Dist. Fair Assn. Aug. 29-Sept. 1. Donovan Bros., Mgrs.
Ukiah—Ukiah Fair Assn. Aug 8-11.
Ventura—Ventura Co. Fair Assn. Sept. 26-29. L. P. Hathaway, Secy.
Visalia—Tulare Co. Citrus Fair. Nov. 15-25. T. J. Boyer, Secy.

FARM ADVISER PROGRESS.

At a well-attended meeting of delegates from all parts of the county, held in Walnut Creek last Saturday evening, Professor E. O. Essig and Professor W. E. Packard of the University gave some very interesting accounts of what has been accomplished in other counties by the Farm Adviser in connection with the Farm Bureau. In one case in a southern county, they started cow-testing associations, the result being that at auctions which are held quite frequently the tested cows sell from $25 to $30 higher than the untested. In another county they have arranged for hog auctions every three or four weeks, where all producers bring their hogs and grade them and sell at auction to the buyers from the packing houses of the Coast, realizing several cents a pound higher prices than was possible under the old way. The bureau has its own scales and the hogs are sold for actual weight, without discount for shrinkage or deduction for dead ones. Frank T. Swett also gave interesting incidents which have come to his attention in other counties. Among others, being a case where hog cholera had broken out in a large herd, with the owner in another part of the state, who immediately telegraphed the Farm Adviser, who took entire charge of the ranch and through his prompt and thorough work saved thousands of dollars worth of hogs.

LAW RELATING TO RENEWAL OF CATTLE BRANDS.

According to the provisions set forth in the new code dealing with the perpetuation of distinguishing marks on cattle to prove ownership, the following appears: "Every person who, under or by virtue of compliance with section 3168 of the political code, owns a mark, brand or counter brand, must, within three months of final publication of this notice, notify the county recorder of his desire to continue and perpetuate such mark, brand or counter brand. This notification must be in words of positive and reasonable intendment, and must be either by registered letter or personal application, addressed to said county recorder. Any person failing to so continue and perpetuate such mark, brand or counter brand shall lose all right, title and interest therein."

In an effort to increase the nation's meat supply, the forest service, it has been announced, has furnished grazing facilities on the national ranges for about 100,000 more cattle and 200,000 more sheep than in ordinary years. Heretofore pasturage has been furnished for about 1,800,000 cattle and horses and 7,800,000 head of sheep each year.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

Poland-Chinas.

MAKE BIG MONEY with our famous Big Type Poland-Chinas; prolific breeders; profitable feeders; grow rapidly, fatten quickly; prices reasonable; satisfaction guaranteed; send for free illustrated book, "Hogs for Profit"; packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, R. D. 5, Box 647, Los Angeles.

FIRST $100 takes my herd boar Sibberton No. 249471, farrowed July 29th, 1915. A grand young boar. Full particulars with pedigree on request. Also 5 month boar, good points, $20. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS—Three extra fine boars, one large and two medium type. W. Bernstein, Hanford, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

IMMUNIZED NORMANDY BERKSHIRES—Good type. Breeding stock, any age, for sale at all times. Cast iron guarantee. Arlington Smith, Visalia, Cal.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend Sts., San Francisco.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

REGISTERED BERKSHIRES—Geo. M. York, Modesto, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

DUROC JERSEYS—Young boars and gilts from imported dams and sires from the best herds in East Iowa and Nebraska. Can furnish blood lines that will cross with any of our old customers. H. P. Slocum & Son, Willows, Cal.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition; 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 third. Prices $20 and up. Haden Smith, Woodland.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

REGISTERED DUROC-JERSEYS — Service boars from prize-winning stock are money-makers. They grow faster. New England California Corporation, Ripon, Cal.

RANCHO RUBIO DUROCS—Nothing to sell at present; a fine bunch of gilts and a few extra good service boars for this fall. Elmer Lamb, Ceres, Cal.

DUROC JERSEYS—February boars by Prins Model and one brood sow at market price. Weaned pigs by Fruits Orin. Write Earl N. Dargitz, Acampo, Cal.

DUROC-JERSEYS — Herd boars. E. N.'s Colonel and Tulare Boy. Sweepstakes winner at Fresno, 1915. Choice breeding stock. J. P. Walker, Visalia.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REG. JERSEY DUROC BOAR, two years old. Price, $60. A sacrifice. Apply to F. McGuire, Clayton, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first-class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

WANTED — Unbred Holstein heifers not over 18 months old. State price. Box 740, Pacific Rural Press.

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REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians, Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

A. E. O. HERD OF HOLSTEINS—Alex. Whaley, Tulare, Calif.

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FOR 30 DAYS—JERSEYS—Pedigreed bull calves, not registered, $25; registered, $50. Service bulls, $100, from producers. Tested registered cows, $150, with yearly records. Horses. N. H. Locke, Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

FOR SALE—Young pure-bred Guernsey bull sired by the famous Raymond of the Preel. Box 750, Pacific Rural Press.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

VERAMONT STOCK FARM — Pure-bred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

BREEDERS OF REGISTERED SHORThorns—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORThorns, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM — Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder registered Herefords. Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

RAMS FOR SALE—A few choice Shropshire ram lambs, all from guaranteed breeding. Address R. A. Holdridge, Box 282, Dixon, Cal.

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FREE FEED FOR STOCK—Acorns for hogs, grass for cattle and sheep; get State and Government land; new booklet free. Joseph Clark, Sacramento.

Getting Livestock in Exhibition Trim

In the training and feeding of livestock for show, the first and most important step is to select the right kind of individuals. They must have the desirable conformation, quality, and breed type. Should there be any doubt in the mind of the intending exhibitor as to the ability of an animal to fill these requirements, it had better be eliminated at once. However, if the individual does possess the above prerequisites, one must lose no time in helping it to attain the highest degree of perfection.

In all show animals the feet and legs must be well set under the body and perfectly straight. The bone must be strong, clean cut and the joints well defined. The shoulders should be smooth and well knitted, so as to leave no depression behind them which would indicate coarseness or lack of heart girth. The ribs should be long and well arched so as to insure width of back and depth of body. The loin must be broad and the flanks well let down, while the hind quarters should be strong, broad and well carried down to the hock. The skin and hair must indicate quality and be pliable to the touch, while the carriage must be graceful and easy.

In fitting show animals the object should be to present them before the judge in the highest possible bloom on the day of the show. In these times of high priced concentrates and roughages, one cannot afford to feed so heavily, and so bring them out in such high condition as formerly. One should attempt at the present moment to show breeding stock in breeding condition. Stock which is overloaded with fat is likely to be discriminated against by judges at the coming fall shows. Always use a variety in the rations. Variety stimulates the appetite and eliminates the monotony of the diet. The ration should be such, too, that it does not consume too much time in mastication, because the time saved in eating is time added to the rest—a most important consideration in fattening all livestock. The feed boxes must be kept scrupulously clean, especially in warm weather, otherwise they will sour. If any sluggishness or dullness of the appetite is noticed, the feed must be cut down at once and the individual brought back gradually to full feed. Irregularity and overfeeding are usually the causes of animals getting "off feed." In such cases a dose of linseed oil for horses and cattle, epsom salts for hogs, and castor oil for sheep is a most effective method of combatting such trouble.

Exercise is a most important factor in conditioning show stock. If not properly exercised, the animals get stale, their appetites pall and they soon begin to fall off in flesh instead of thriving. Horses should be exercised regularly. Cattle should be turned out over night, and hogs should be exercised by being compelled to walk from a quarter to a half mile daily. Sheep require exercise to make their flesh firm to the touch. Horses and cattle, too, should be thoroughly groomed, especially during the last two months of feeding. Sheepmen begin to trim the fleece for three or four months beforehand. Hog men usually begin to wash their animals about a month before show time. Show cattle are best not to be washed too often before show time, because their hide and hair get harsh. Likewise the legs of horses suffer (lose their freshness) by too frequent washing. The horns of beef cattle should always be polished when the animals are shown, so as to present a neat and attractive appearance. In the scraping and polishing of horns, care must be taken so as not to expose the core, and thereby cause bleeding. The shell should never be scraped and polished until a red appearance shines through it. If the horn is too long, it should be shortened by cutting a piece off with a fine tooth saw. Then file the horns at the points to their natural shape. Later use a piece of emery paper and apply some oil. The hoofs should also be cleaned before entering the show ring. A piece of oily flannel is perhaps the best for that purpose.

In exhibiting livestock, one should always aim to make an animal stand naturally. If the animal makes a good showing, it is due to its having been trained for months ahead of time at home. One must study the idiosyncrasies of each animal. Some animals show better with their heads high. Some animals show better with their heads low. The best showmen are those who keep their eyes on their animals and on the judge at the same time. It is not well to try to deceive the judge by hiding some fault. As a rule when one hides one fault, one exposes two or three others on the animal.

YOLO ANTHRAX UNDER CONTROL.

[Written for Pacific Rural Press.]

The anthrax outbreak in Yolo county the past few weeks is under control; but the State Veterinarian has been asked by the U. S. Dept. of Justice to investigate each case for evidence of intentional spreading of infection. Anthrax has occurred on twenty different premises simultaneously. Part of these are on high land where the disease was never known before. It was the worst outbreak ever known, and owners of valuable herds in that county are keeping close watch in co-operation with the two or three State Veterinary Inspectors.

HORSES' TEETH NEED REGULAR ATTENTION.

[Written for Pacific Rural Press.]

"The biggest mistake is made when farmers allow their horses to run down two or three hundred pounds before attending to their teeth," says Dr. Victor Ward of San Luis Obispo county. "They ought to be systematically inspected biennially, and every year is better."

Among others who appreciate this is Joe Franzien, who has called the doctor in two different years to his ranch, 18 miles from town, to have his work stock's teeth fixed up.

Sometimes as a colt's permanent teeth push the others out, a temporary tooth will remain as a cap over the new one. While preventing proper chewing of high-priced or scarce feed, it also wears away the side of a tooth on the other jaw. Any horse, young or old, that must be kept at work, requires a long time to regain any flesh lost due to poor teeth.

Give the work team the largest feeding at night.

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"Worth Twice The Money"

The California Hog Book, by W. S. Guilford, issued by the Rural Press nearly two years ago, is winning its way among the swine breeders of the Coast. Here is what one buyer thinks of it:

He Changed His Mind

On July 4th he wrote us that he had heard of the book and to send him a copy to his address, C. O. D., at Los Angeles. On July 11th he wrote us:

"I am in receipt of a package with charges of $2.03. If this is the book I wrote about, it is too expensive for me. I have not opened it. The package is at your disposal."

Later, on the same day, he writes:

"Wrote you this morning, offered to return Guilford's book on hogs. Began reading it, wouldn't part with it now for twice the money. Many thanks.—M. McC."

California Hog Book, Price $2.00 Postpaid

Pacific Rural Press, Publisher

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GRAND CHAMPION SOW,
P.-P. I. E., 1915; Sacramento, 1916.

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Young stock, $30 Up.

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GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.

Hauser Packing Co. Los Angeles

Pointers on Starting with Purebred Hogs

In starting a herd of purebreds greatest care should be exercised in the selection of the foundation material, says the Swine World, and one of the very important phases of the beginner is to see that each animal he secures is of profitable type and characteristics on the basis of market pork production. His foundation animals should show stretch, capacity and should be from prolific strains.

The quickest way to get a money-making start in the purebred industry is to purchase bred sows. In selecting these individuals care should be taken, as suggested above, to secure only those who are of real brood sow conformation, how they should be purchased, and mated to good boars that have an established reputation. In selecting herd sows it should ever be remembered that one good sow is worth two or three of an inferior kind. Individuality is important, but unless that individuality is backed by such blood lines as will guarantee the reproduction of that individuality the purchase will never prove to be as satisfactory as it should.

The first year's crop of pigs should be culled exceptionally closely. This again emphasizes the importance of careful selection in herd sows, for it is only the prolific, large, stretchy brood sows that can produce profitable pork for market. A beginner should be satisfied with a moderate number of purebred sales in his first year of business. It should be remembered that veteran breeders, who are nationally known and who have been prominent in the business for years, spent years of effort in reaching the position which they hold. Such effort should be given by new breeders to see that every animal sent out on a purebred order should be one that will mean a permanent customer, for it is only by these kind of sales that a reputation can be established and maintained.

In purchasing brood sows it is not advisable to secure too many of one line of blood, nor should they carry blood of many distinct types. If several sows of the same blood are purchased it is but a few matings before new blood must be introduced, which adds too much to the necessary investment. If the blood lines represent too much varied type, then the herd will lack uniformity and will represent a little herd character.

From the first crop of pigs the best gilts should be saved for use in the herd. Then, by careful selection of herd boars from the litters farrowed by the first sows, uniform type animals will be secured that will stamp the breeder as one with a purpose.

If it is necessary to purchase a herd boar, a new breeder should not be in a great hurry in making his selection. A poor boar is expensive at any price. The counsel of expert judges and breeders of long experience should be sought and carefully observed, although to make a success no new breeder should ever eliminate his own originality from his breeding operations. He should have in his own mind a fixed standard and strive to reach it through his own efforts and the carefully weighed counsel of his more experienced fellow breeders.

Breeding of livestock is a business in which few can make themselves famous. It is one in which but a limited number can become prominent, and it is true that a vast majority are either ordinary breeders only or are absolute failures at the business. A new breeder should determine to make his name synonymous with breed development, by working toward a definite end and by establishing his reputation as a business man of highest integrity. The purebred breeding industry is not a "get rich quick" proposition. If properly managed and conscientiously handled it brings remunerative returns, thoroughly in keeping with the investment of time and money expended upon it, but it will not make anyone immensely wealthy, and a man who enters the purebred field with the idea of "getting rich quick" had better direct his efforts into other lines, and finally he should remember that in the ultimate end it is only those breeders who adhere strictly to their ideal that make a success, and that the measure of their financial remuneration is directly proportionate to the service they render, to their giving value received to their customers and delivering full measure each year to their ideal in production.

EWES FOR NEW FARM FLOCKS.

The demand for breeding ewes has exhausted the local supply in many sections, the United States Department of Agriculture finds. Western range ewes are being used to start farm flocks in the Corn Belt and in the East. In the Corn Belt these ewes have already proved their ability to produce market-topping lambs when mated to good rams of mutton breeds and when well cared for during the winter and after lambing. They may be expected to do well on the farms east of the Corn Belt, and on the hilly pastures of the Appalachian Mountain system.

In purchasing these ewes care should be taken to obtain those with sound teeth, udders that are soft and pliable, and teats that are sound and have no hard cores. Ewes from one to three years of age are to be preferred. These ewes may be in thin condition, but should suffer no discrimination on this account alone. If thin they cost less per head than if fat, and the flesh needed to put them in good condition can be put on by the purchaser more cheaply than it can be bought in the open market.

The man who buys the stuff he feeds his hogs has only the feeder's profit. By growing the feed he has the grower's profit, too.

GOVERNMENT TO TAKE 50 PER CENT OF 1917 WOOL CLIP.

The U. S. Government has virtually agreed with wool firms controlling the Boston market to take over 50 per cent of this season's clip at a price based on the quotations of July 31, 1917. This practical withdrawal from the general market of one-half the supply has not apparently affected quotations, though the natural tendency of such withdrawal would be to elevate prices beyond their present high level.

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CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

Farmers Getting Together.

To the Editor: I have read your splendid editorial of August 11; in fact I have been carefully through it twice. I have read a good many farming editorials; some are written by well-meaning men who know practically nothing at first hand of what they are writing about; others again who do know, but I must say that I do not ever remember to have read anything so chuck full of meat and so timely as your editorial. What you say about the dairy business is true to the letter. Unless something is done right off the bat the dairy business is doomed. Conditions here in Napa county are pitiful. Men that have been many years getting together a small herd, their main object being perhaps to keep up fertility of soil, are wiped out or will be in the very near future. The Prune and Apricot Association has made a splendid showing. Members that I have talked with all speak well of it and are satisfied with prices fixed for fruit.

I have just received a report from the Central California Poultry Association. They started in six months ago with no previous experience in marketing eggs on a large scale, no capital to speak of, no business organization, no credit, no standing with the trade, and absolutely nothing to say about the price of our product. Today they do have a voice in the fixing of prices. The total expenses have been less than 2½ per cent of the gross sales; a record few business organizations could equal. Every move that they have made they have met with the meanest opposition, not only without but within their ranks. The future, however, looks bright. New membership is coming in all the time and they have now $50,000 capital back of them.

The farmer that has kept himself aloof from organizing is an enemy of his country; a poor, pitiful slacker; an ally of the Kaiser's. He should be shown not one particle of consideration. If he will not organize the government should take him in hand. He has lived so much by himself, he has lived so poorly, his reading has been of the trashiest, his purse has been of the leanest, his noodle has become ossified; he can no longer think; he's helpless. —Chas. Blom, Napa.

Farm Work and City People.

To the Editor: I would like to say that as a farmer I appreciate your editorials on the farm labor situation at present in the war crisis. I surely was astonished that any body of people could think that the city folks could or would handle the surplus crops. Few city people would get up at 4:30 A. M. and work until 9:30 P. M. for any salary—let alone a reasonable profit, which is all most of us farmers ask. If the city folks really paid the farmer for all the hours he puts in the produce would cost more than they could pay for it. Eight hours! What farmer works eight hours only?—Chas. A. Garrett, Williams.

Does Not Feel Slighted.

To the Editor: I notice an article in the August 18 number, replying to an article on the Balm of Gilead tree. I missed the first article, but would like to add what to me is a very interesting discovery. My kitchen used to be literally overrun with red ants, but now these same ants or their descendants have turned their backs on the house and prefer the Balm of Gilead tree, which stands about 50 feet from the house. I assure you I do not resent the slight. I hope this may help someone else.—Mrs. J. R. Beam, Ceres.

Prune Information Wanted

To the Editor: In your issue of August 18 you describe a method of prying prunes loose from the tray. If you chance to know of any device, aside from current coin of the realm, that will pry them loose from the grocer, please inform a hungry horde of appreciative readers.—Ernest Braunton, Los Angeles.

Agricultural Jottings

The honey crop of Southern California is estimated by the Western Honey Bee at 40 per cent normal.

Farm hands are not exempted from draft on occupational grounds. They will not be called until late in September, after the harvest, but will be drafted now.

Intercropping in the small orchards in the Yucaipa Valley, it is said, is paying well. One man who planted potatoes early gathered 400 sacks and sold them for about $1,200.

A notable shipment is a recent order by the allies for 20,000 tons of California barley grown on the east side of the San Joaquin Valley. This will require 500 box cars of the Southern Pacific and Santa Fe Railroads.

There were 5,000 acres of onions in the Delta last year, according to one of the biggest shippers. There were 7,000 this year. The lowest sales were at 50 cents per sack, for inferior stock, grown near Sacramento.

As evidence of the unusual barley yields of the Sacramento Valley, the Young brothers' ranch near Knight's Landing harvested an average production of 24 sacks per acre, volunteer crop, from a large proportion of their holdings.

It is generally understood that Manchuria's annual production of soya beans is between 1,500,000 and 2,000,000 tons. The total is gradually increasing, but the growth of the new sugar-beet industry may somewhat affect it.

Orange county, noted for its citrus fruits, walnuts and lima beans, is now attracting attention as a barley-growing country. El Toro, thirteen miles south of Santa Ana, has become the biggest shipping point for barley in Southern California.

Forest Service officers tell us that the forest fire season in California is now at its full height. Care in the use of fire was never more urgent, as fires destroy not only large quantities of stock feed, already too short, but uses up labor needed in the harvest fields.

The Orland alfalfa mill has installed new machinery, doubling its capacity, and has put on a night shift to keep even with the crop of alfalfa that is offered at the mill. Sixty tons of meal are being manufactured daily, and the price of $12 per ton is being paid to the farmers.

Reports from East Highlands say that the Government and commission men from the North were there recently buying all the potatoes they could get for drying. Potatoes, it is said, can be dried so that the weight is reduced eight to one, and this is a big item in freighting to Europe.

A unique by-product is being harvested from 600 acres of wheat land owned by W. S. Kendall at Knight's Landing in the form of melilotus seed, which promises to average about two sacks per acre and yield a cash return of something like $10,000, which is pretty good for what has heretofore been a "weed" seed.

A San Francisco bean dealer told us August 8 that he was anxious to secure 1917 crop of large white beans at 10 cents per pound f. o. b. nearest shipping point for choice recleaned stock to be delivered in September, October, or November. He wanted Mexican Reds at 8 to 8¼ cents for recleaned or 6¼ to 6¾ cents uncleaned.

Grain crops very good around Oakdale. Farmers getting more for their crops than ever before. One farmer raised 1100 sacks of wheat, 135 lbs. to the sack, from 100 acres and sold it for 4c. The alfalfa hay crop is good and as the water in the irrigation ditches will be continued till late in the fall hay producers look for at least two more cuttings.

Kern county crops this year show a good increase. The potato acreage has jumped from 300 to 800 acres. The hay, other than alfalfa acreage, has increased from 10,000 to 15,000 acres, grain sorghum, such as Egyptian corn, milo and maize, etc., has increased from 16,000 to 25,000 acres. Sugar beets have increased from 1,500 acres to 6,000 acres.

The 19,700-acre holding in the Yolo Basin, known as the old Chapman Place, is being converted from raw tule into plowed-up farming land at the rate of 300 acres a day by half a dozen tractors. About 75 per cent of the acreage is being prepared for bean and grain production. The Birch Oil Company of Los Angeles owns the land and is doing the plowing.

Reports from El Centro say that W. Schlichten has invented a fiber machine which it is claimed will revolutionize the handling of hemp and other fiber products. Mr. Schlichten is looking over the Timkin Company's big hemp crop, the quality of which is said to be very fine, and proves that the Imperial Valley can grow hemp successfully and of a superior quality.

The Sacramento county squirrel campaign is being undertaken in cooperation with the Farm Bureau. Farm Adviser Carl J. Williams proposes that each center shall be cleaned up at one time. He hopes to begin the slaughter about mid-October and have practically all of the squirrels dead in two months. Poisoned grain will be used until rain soaks the ground so gas will be more effective than now.

A meeting of lima bean growers was held recently in Los Angeles with Col. Harris Weinstock, State Market Director, and the subject of forming a co-operative marketing organization among lima bean growers was taken up. About fifty bean growers were present. Ralph C. Churchill, manager of the Lima Bean Growers' Association, thought that the rules of the Lima Bean Growers' Association could be enlarged so as to take in all bean growers.

George W. Cooley, a pioneer potato grower of San Bernardino Valley, says he has solved the potato problem. Planted at an altitude of about 4,000 feet, the potato plants, seed for which was secured from Aroostook county, Maine, now stand two feet high and are covered with a heavy white bloom. In the rich black loam found in the flat places in the mountains the young potatoes are now one to two inches in diameter and growing fast. Potato growers find they can plant seed in February in the higher places and harvest an early crop soon after May 15, thus making Southern California the first part of the United States to produce spring potatoes.

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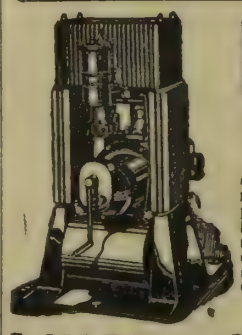

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KARL A. HEDBERG ELECTRICAL ENGINEERS 104 Clay St., San Francisco, Cal.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

SOME COMMON POULTRY TROUBLES.

Rheumatism and eye troubles are common in late cold springs. The causes are bad hygiene, exposure to cold winds, draughts and dirty, dusty litter to scratch in. The dust and mold that rises from hens when scratching must settle somewhere; the idea is, keep the litter clean. Once in two weeks scratching litter should be renewed and the dirt removed.

DETECT ROUP BY THE ODOR.

Swelled, gummed eyes are not always roup, though if neglected that is what they will turn to eventually. But roup can always be detected by the odor; simple conjunctivitus or catarrhal sore eyes have no odor. And if the trouble can be caught before it develops into roup the fowl is saved from being a loss, for it will keep on laying. This can be done if the feeder takes time to look over his flock every time he feeds, especially in the morning. A bird that has swelled eyes rarely turns to its breakfast without a lot of rubbing and scratching. It is trying to clear the way to see its breakfast and this is the time to catch it.

Remove the birds to a darkened coop so that there is no strain on the eye and wash the eyes with peroxide and water about half and half. Anoint the eyelids with iodoform ointment, made by mixing ten grains of finely powdered iodoform with one ounce of plain vaseline. If the improvement is slow and much pus accumulates, still without the roup odor, give fifteen drops of tincture of pulsatilla in a pint of water each day until cured.

MOUTH CANKER, ETC.

For canker of the mouth, throat or eyes use Loeffler's solution, burnt alum, blue-stone or undiluted creolin. First scrape off the canker, then apply the remedy with a swab made by twisting a bit of cotton on a small stick and rubbing it on the cankered place.

For rheumatism, look to it that the sleeping place is high, dry and clean, then keep plenty of litter, straw is best, under them for nights. Then give iodide of potassium, fifteen grains to a quart of water. If your sympathies are appealed to rub the joints with weak alcohol or witch hazel.

Sometimes acute rheumatism, something like inflammatory rheumatism in people, causes a disarrangement of the system and high temperature. This disturbs the heart, which becomes complicated, and the result is a watery sack forms around the heart, which causes death. There is nothing can save them when this occurs, so that rheumatism must not be neglected or left to take pot luck. Prevention is much better than cure.

ALFALFA AND LETTUCE ANTI-RHEUMATIC.

Now there is another thing about rheumatism you can do and that is feed plenty of alfalfa or lettuce. These two greens contain more of the elements needed for the blood of fowls with rheumatic tendency than anything else you can feed them. If a little baking soda is mixed with the dry mash of brooder chicks it counteracts rheumatic tendencies. Being alkaline, it prevents the blood becoming too acid, providing the fowl are kept dry.

CHICKEN YARDS QUIET IN AUGUST.

There is never anything very interesting to write about the poultry yard in August. A few premature pullets begin to cackle and lay an odd egg, all the while acting as though they were ashamed of being caught; but to the man with several hundred pullets to look forward to, these premature youngsters are rays of hope that will encourage him to "loosen up" on the feed sack. This he must do if he has been economizing at all. There is no economy in stinting the promising pullets; fill them up, and when they have all they care for of one thing, try them with another. Pullets are much like growing children—they can always eat a little more when it's something new. Next month expect rewards for this labor and generous feeding.

DON'T MIX HENS AND PULLETS.

Those who have plenty of buttermilk or sour milk cannot possibly put it to better use than feeding it to the developing pullets. Keep the pullets separate from the hens. It is a great temptation, when we are short of room, to mix a bunch of pullets with a bunch of hens, but it is a big mistake. It's unfair to the pullets and to yourself. Hens always boss the pullets, and no matter how much feed you may give or keep before them, the hens get the lion's share, both in quantity and quality, and the pullets have to practically steal the leavings. If you don't know this, watch them for a few days, and you will soon know for a fact.

CHASE THE MITES.

Above all else, be sure there are no mites in your buildings. I have been with the Rural Press a number of years now, and while the subscription list is almost past comprehension, being close to the 28,000 mark, there are less complaints this year than I can remember in any one year about mites or other poultry pests.

This may appear like a small matter to talk about, but to me it is very encouraging. No matter what the cause may be, it tells me that people are getting to understand the value of clean poultry houses. I always knew that if once poultry raisers tumbled to the loss that comes every year from lice and mites, they would get interested enough to stop it. And this year tells me that a great number of farmers and poultrymen are getting more interested in the "little leaks."

MUSTY GRAIN AND ALFALFA FATAL.

To the Editor: We have lost one rabbit and two more are afflicted with a rattling in the throat. It is noticed several days before death, the last two days they will not take food and breathing becomes very difficult. We feed green alfalfa (principally), also alfalfa and oat hay, bread and milk, and Egyptian corn that was damaged by last fall's rains.—W. F. H., Lathrop.

This trouble arises from eating the musty grain. Cut out the grain and the green alfalfa, and feed just alfalfa hay and bread and milk, with any vegetables, such as carrots or a little cabbage. No, this is not contagious, but you should keep them very clean. The sneezing most likely is contagious, especially if the same rabbits are attacked every winter. If you have your hutches in tiers, one above another, separate them. Feed them all the onions they will eat. Feed at night and let them eat onions all night if they will. They are the best medicine for colds in rabbits. Also spray the hutches with a good disinfectant.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

BIG BROILER PLANT ALMOST COMPLETE.

The California Poultry Company's big broiler plant at Benicia is about half completed. When finished it will be one of the largest if not the largest establishment on the Coast where market poultry is raised exclusively. Only the "big breeds," Rocks, Reds, and Orpingtons, will be hatched. At present most of the eggs used for incubation are shipped from Oregon and Washington, as there are but few flocks of meat fowl in California. It is the aim of the management to get the poultry men of this State to raise more hens of the larger breeds and purchase hatching eggs from them, instead of having eggs shipped from so great a distance. A premium of several cents per dozen over market price will be offered, depending upon the quality and hatchability.

It was our aim to get some good photographs of the establishment, but since the buildings are not yet all completed we thought it best to wait a while. The plant is well worth a visit, especially to those who have flocks of Rocks, Reds, and Orpingtons.

Their proposition of buying hatching eggs should appeal to many, since the company will be able to use eggs all year round. Several hatches have been taken out already and some nice, juicy, plump broilers were shipped to their plant in San Francisco.

VALUE OF GREEN FEED.

No chain is any stronger than the weakest link. The weakest link in the poultry game is the insufficient feeding of green stuff. We can all feed more succulent feeds if they are handled rightly. Hens must have a variety of green feed to make them eat a maximum amount. We must have alfalfa, beets, kale, sprouted grains, in abundance. There is no danger of feeding any of the above, except sprouted grains, in excess. Some claim beets, if fed too heavily, will cause diarrhoea, but we have used them successfully for many years. In fact, whenever beets were fed in winter less grain was used and the egg production better than when they were left out.

To get eggs during the fall and winter months the hens must have green feed. We must, artificially, furnish our flock spring conditions. It will do no good to use forcing feeds, install electric lights if our hens are fed no green stuff. This is one of the reasons farmers' hens do not lay in the fall and winter. With present high prices of feed, green stuff must not be neglected if we will stay in the game.

FALL CHICKS.

We have always been an advocate of fall chicks. On account of the high cost of feed it seems evident, from our inquiries about the country, that very few will be raised this year on the large poultry farms. The farmers should grasp this opportunity. Dust and clean up that incubator. Put in some good eggs; by good we mean purebred, not mongrel stock; and by Christmas, if fed rightly, high price fryers will be the reward. This will furnish Christmas money for many a housewife and bring down the cost of living. Why not have a couple of nice plump young chickens instead of that tough old turkey you get at the butcher's. Possibly he has been on storage since last Thanksgiving or longer. Mrs. Housewife, don't you think it worth while? Fall chicks require but little care.

CLEAN UP YARDS SOON.

There is always a certain amount of dirt accumulating in the chicken yards and houses. This should be removed not later than the first of October. If left until after the first rain, a considerable portion will stick to the ground and cause disease during the winter. Of course, if the farmer has a modern hen house and yard, he will clean it several times a year, but the average farmer does not think of it and therefore lets it go until fall, when he has leisure, which is all right, as the hens have the range of the place. A good cleaning will not do any harm and possibly a lot of good, so do not overlook it.

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

"EASTMAN'S BRED-TO-LAY" Barred Plymouth Rocks, August chicks and eggs. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

BRONZE TURKEYS — Albert M. Hart, Clements, Cal.

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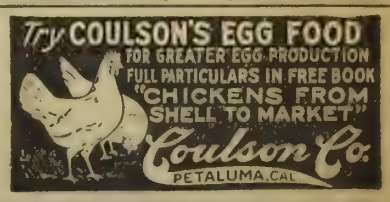

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THE HOME CIRCLE

Mrs. Best's Letter.

CALIFORNIA'S GREATEST VACATION RESORT.

My Dear Friends: I hope that all of you have either had or are going to have a vacation before you settle down to another winter. There is something so refreshing about getting away from the ordinary routine and seeing new things and new faces. To many of you, no doubt, a visit to the city with its stores, theatres, and other attractions, affords the greatest change, but for a real rest, both mental and physical, the country appeals to all of us.

California is so rich in scenic beauty that we may all find just the place that appeals. Perhaps the most wonderful place in the State is the Yosemite Valley and it is visited by thousands each year. It appeals to all lovers of beauty and grandeur, and it furnishes an expensive or a cheap outing, as you may see fit to plan. There are good hotels there where the prices are equal to those in a city hotel. Then there are camps where you sleep in a tent or small house and have your meals in a general dining room. At these camps the prices are fairly reasonable, for they give you good meals, good beds, and bedding and towels, and take care of the tent for you.

For those who would not care for either of these arrangements, there are camping sites where you may pitch your own tent, or, not having one, rent one from the company, run in your automobile and set up housekeeping on any scale that pleases you. These camping sites are beautifully located in among the pine trees, with running water near at hand. You must apply to the office for the privilege of camping, and are assigned to a definite place. All cooking utensils may be rented and supplies can be purchased at the village store, where there seems to be everything one could possibly find necessary.

While a machine on the floor of the Valley is not a necessity, it is a great comfort, especially if you are not fond of walking. The roads in the Valley are perfect, but those leading into it have room for improvement. However, on the steep grade in and out of the Valley, machines and vehicles must all move in the same direction at the same time, so there is no danger of collision.

For those fond of walking, there is unlimited entertainment, as the trails are endless, and for those less vigorously inclined, the camps provide entertainment in the form of swimming, bowling, billiards, and the like. Dancing is indulged in on certain evenings, and moving pictures are shown, also. These entertainments are held in the center of the camps, so the sleeping quarters are quiet.

There is quite a difference in that regard in the camps—some of them are much more noisy than others, depending upon the manner in which they are conducted. So, if you want noise and bustle, you can have it, and if you want quiet peacefulness, you can secure it by selecting that type of camp.

ROSABELLA BEST.

BOILED SALMON.

Wash the fish thoroughly and tie up in a square of cheese-cloth kept for that purpose and boil in a kettle with enough boiling water to cover the fish. Cook slowly. A four-pound piece will require an hour to cook. Salt the water well, before the fish is done. Then lift carefully from the kettle and remove the cloth, placing the fish on a heated platter. Pour over it a white sauce in which the whites of two hard-boiled eggs have been cut, using the yolks to grate over the fish after the sauce has been poured on. Garnish the fish with sprigs of parsley.

SALMON AND RICE.

Butter a deep, narrow loaf pan and line it with freshly cooked warm rice. Fill the center with cold salmon, either boiled or canned, which has been well flaked with a fork. Season this with pepper, salt, a dash of lemon juice, and a little melted butter. Cover with rice and set the pan in a steamer. When it has steamed about an hour, turn out on a hot platter and pour over a white sauce to which hard boiled eggs may be added.

OVERALLS FOR WOMEN.

Since the war increased the number of occupations open to women, the popularity of overalls has grown rapidly. For factory use, as well as outdoor work, they are proving useful and satisfactory, and the individual styles that are being developed make them a neat and modest garment.

A LAUNDRY HINT.

The light-colored smocks that are so popular this year need special care in laundering. They should be soaked in salt and water before washing and should be washed in a bowl separately and with a mild white soap. Then they should be hung to dry in the shade and should not fade. But if the dyes are poor, they may, and then the best thing to do is to boil them with water and washing soda and hang in bright sunlight to bleach and be content with a white smock.

HOMINY SQUARES.

Mix 1 cup of cooked cereal and 1 large egg; add 1 tablespoon of shortening and ½ teaspoon of salt and beat well; add 2 cups of hominy, that has been soaked for 2 hours and well drained, 1 cup of milk and ½ cup grated cheese; spread ½ inch thick in shallow greased pan; bake ½ hour and serve hot.

ETIQUETTE OF THE FLAG.

When flags are on display, there is a strict etiquette governing them. When draped on a wall, the blue field should always be to the north or east. When bunting is displayed, the red should be at the top, followed by the white and blue. Raise a flag at sunrise or after, never before. It is a mark of disrespect to allow the flag to fly through the night.

ANOTHER USE FOR TOMATOES.

Tomato paste is a concentrated form of tomatoes, available for use in soups, sauces, and in combination with beans, macaroni and spaghetti. The advantage of this method of using tomatoes is that cans are not necessary, as any odd bottles can be used for the paste, corked and sealed with sealing wax.

To make, take 1 quart thick strained tomato pulp, 1 slice onion, 4 tablespoons chopped sweet red pepper pulp, or 1 teaspoon paprika, ½ teaspoon salt, 1 teaspoon sugar, 1 tablespoon mixed spices.

Cook spices tied in a bag with tomato pulp in a pan over boiling water for about three hours, or until the paste is thick enough to hold the shape of the spoon when tested by dipping out a spoonful. Bottle hot in freshly scalded bottles, cork and seal. The sealing can be easily managed if the cork is forced down below the edge of the neck and the top surface sealed over with sealing wax or paraffine.

MOCK DUCK.

On a round steak, cut thin, place a stuffing of bread crumbs well seasoned with chopped onions, butter, or other fat, salt, pepper, and other flavorings, such as sage or celery seed, if desired. Roll the steak around the stuffing and tie in several places with string. If the steak is tough, steam or stew the roll until tender before roasting in the oven. If desired, the roll may be cooked in a casserole, in which case a cupful or more of water should be added.

What Have You Done to Help Along?

What have you done to help along?
How have you made the Nation strong
To battle for the right?
Have you helped war's grim debt to pay?
What have you done, bold critics, say,
To aid in Freedom's fight?

What have you done the world to save
From brutal tyrant, blood-lust's slave,
Who mercy would o'er throw?
Can you sit quietly and see
Lands ravaged of their liberty
And strike no blow to make them free?
Do you no duties owe?

Life is not made for ease, young friend,
He merits loss who'll not defend
What others died to give.
Here on this soil where heroes fell,
That we in liberty might dwell,
Let history to the future tell
Their memories still live.

—Richmond Times-Dispatch.

Barker Bros.'
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of Furniture and Home Furnishings
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Good Health.

[By H. E. Pastor, M. D.]

Flies Dislike the Color Blue.

Several paragraphs have appeared in this column this season warning our readers against the menace of the filthy fly. Flies are among the most prolific carriers of dangerous disease germs from foul places to human foodstuffs. The various means of combating this pestilential disease carrier have been mentioned, but we recently ran across a new (to us) idea which, while we have had no opportunity of testing it out, might be worth a trial by hygienists and sanitarians. It is reported that scientific observations recently made on the eyesight of flies reveal the fact that flies see well white light only, and find yellow quite tolerable. All the vibrations of blue and green rays, however, are disagreeable. Whether or not the Arabs acquired their knowledge empirically, it is said that they calsomine the houses in many of their towns blue, realizing that there is some connection between the color blue and the fly, as there are fewer flies found in houses colored blue than in those of other tints. It is also said that in Japan, at the entrances to butcher and pastry shops, there are hung curtains of blue glass beads interspersed with tubes of painted bamboo. It is claimed that flies go out through the interstices between the beads but do not enter.

Prunes and Their Prudent Use.

We have been just reading of the bumper crops of prunes grown in many districts of California. From some observation among the people resident in these districts, we are aware that a not small proportion of them are victims of ailments which the prunes that grow in such abundance about them are much better adapted to relieve than the pills, potions, and powders purchased at the country pharmacy. There is no excuse for any person living in a prune-growing district suffering from sluggish, torpid bowels. Fruits of all kinds, and more especially prunes, should find a place on the dining table at least once a day, and 365 days in the year; and this could be done without going off the ranch to buy the raw material, if foresight enough is exercised by the farmer and his wife in drying, canning or otherwise preserving a sufficiency of their home-grown fruit crop for use when fresh fruit is not obtainable. No drug-store concoctions are so well adapted to establishing functional regularity of the bowels as are the common fruits of California orchards. The modern farmer is very "knowledgeable" in the selection and preparation of feeds for his hogs and cattle, but he is oftener than not bloomingly ignorant of feeds and rations for his wife and babies. Farmers should give at least as much thought to the needs of the animals inside the house as to those on the outside. And the adequate use of prunes and prunes' congeners should be one of his immediate concerns.

Farm Sanitation Criticised.

At the annual meeting of the Advertising Association of Chicago, held in that city last spring, one week was devoted to what was called "Farm Paper Week." During the proceedings some exceedingly interesting papers were read by specialists appropriate to the occasion. One such paper was on the subject of "Rural Hygiene" by Dr. Wm. S. Sadler. Its publication affords some very racy reading. Among other things he says:

> The farmer does not always have the very best medical attention when he is sick. The next generation of doctors will be sent out better trained. The doctor of the future can't go and drive a doctor's carriage for a couple of years and then hang out a shingle. The doctor of the future will be a physician, who is a graduate of a good medical school.
>
> Then look at the well water. The water in cities is treated and has no typhoid fever germs left in it, while on the farm a lot of the time the farmer has the barnyard on higher ground than the well, so that it will all drain right into it.
>
> I believe that the dairy industry has done more and made more progress among the farmers than all other industries. They are teaching indirectly, but it is accomplishing the purpose through getting good barns, etc., and thus improving the sanitary conditions.
>
> The farmer doesn't ventilate his house correctly. His children have cholera morbus and die and he doesn't know that the fly got in and crawled over the baby's bottle. So in the different departments of health and hygiene the farmer has stood still for 40 years, making only slight gains.
>
> Mr. White sent me some farm journals recently, and in looking them over I was astonished to see the high class of matter in those journals. But I looked all the way through and not a health column—not a thing about hygiene—in one of these papers, though in three or four I found beautiful editorial columns by veterinaries.

The Rural Press has been saying these things week in and week out for some considerable time past, and it is encouraging to discern a general awakening on this important phase of farm life.

CALIFORNIA LAND SHOW.

California farmers and housewives are to be instructed along the lines of federal food control through a special bureau. The plan is not alone along the line of food saving and diminishing of rations, but is to teach the best methods to alleviate food waste.

The bureau is to be opened at the California Land Show, which will be held in San Francisco in October and will teach the best way of preparing food to meet the present food crisis, the relative value of foods.

In the present grave condition, many persons who are unusually anxious to co-operate with the government have no idea and are unable to obtain information as to what to reject for food at home that the needs of the army and navy may be fully supplied.

The aim of the land show is to educate both the farmer and city dweller, and it is hoped that by keeping the public in touch with supply and demand, both households and individuals will find the best way to do their part.

FRUIT IN COFFEE CANS.

[Written for Pacific Rural Press.]

For two years, Mrs. O. A. Henry of Fresno county has been using tin coffee cans for canning various fruit, including apricots, putting it up with and without sugar and using the same cans two years in succession. Always when a can of fruit is opened, it is immediately emptied and washed out. She puts the fruit into the cans hot, as with glass jars, puts the cover on, dries it with a cloth, and pours "fruit sealing wax" around the edges of the cover. If it is not dry, the wax will not stick. The wax is melted in a tin can on the stove, not allowing it to get too hot, and pouring it out through a sharp "snout" bent in its edge. Baking powder cans are used for jams and jellies; but cannot be sealed tight enough for fruit.

Answering the Nation's Call

IN this "supreme test" of the nation, private interests must be subordinated to the Government's need. This is as true of the telephone as of all other instrumentalities of service.

The draft for war service which has been made upon the Bell System is summarized in a recent Government report.

Government messages are given precedence over commercial messages by means of 12,000 specially drilled long distance operators all over the country.

The long distance telephone facilities out of Washington have been more than doubled.

Special connections have been established between all military headquarters, army posts, naval stations and mobilization camps throughout the United States.

More than 10,000 miles of special systems of communication have been installed for the exclusive use of Government departments.

Active assistance has been given the Government by the Bell System in providing telephone communications at approximately one hundred lighthouses and two hundred coast guard stations.

Communication has been provided for the National Guard at railroad points, bridges and water supply systems.

A comprehensive system of war communication will be ready at the call of the Chief Signal Officer, and extensive plans for co-operation with the Navy have been put into effect with brilliant success.

As the war continues, the demands of the Government will increase. And the public can help us to meet the extraordinary conditions by putting restraint on all unnecessary and extravagant use of the telephone.

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"Pacific"

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Factories
Richmond and
San Pablo, Cal.

SAN FRANCISCO.

San Francisco, Wednesday, Aug. 22, 1917.

WHEAT.

With everybody awaiting action by the U. S. Food Control Board, the local market is left without buyers. Quotations given below are practically nominal only, and in many instances have been withdrawn. No quotations are issued by the Call Board.

Sonora wheat	$4.00@4.10
Northern Club	None offered
California Club	None offered
Northern Bluestem	$4.35@4.50
Northern Red	4.10@4.50
Russian Red	None offering

BARLEY.

There is some inquiry for brewing and shipping which are now included in our list of quotations. The strong upward trend of barley futures has stopped, with the result that choice feed shows declines, because of the weakening of spots. On account of the appearance of a return to more normal conditions more transactions are being recorded.

Shipping, per ctl	$2.32½@2.35
Brewing	2.32½@2.35
Choice feed, per ctl	2.25@2.27½

OATS.

Some blacks are offering at $2.30 for seed, but there are no takers. No sales of any impertance, and the interest in oats noticed last week has fallen off.

White Feed, per ctl	$2.65@2.70
Red Feed, per ctl	2.90@3.00
Red Seed, per ctl	3.25@3.50

BEANS.

A general cleaning up of stocks preparatory to receiving arrivals of new crop has caused a cheapening of every line. Holders seem anxious to get rid of their stocks so as not to invite disaster in the fall of prices. The future of this market is dim, and will not clear until the return of H. Clay Miller, president of the California Bean Dealers' Association, from the East, where he has gone to confer with H. C. Hoover.

Bayos, per ctl	$ 8.25@ 9.25
Blackeyes	7.00@ 7.50
Cranberry beans	8.50@ 9.50
Horse beans	3.50@ 4.00
Small whites (south)	13.00@13.25
Large whites	11.00@12.00
Pinks	8.00@ 8.50
Limas (south, recleaned)	10.00@11.00
Red kidney	10.00@11.00
Mexican reds	8.25@ 8.75
Tepary beans	None offered
Garbanzos	4.50@ 5.25

CORN.

Absolutely no stocks of Eastern yellow are offering. Rumors are rife on the street that some Argentine corn is due to arrive, but these reports have not been verified. While values of California and Milo maize are quite firmly held, there is little activity in these lines.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, per ctl., blk.	None offering
California, sacked	$4.25@4.50
Milo Maize	4.00@4.25
Egyptian	None offered

HAY.

Receipts are very small for this time of year, when arrivals are usually heavier. Shortage of cars on the railroads can be again given as the reason. In many sections scarcely any hay has been shipped this season. In other districts where warehouses are available hay has been stored to capacity, with the balance left in the field awaiting better transportation facilities. It is doubtful whether cars will be more plentiful as the season progresses. Most of the arrivals during the week came by water, for reasons above stated. Prices on all lines have advanced and it is difficult to forecast the future. Owing to the extreme prices prevailing at the close of last season many dealers went into the country and bought hay without figuring on the difficulties of transportation. Although trade is dull, prices are firmly maintained.

Wheat, No. 1	$18.00@20.00
No. 2	16.00@18.00
Tame oats	19.00@20.00
Wild oats	15.00@18.00
Barley	15.00@18.00
Alfalfa, new, first cut	15.00@18.00
Stock hay, new	14.00@16.00
Straw, per bale	50@90c

FEEDSTUFFS.

Because of adverse conditions for the mills there is very little manufacturing being done and prices are inclined to advance. Coconut cake has advanced $2.00. From appearances, the strength of the market will continue; the demand being insistent, with no sign of diminution for the present.

(Per ton, San Francisco.)

Beet Pulp, per ton	$38.00@40.00
Alfalfa meal, per ton	26.00@28.00
Bran, per ton	40.00@41.00
Oilcake	50.00@55.00
Coconut cake or meal	40.00@41.00
Cracked corn	83.00@84.00
Middlings	50.00@52.00
Rolled barley	53.00@54.00
Tankage	None offered
Rolled oats	$56.00@58.00
Rice middlings	None offered
Rice bran	$30.00@33.00
Shorts	43.00@45.00

POTATOES, ONIONS, ETC.

Arrivals of peas are slacking off, although they are no higher in value. Hubbard squash, by the sack are worth $1.00. There is a good demand for summer squash, but an overflow of receipts, and they are lower. Cucumbers are also plentiful. Tomatoes are higher and in good demand. The potato market is stiff, influenced by the heavy shipping outside of the State. Offerings of Salinas potatoes are coming in, of a high quality, selling readily at $2.90@3.00. Onion values do not seem to strengthen, as the optimistically inclined had hoped.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

Asparagus	None
Peas, per lb	4@4½c
String beans, per lb	3@6c
Wax beans, per lb	3@4c
Hubbard squash, per sack	$1.00
Summer squash, per box	40@60c
Cucumbers, per box	50@75c
Celery, per lug	Nominal
Tomatoes, per lug box	50c@$1.00
Potatoes, Salinas	$2.90@3.15
Oregon	None
New, Rivers, per ctl	2.65@3.00
Sweets, per lb	5@6c
Onions, yellow, per sack	$1.00@1.25
Reds	85c@$1.10
Garlic, per lb	2½@3½c

POULTRY.

The market is quite active and most lines move off well. Prices have not advanced because of demand and supply about balancing. The long looked-for car of Eastern chickens arrived during the week but, owing to the activity in this market, did not create a ripple of interest, and prices were not affected thereby. The stocks sold readily, though at prices which are said to have netted a loss of $3.50 to the consignor.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb	20@22c
do, dressed, large, per lb	None
Broilers, 1½ to 2 lbs	27@28c
do, 1¼ lbs	27@28c
do, under 1 lb	27@28c
Fryers	27@28c
Hens, extra, per lb., colored	20c
Small leghorn	15@16c
Smooth young roosters, per lb. (3 lbs. and over)	28c
Old roosters, per lb	12@13c
Geese, per lb	12½c
Squabs, per doz	$2.50@3.00
Ducks	15@18c
Old	12½c
Belgian Hares (live)	10@12c
do (dressed)	12@14c

BUTTER.

The extremely light receipts of yesterday did not affect values. Prices of extras have not advanced since the decline and an advance is not likely to occur. While the Eastern butter market has developed more strength it has had no influence here. However, should the New York market go high enough to create a marked differential between Eastern and San Francisco values, there would be opportunity for shipment there, causing an increase in values in this market.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	41½	41½	41½	41½	41½	41½
Prime firsts	40	40	40	40	40½	41

EGGS.

There was quite a seesaw of prices during the week, though without actually weakening the market. Values, as a rule, seem firmly held. The outlook seems better as, in the judgment of some, consumers who have been putting away eggs will soon have to draw on their reserves. Receipts for the week were heavy.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43½	44	43	43	43½	43
Extras 1sts	42½	42½	42½	43	42½	42½
Extra pullets	39½	39½	39½	40½	40½	41
Ex. 1st pul.	39	39	39	40½	40½	39½

CHEESE.

Young Americas have advanced a cent since last week, but flats are lower. Stocks are being held firmly, influenced, perhaps, by the fact of more domestic sales. Some restaurants are trying to induce their patrons to eat more cheese, in various forms. This is a good move, and if persisted in will have a permanent effect on the cheese industry of the state.

Y. A.'s	25c
Fancy California Flats, per lb	22c
Monterey cheese	8@18c

FRESH FRUITS.

Watermelons fetch higher prices in the market, as there is said to be the usual car shortage in the country and producers are confronted with adverse labor conditions. Figs are somewhat cheaper as Calimyrnas are arriving, which swell receipts. Cots are off the market. Malagas and seedless grapes arrive in fairly good quantity and are a little firmer and higher. Generally speaking, there is a heavy supply of all seasonable fresh fruits.

Apples, Gravenstein, per box	$1.50@2.00
Pears, per box	75c@$1.50
Cantaloupes, per crate	$1.25@2.00
Apricots, per box	None
Peaches, per box	50c@$1.00
Figs, per box	50c@$1.00
Plums, crates	50c@$1.00
Watermelons, per doz	$1.00@$2.00
Grapes, Malaga	75c@$1.00
do, Seedless	75c@$1.00

CITRUS FRUITS.

Lemons move more slowly in nearby localities, owing to the cool weather. Here we are overloaded with cheap fresh fruits and no better movement may be expected for some time. All varieties of citrus fruits are subject to these unfavorable conditions of this market, but the heavy Eastern shipments prevent declines in prices. European shipments are nominal, on account of war conditions.

Oranges:	
Valencias, fancy	$3.50
Valencias, choice	$3.00@3.25
Lemons:	
Fancy, per box	$8.50
Choice	7.50
Standard	5.50
Lemonettes	$5.00@6.00
Grapefruit, fancy	3.50@3.75

DRIED FRUITS.

An increased domestic demand has developed and prices on certain lines have risen, in consequence. Apples have advanced rather sharply, as the output is short. Peaches and apricots are higher, but prunes are weak at quotations, because of the lack of export demand, owing to the embargo.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop	10c@13c
Apricots, per lb.	12½c@16c
Figs, black, 1916	None
do, 1917	5¾@ 6¼c
do, white, 1917	6½@ 7c
Calimyrna, 1917	10 @11 c
Prunes, 4-size basis, 1917	6 @ 6½c
Prunes, 1916, basis	8½c
Pears	8 @10 c
Peaches, 1917	8c@9c

BERRIES.

Strawberries are a little off in quality this week, although the demand for them is still fairly good. Logans are completely off the market.

Strawberries, Banners, chest	$5.50@$6.00
Longworths	None
Blackberries, per chest	4.00@ 5.00
Raspberries, per chest	10.00@12.00
Gooseberries	None

HONEY.

Prices have not advanced, but are very firmly held, especially on water white comb and extract. The U. S. Agricultural Department is advocating the use of honey in preference to butter at the prevailing high prices. If pressed by the department this advice will have a favorable effect on honey values.

Comb—	
White honey	13@15c
Light amber	11@13c
Amber	8@10c
Extract—	
Water white, per lb	12@14c
Light amber, per lb	9@11c
Amber	8@10c

HOPS.

The range of prices continues the same, excepting on futures which have advanced and are now quotable at 29 to 33 cents. Growers are confronted with an acute labor shortage, and dealers are harried with the fact of advancing prices hindering transactions.

Baled, per lb	8@20c

LOS ANGELES.

Los Angeles, August 21, 1917.

BUTTER.

Receipts of week ending August 21, 336,950.

Receipts of same week last year, 326,300.

A steady and rather firm market was had the past week. The receipts, while not so heavy as the week before, were better than this time last year. Cold storage stocks continue light, 182,015 pounds less than this time last year. This, with the fact that the heavy receipts of last week was absorbed by the consuming trade without trouble, caused dealers to hold a firm market throughout the week. Chicago and New York were a little higher which also had a sympathetic influence upon the market here. Tuesday the markets East were ½c higher, but that had no influence upon the market here.

We quote:

California extra creamery	42c
California prime first	41c
California first	40c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	42	42	42	42	42	42
1916—						
Extra	26	28	28	28	28	28

EGGS.

Receipts (railroads) for week ending August 21, 1917, 972 cases.

Receipts (railroads) for week ending August 21, 1916, 1066 cases.

A fairly active and higher market was had the past week. The receipts were only about half as large as this time last year, and the markets, both East and North, advanced during the week. Local poultry people are selling off their hens freely to save high priced feed, thus cutting down the egg production. While a few cold storage eggs were loaded out during the week, the holdings in cold storage are still 15,561 cases heavier than this time last year. Tuesday, under light receipts and stronger markets East, there was a very good demand on 'change and prices ruled higher both for extras and case count.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extras	41	42	42	42	43	43½
Case count	38½	40	40	40	39½	42
Pullets	37	37	37½	37½	38	38

POULTRY.

There is no improvement in this market from a week ago. The high price of feed is forcing raisers to market freely. A world of light hens were on the market the past week and they were slow sale and weak. A good many broilers and fryers were also in and fair receipts of heavy hens. Choice broilers, fryers and heavy hens were in fair demand, but all else dull.

We quote from growers:

Broilers, 1¼ to 2 lbs	20@22c
Fryers, 2½ to 3 lbs	21c
Hens over 4 lbs	21c
Hens under 4 lbs	14@15c
Ducks	15c
Geese	12c
Roosters, 3 lbs. up (soft bone)	22c
Turkeys, heavy, 12 lbs. and up	29@30c
Turkeys, light	24@25c
Squabs, live, per doz	$3.00@4.00
Dressed	3.50@4.50

FRUITS.

It was rather quiet in this market the past week. Apples were dull and a little lower. Fancy stock met with fair sale, but all others were very dull. Peaches were a little firmer. Figs slow sale and lower. Plums generally the same as a week ago, but dull. Pears steady and in fair demand. Grapes coming in more freely and lower, demand fair.

We quote from growers:

Apples, Gravenstein, per 4-tier box	$1.40
do, do, 4½-tier box	$1.00@1.10
do, Alexandrias, loose, per lb	2c
do, Maiden Blush, per lug	40@50c
Peaches—	
Freestone, local, per lug	35@60c
Clings, Tustin, per lug	35@60c
Northern, per lb	1½@2c
Figs—Black, 2-layer	$1.00@1.35
Figs—White, 2-layer	60@75c
Grapes—	
Malaga, per lb	4@4½c
Muscat, per lb	5c
Black Hamburg, per lb	3@3½c
Plums—	
Burbank, per lug	20@30c
Tragedy, per lug	90c@$1.00
Satsuma, per lug	40@50c
Pears, per lb	2@3c
French Prunes, per lug	50@60c
Quinces, per lug	50@60c
Damsons, per lug	60@70c
Nectarines, per lug	60@75c
Apples, green, per lug	25@30c

MELONS.

There is little change to note in this market from a week ago. Offerings very

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., Aug. 21, 1917.

The receipts in most of the auctions for the past week have been the heaviest for the season, but the demand seems to continue strong, especially on pears.

Prices on plums ruled easier, except on hard shipping stock, which sold to good advantage. A large proportion of the receipts, however, were in different stages of ripeness and very ripe stock had a depressing effect upon the market.

Eastern markets are somewhat easier on peaches, owing to the local stock that is now arriving. The demand, however, is still strong in the North and Middlewest and there should be no difficulty in disposing of cars on track as most of them have already been placed and are rolling to destination.

Thompson Seedless have up to date sold to good advantage, but we look for an easier demand from now on.

Malagas will rule strong and though shipments are increasing, we look for all the stock to meet a ready demand. Tokays will not be ready to ship before the first of September. The berries are small but are coloring fast.

Elbertas are practically cleaned up and shipping stock of peaches will be out of the market in two weeks.

Northwestern pears have begun to move and though the stock is not up to standard, it has not, up to the present, had any effect upon the market.

The following prices have ruled for the week:

New York.—Bartlett pears averaged $2.85; Elberta peaches, 96c; Crawford, 80c; Tuscan, $1.25; Tragedy plums, $1.10; Grand Duke, $1.42; Diamond, $1.20; American Blue, $1.09; Giant, $1.45; Wickson, $2.05; Burbank, $1.30; Thompson Seedless, $1.68; Malaga grapes, $2.80.

Chicago.—Bartlett pears, $2.91; Thompson Seedless, $1.69; Malaga, $2.55; Elberta peaches, $1.05; Crawford, 95c; Tragedy plums, $1.63; Giant, $1.78; Wickson, $1.76; Grand Duke, $2.00; Egg, $1.67; American Blue, $1.49; Gross, $1.90; Diamond, $1.77; Sugar, $1.63; Duane, $1.54.

Boston.—Elberta peaches, $1.20; Crawford, $1.12; Foster, $1.25; Thompson Seedless, $1.92; Malagas, $2.60; Bartlett pears, $3.27; Sugar plums, $1.60; Grand Duke, $1.55; Burbank, $1.37; Satsuma, $1.67; Kelsey, $2.19; Diamond, $1.60; American Blue, $1.40; Tragedy, $1.55; Duane, $1.50; Wickson, $2.20.

Total shipments for the week ending August 17th, by cars: 669 peaches, 273 plums, 653 pears, 298 grapes.

Total shipments to date, 1917, 8033 cars.
Total shipments to date, 1916, 8469 cars.

HOPS ARE HOPPING UPWARD AT A LIVELY RATE.

Three weeks ago we made on this page what we regarded as a sensational announcement when we stated that Sonoma hops had sold at 15 cents and Sacramento valley hops were quoted at 13 cents. Growers who sold at these "advanced" prices—and there were many—are now bewailing their want of marketing sagacity. Those lucky enough not to have contracted away their crop are now looking askance at 35 cents, and the end of the price-boosting is not yet. Congressional legislation favorable to beer-brewing is mainly responsible for this welcome turn in the hop-growers' fortunes.

good and demand fair. Casabas are a little lower. Watermelons as well as cantaloupes held steady throughout the week.

We quote from growers:

Cantaloupes—
Local, Pineapple and Tiptop, jumbo crate .....75c@$1.00
Pineapple and Tiptop, pony crate .....60@65c
Columbia, jumbo crate.....75c@1.00
Paul Rose, standard crate.....50@60c
Watermelons, per cwt.....75c@1.00
Casabas, per jumbo crate.....$1.25@1.30
Honeydew melons, per box of 9-10, 75@90c

VEGETABLES.

The market was well supplied the past week and sales slow. Potatoes held steady, but demand only fair. Onions dull and lower. String beans a glut on the market and very low. Tomatoes steady but slow. Summer squash very dull and weak. Green corn firmer and in fair demand. Lima beans slow and weak. Bell peppers dull and lower. Chiles unchanged. Peas slow and lower. Celery dull and lower. Egg plant slow and weak. Sweet potatoes now coming in, but are meeting slow sale.

We quote from growers:

Potatoes, per cwt.....$2.75@3.00
Peas, Northern, per lb.....6@6½c
Onions, Northern, per cwt.....60c@$1.00
String beans, wax, per lb.....1@1½c
do, Kentucky Wonders, per lb.....1½c
Tomatoes, No. 1, local, per lug....25@35c
do, No. 2.....20@25c
Summer squash, per lug.....10@15c
Cucumbers, per box of 2½ to 3 dozen .....15@25c
Green corn, per lug.....45@50c
Cabbage, per 100 lbs.....40@50c
Lima beans, per lb.....2@3c
Okra, per lb.....5@6c
Bell peppers, per lb.....1½@2c
Chile peppers, per lb.....1½@2c
Celery, per crate.....$2.50
Egg plant, per lb.....2@3c
Sweet potatoes, per cwt.....3.25@3.50

BEANS.

Some new whites are now arriving and market is hardly so firm. Demand fair, but mainly for small lots. No one seems to care to stock up.

We quote from growers:

Limas, per cwt.....$11.00
Large white, old, per cwt..... 13.50
Small white, old, per cwt..... 13.50
Large white, new, per cwt..... 11.00
Small white, new, per cwt..... 11.00
Pinks, per cwt..... 9.50
Blackeyes, per cwt..... 8.00

HAY.

A very fair, steady and rather firm market was had the past week. The country and local buyers both made fair purchases of all good hay, as the feeling is growing that there is nothing to be gained by holding back, hence a disposition to stock up a little for the immediate future.

F. O. B. Los Angeles:

Barley hay, ton .....$21.00@22.00
Oat hay, ton ..... 21.00@22.50
Alfalfa, northern, per ton..... 18.00@19.00
Alfalfa, local, ton..... 20.00@21.00
Straw, ton ..... 9.00@10.00

HONEY AND BEESWAX.

While prices were firm with an upward tendency of the market for light amber, there was very little moving. Not much back in the country, which accounts for the bidding up of dealers. Beeswax lower.

We quote from growers:

Comb, per case .....$3.00@$3.25
Orange-water white .....12@12½c
White sage .....12@12½c
Light amber sage.....10@10½c
Light amber alfalfa.....10c
Beeswax 32c

THE HUMBLE HOG NOW RANKS AS AN ARISTOCRAT.

In the meat line hogs are now in the ascendant, mutton prices having perhaps reached the price limit. Last week's record hog prices, which occasioned nation-wide comment, have been outdistanced this week, and as there is but a limited supply of porkers in sight, a further rise in the near future may be looked for. Hogs sold in Chicago on Tuesday of this week for $20 a hundred, an advance of $3 in about two weeks. In San Francisco top hogs are quoted at $16 as we go to press.

Special Livestock Market Report

San Francisco, August 22, 1917.

CATTLE.—Well-finished cattle are, as usual, in keen request, without a corresponding supply. Receipts of ordinary to off-grade stuff are plentiful. There is a slight shading of prices in some classes. The local calf market is slow, most of this class of stock being bought up at interior points by local butchers. Then, too, the injunction from Washington to conserve breeding stock is having its effect, and female calves are being largely held back.

Grass Steers—
No. 1, weighing 900@1200 lbs..8½@8¾c
No. 1, weighing 1200@1400 lbs..8½@8¾c
Second quality .....8@8¼c
Thin undesirable .....6½@7½c
Grass Cows and Heifers—
No. 1 .....7¼c
Second quality .....6¼@6½c
Undesirable .....4@6c
Hay-fed cattle ½c to ¾c higher.
Bulls and Stags—
Good .....5½@5¾c
Fair .....5@5¼c
Thin .....4@4¾c
Calves—
Lightweight .....9¼@9½c
Medium .....8¼@8½c
Heavy .....7¼@7½c

SHEEP.—There is little change to be noted in the sheep and lamb situation, though lambs are reported to be coming in a trifle more plentifully, Nevada contributing a fair share. Consumption is still light, and the small arrivals suffice local demands.

Lambs—
Yearling .....11½@12c
Milk .....11½@12c
Sheep—
Unshorn wethers .....10@10½c
Unshorn ewes .....8@8½c

HOGS.—The hog market is quite active these days, more especially in the East, where sky-soaring prices have eclipsed all former records. On the Coast the upward movement is in sympathy with the situation in the East; and while local receipts have about met the demand, price notations have risen quite sharply, as may be seen by a comparison of this week's figures with last. Well-finished stuff, however, is still scarce, due to unfavorable feed conditions.

Hard, grain fed, 100 to 150.....13¾@14c
do, 150 to 300.....15¾@16c
do, 300 to 400.....15¼@15½

DRESSED MEATS.

Steers—
No. 1 .....14c
Second quality 12½c
Cows and heifers.....12@12½c
Calves as to size, etc.....12@15c
Lambs—Suckling 22c
do. Yearling 20c
Sheep—Ewes 17c
Hogs 21c

WOOL.—This is the off-season in the wool market. Most of the spring clip is sold, and what small transactions there are are taking place in the interior, mainly in the Mendocino and Humboldt districts. The figures given are as reliable as can be ascertained from the meager information at hand.

Mendocino, 12 mo.'s clip.....60@62c
Humboldt, 12 mo.'s lcip.....60@62½c

Los Angeles, August 21, 1917.

CATTLE.—The market situation remains unchanged from a week ago. The offerings of medium and fair fleshed cattle from California and Arizona continue very good and they are being bought without trouble at quotations. Few really well fatted steers coming in and the market for them firm at top quotations.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs.....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers..... 6.50@7.00
Calves, per cwt. ..... 8.00@9.00

HOGS.—Not so many coming in and the Eastern markets being very high, caused an advance here the past week in sympathy. California continues to furnish what arriving and mostly half grown and half fat hogs, showing that they are being forced to market to save feed. But few really well "finished" hogs arriving and they command a premium over quotations.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs..$12.00@13.00
Mixed, 200@250 lbs..... 13.00@14.00
Light, 175@200 lbs..... 13.00@14.00

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP.—Not many in the past week and not many wanted. The high prices interfering with the demand. California and Arizona continue to furnish what few coming in and quality only fair. Sheep owners reluctant sellers, owing to the high price of wool and when they do, cull their flocks.

Per cwt. f. o. b. Los Angeles:

Prime wethers .....$ 9.00@10.50
Prime ewes ..... 9.50@10.00
Yearlings ..... 10.50@11.00
Lambs ..... 13.00@14.00

North Portland, Ore., Aug. 21, 1917.

The week's operations opened with a string of about 2400 cattle, 1750 hogs, and 1700 sheep, all of which were yarded to face a strong to steady market, according to the department in which they were offered.

CATTLE.—The cattle department included about 80 carloads of varied material, grading from feeders to finished cattle. Top grade offerings were strong to higher in every class, cows extending upward to 7.50 as a top and steers to 8.75 as a top. The poorer grade, however in different classes suffered a decline of 25 to 40 cents. Stock cattle continued firm.

HOGS.—The movement of business in the hog alleys was prompt and the buyers keen for properly finished offerings. The advance was from $1.25 to $1.50 over the openings of last week's market. No hogs were sold for less than 18 cents, which was the price of the bulk. The select load sold for $18.25, which was the top. The number of stock hogs and feeders was larger than that of the previous week, and the price offered was advanced about one dollar.

SHEEP.—There was a large volume of business transacted in the sheep house, but no change of quotation was warranted from the prices paid. The quotations for the week's opening are as follows:

CATTLE—
Best beef steers.....$8.25@8.75
Good beef steers..... 7.25@8.25
Best beef cows ..... 6.25@7.25
Ordinary to good cows..... 4.00@6.00
Best heifers ..... 6.50@7.50
Bulls ..... 4.50@6.00
Calves ..... 8.00@9.50
Stocker and feeder steers..... 4.50@7.00
HOGS—
Prime light .....$18.10@18.25
Prime heavy ..... 17.95@18.10
Pigs ..... 16.50@17.00
Bulk 18.00
SHEEP—
Western lambs .....$12.00@12.75
Valley lambs ..... 11.50@12.00
Yearlings ..... 9.50@10.25
Wethers ..... 9.25@10.00
Ewes ..... 8.00@ 8.50

NEWS ITEM.

The Marian County Pig Club (64 strong) from Salem, Oregon, headed by Mr. G. W. Ayers, banker and stock dealer of that city, spent the day in the yards studying market and slaughtering conditions of the great northwestern live stock center.

WILL THERE BE AN ADEQUATE OUTLET FOR AMERICA'S APPLE CROP?

The prospect throughout this country for a large apple crop of fine quality is good. The prospect of finding purchasers to absorb the output is less flattering. England has heretofore offered one of the best foreign markets for our fancy apple crop. At present there is an embargo on such shipments, and exports can be made only through the export licensing bureau. An effort is to be made through the State Department to secure from England more favorable terms for the American apple grower. If this effort is not successful, it is not unlikely that the domestic apple may take a tumble from the extremely high prices now being obtained.

Special Citrus Market Report

Los Angeles, August 21, 1917.

Shipments of citrus fruits from Southern California from November 1 to August 19: Oranges, 36,343 cars, and lemons, 7234 cars. Same time last year: Oranges, 28,729 cars, and lemons, 6251 cars.

The past week was a very quiet one in this market both East and West. While prices show but little change from a week ago, sales were very light and in the East choice sold more freely than fancy stock. The difference in price attracting buyers. Locally the market was dead.

Local packers paying 1@1½c per pound in the grove for what few Valencias they are taking. Grapefruit still 1½@2c per lb. in the grove picked, but very few moving. Lemons, too, were dull. The weather was against the market for them. They were slow sale both East and West. Prices, however, under the influence of light offerings were held steady with a week ago. It was a weather market altogether. Local packers are still paying 3@4c per pound in the grove, picked, for the best for what few they are taking. Low grades have to be sold for what they will bring.

AUCTION SALES.

New York, Aug. 20.—Thirty cars oranges and three cars lemons sold. Market lower on fancy Valencias, but choice stock generally higher. Market lower on lemons. Valencias averaged $2.00@6.05. Lemons averaged $2.20@5.40.

Boston, Aug. 20.—Eleven cars sold. Market unchanged on Valencias, but easier on lemons. Valencias averaged $2.60@3.90. Lemons averaged $6.75@7.60.

Philadelphia, Aug. 20.—Nine cars sold. Market unchanged on Valencias, but lower on lemons. Valencias averaged $2.10@4.15. Lemons, $3.30@5.90.

Publisher's Department.

Work on the revised edition of "California Vegetables" is progressing nicely. We have had some trouble in getting just the pictures needed, but when the book is issued we know that purchasers will feel that the effort to beautify the book was well directed. Prof. Wickson is adding about one-sixth to the text over previous editions.

The various duties of the publisher of this journal have kept him from writing anything for this department for the past two weeks. However, our subscription list has been growing at the rate of nearly 300 new paid subscribers weekly. This issue we add 290 new names, making a total press run needed to fill our needs of 27,884 copies. By September 1st we will get well beyond the 28,000 list we set out to get at that time.

Classified Advertisements

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

MISCELLANEOUS.

SECOND-HAND WATER PIPE and Screw Casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. Shecter Pipe Works, 306-8 Howard st., San Francisco.

AT LAST THE PERFECT SILO—The Star Round; no hoops; no bolts; no experiments; anyone can erect; close price. Address D. O. Lively, 215 Hobart Bldg., San Francisco.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero st., San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smith's Cash Store, 106 Clay st., San Francisco.

APPLES DIRECT FROM PRODUCER — Fancy Bellfleurs $1 per box; No. 2 grade 70c. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

ENGINES FOR SALE—Holt Caterpillar, 30 h. p., and Holt Caterpillar, 60 h. p. Write box 231, Marysville, Cal.

WANTED TO BUY—CANARIES—1 Coolidge Place, off Jackson, San Francisco.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

A PRACTICAL DAIRYMAN AND FARMER wishes to take a dairy on shares; must be close to school; references. Box 730, Pacific Rural Press.

YOUNG WOMAN — Trained at University Farm, Davis, wants position on Poultry Farm. Address M. S., 2231 College avenue, Berkeley, Cal.

COUNTRY LANDS.

FOR SALE—35-acre home, all under cultivation. Fruit, alfalfa, beans; 16 miles from Sacramento. Half mile town. High school, railroad station. Details on application. John Lammiman, Box 195, Elk Grove, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

HUMBOLDT STOCK RANCHES—1700 acres $8 with stock cattle. Long lease; additional land. C. E. Robertson, 105 Montgomery St., San Francisco, or J. E. Wilson, Carlotta, Cal.

SEEDS, PLANTS AND TREES.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

WE BUY WEED SEEDS—Mustard, rape, anise, bitter clover, etc.; send samples; write us stating quantity and price. Globe Mills, Los Angeles.

SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar sts., Oakland, Cal.

California FRUITS

AND HOW TO GROW THEM

A Manual of Methods Which Have Yielded the Greatest Success; With Lists of Varieties Best Adapted to Different Sections of the State

By Edward J. Wickson

Emeritus Professor of Horticulture, University of California.

Seventh Edition—Revised

Contents by Chapter Titles

The Climate and Its Local Modifications. Why Climate Specially Favors the Growth of Fruits. Fruit Soils. Wild Fruits. Mission Fruits. Introduction of Improved Fruit Varieties. Clearing Land for Fruit. Nursery Budding and Grafting. Preparation for Planting. Planting Trees and Vines. Pruning Orchard Trees and Thinning Fruit. Cultivation. Fertilizers for Fruit Trees and Vines. Irrigation. Apple. Apricot. Cherry. Peach. Nectarine. Pear. Plums and Prunes. Quince. Vine Propagating and Planting. Pruning and Care of the Vine. Grape Varieties. Date, Fig, Olive, Orange, Lemon, Lime, etc. Banana, Loquat, Persimmon, Pineapple, Avocado. Berries and Currants. Almond, Walnut, Chestnut, Peanut, etc. Fruit Canning, Crystallizing, and Drying. Injurious Animals and Birds. Protection from Winds and Frosts. Utilization of Fruit Wastes.

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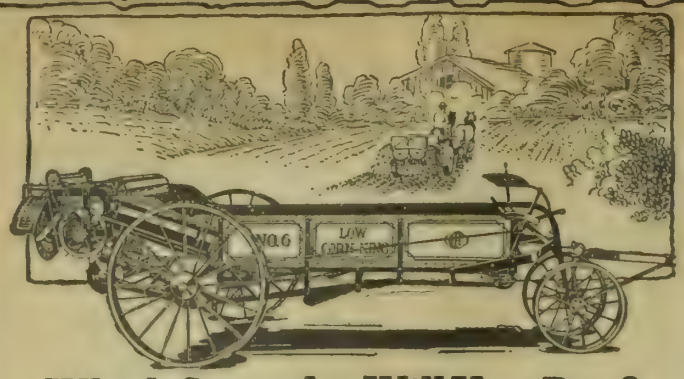
Scrap Iron and Junk
OF ALL KINDS
Ship your Junk to the most reliable dealers in Northern California
SACRAMENTO JUNK CO.
SACRAMENTO, CAL.



Which Spreader Will You Buy?

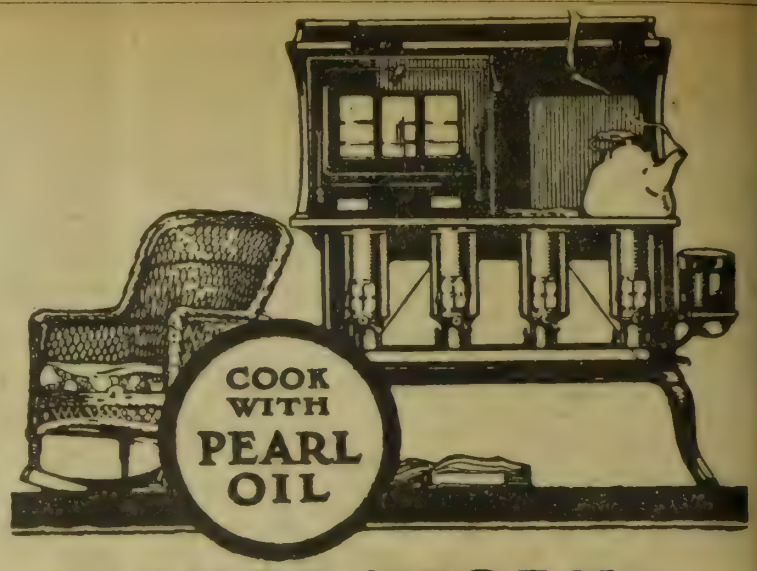
THE popular call today is for a low down wide spread machine. Farmers who have had experience are all turning to the wide spread. Ask any of your neighbors who is using a **Low Cloverleaf, Low Corn King** or **Low 20th Century** spreader why he bought it. Does he find it more economical? Does it do better work? Are his crops heavier where he uses it? What is there about it that makes it worth having?

A **Low Cloverleaf, Low Corn King** or **Low 20th Century** spreader is worth more than any other kind. Spreaders like these cost less in the long run than any cheaper machine because they increase both crop yields and land values.

If you had rather read about the good features of these spreaders than ask your neighbors about them, drop us a line and we will send you complete information and tell you where you can see the spreaders.

International Harvester Company of America
(Incorporated)

Crawford, Neb. Denver, Colo. Helena, Mont. Los Angeles, Cal.
Portland, Ore. San Francisco, Cal. Spokane, Wash. Salt Lake City, Utah



LESS WORK

No coal, wood or ashes to lug. No waiting for the fire to burn up.
Meals in a jiffy and a cool kitchen all the time.
Bakes, broils, roasts, toasts. Better cooking because of the steady, evenly-distributed heat.
More convenient than a wood or coal stove for all the year 'round cooking, and more economical.
The long blue chimneys prevent all smoke and smell. In 1, 2, 3 and 4 burner sizes, with or without ovens. Also cabinet models. Ask your dealer today.

NEW PERFECTION OIL COOK-STOVE

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FARM BOOKS

California Fruits and How to Grow Them
California Flowers, Trees, Shrubs and Vines
California Hog Book
California Poultry Practice

PACIFIC RURAL PRESS
PUBLISHER
525 Market Street San Francisco, Cal.

I Say "Don't Buy This Tractor *or* *Any Other* Until You Get This Book"

It tells all about the most wonderful little Tracklaying Tractor ever built for Orchard and Vineyard work. Write me direct today, or send the "Tractor Opportunity" coupon. Lowest prices now.

My name is W. B. Raymond and I am the man in this concern whose job is to get the story of the wonderful little Bean TrackPULL Tractor before orchardists and vineyardists. And I say "Don't buy *this* tractor or any other until you get the TrackPULL story, because that story may revolutionize your tractor ideas to your great benefit.

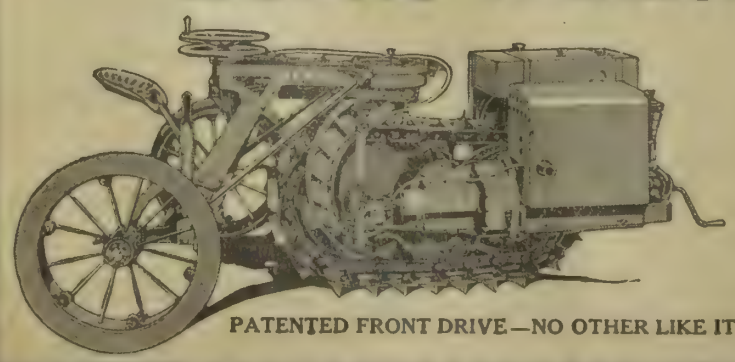
"There are some things that the TrackPULL won't do and you want to know those things before you buy a Bean TrackPULL—and there are other things it *will* do that other tractors *can't* do, and *those* things are *vitally important,* particularly to vineyardists and orchardists.

"The front drive principle—steering with the track that PULLS—is just one of the features of this great little tractor that is patented. No other tractor is like it. A patent, of course, always means a *big advantage.*

"Look at the illustration. The Bean—6 h. p. at the draw bar—*pulls* instead of *pushes itself* over the ground and you *steer* with the track that pulls. That means you can do everything with the Bean that you do with horses plus a lot of things horses and other tractors *never* have done—like going under tree-boughs only four feet off the ground and pulling full load on turns. The Bean works between seven-foot rows in vineyard—that's another advantage.

"But I couldn't begin to show you in an ad *all* the advantages. They've got to go into a book, and you ought to have that book before you buy a tractor because it will *save you money.*"

BEAN TrackPULL Tractor



PATENTED FRONT DRIVE—NO OTHER LIKE IT

"Tractor Opportunity" Coupon
Mail It to Me NOW

Send me the coupon below and I'll send you the Book **free.** Read about the "Fifteen Features of the Bean." The price is $1150.00 **now**—the lowest priced track-laying type of tractor built—but material costs are steadily going up, so I suggest you act quickly before a raise. There's a real tractor opportunity in this low price.—W. B. R.

Bean Spray Pump Co. 411 W. Julian St., San Jose, Cal. 232 N. Los Angeles St., Los Angeles, Cal.
Makers of the Famous Bean Sprayers and Pumps

The Bean TrackPULL Tractor will be at the California State Fair, Sacramento, September 8th to 16th. Meet us at the Los Angeles demonstration September 18th to 22nd.

W. B. Raymond
BEAN SPRAY PUMP CO.
411 W. Julian St.,
San Jose, Cal.
232 N. Los Angeles St.
Los Angeles, Cal.

Without any obligation on my part, send me your Bean TrackPULL Tractor Book at once.

Name .....
Street .....
City ..... State .....
Number of acres .....
Kind of crops grown .....
I expect to buy a tractor about .....

VOL. XCIV—No. 9 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO SEPTEMBER 1, 1917 LOS ANGELES

State Library

Making the Most of Our Great State Fair

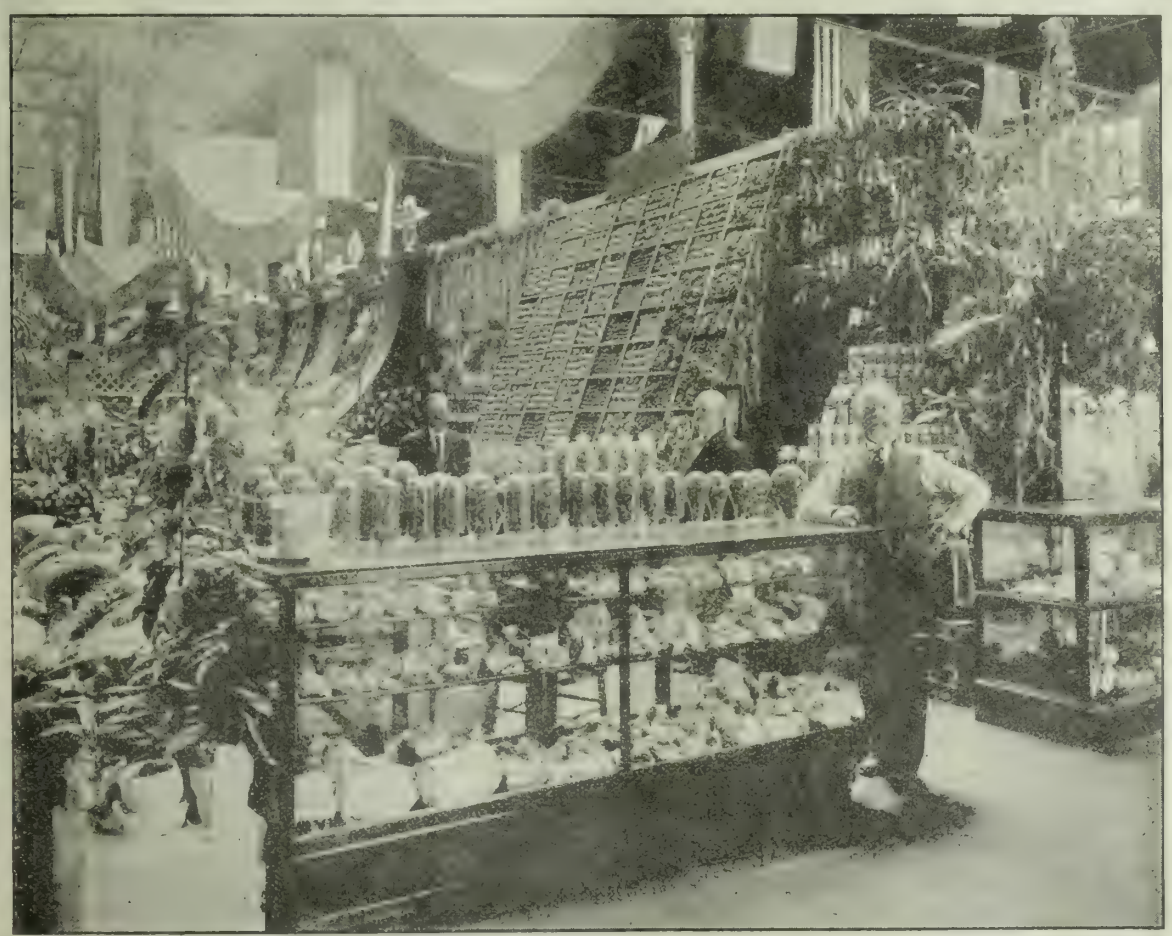
[Written for Pacific Rural Press.]

PROBABLY never before have so many farmers and stock raisers taken vacations in the mountains or at the seaside. Those who did not, are entitled to a vacation at the State Fair; and the others will have missed the most profitable kind of a vacation if they do not include the State Fair. But you may get on our necks for saying that unless you are one who looks not only at the State Fair, but really sees it and hears it. We have found that the time is only half used to advantage unless we ask exhibitors about their part of the show. When we follow this consistently and take notes for future clarification of memory, the week is all too short to really see the Fair. That makes it necessary to lay out ahead of time what we want to see; and see those things first. The amusements are fine when physical weariness requires a rest. From the standpoint of a farmer's getting his money's worth and not wasting the week at the Fair, there are about four lines of major interest to see: livestock and the judging; tractors, autos, and machinery; farm products in the new Horticultural Building; poultry; and the things Uncle Sam will show to illustrate what it is in the line of war that he is calling so urgently for the farms to provide food for.

From the women's standpoint, poultry, domestic science, and the magnificent school and vocational exhibit will compete for interest with the agricultural exhibits and amusements. The Women's Building, opened last year, is for women's comfort and convenience, a delightful place in which to rest. Practically the whole Fair will be bent to illustrate the latest, most economical, labor saving ways of producing and conserving food. Demonstrations, lectures, moving pictures, and conferences make action a plenty. The amusements include horse racing, flying machines operated by four aviators and a dozen students, locomotive collision, sham battles, band music, chariot races, broncho busting, livestock parade, Native Sons' free entertainments and parade on Monday, and probably the usual gambling devices that teach children the art of getting something for nothing.

Accommodations Prepared.

Railroads allow one-third fare on your return home if you speak about it when buying your ticket to the Fair. Five cents takes you to the Fair Grounds from any part of the city. Hotel rates will not be advanced. Two thousand rooms in private homes are listed to care for overflow from hotels. There will be moderate-priced restaurants on the grounds.



Part of the State Fair Horticultural Exhibit, showing many varieties of nuts and fruits close together for comparison. Minerals, nursery stock, bees, forage crops, grains, vegetables, etc., are also shown.

The State Fair Livestock Parade after prizes are awarded is the greatest assemblage of purebred livestock in the State during the year.

Specially Interesting Exhibits.

The most complete exhibit ever made by the University of California includes animal and human foods most economical to raise in California, with demonstrators to point out the most economical ways of raising and harvesting them, and of combating diseases and insects. For instance, 75 varieties of beans will be shown and the requirements and value of each variety explained. Every day except Sunday, September 9, hog cholera and chicken pox vaccination will be demonstrated and questions answered. A silo will be built to show the handiest way to do it.

Machinery to Replace Hand Labor.

Tractors and tractor implements will be housed in a tent with 25,000 sq. feet of floor space; and automobiles in another tent with equal floor space. For details of

(Continued on page 203.)

GIANT POWDERS Lift them out

It will pay you to test Giant Farm Powders in competition with any other stumping powder.

In the last year more than 2,000,000 pounds of these Giant Powders were used for stump blasting in Washington and Oregon alone. The users included farmers in every county in both states, the largest lumber and development companies, and the United States Government. They use the Giant brands because they have found that

GIANT FARM POWDERS
STUMPING — AGRICULTURAL

always give satisfaction and do their work at the lowest possible cost and in the most thorough manner.

In the Pacific Coast states the farmers require explosives that will disrupt, crack, split and heave the stumps and at the same time lift and loosen the roots for easy handling. Giant Farm Powders do this because they are made especially to suit western conditions. Because of their wider-spread force, they remove the stumps more economically than powders or dynamites that merely shatter and pulverize.

Test one case. Compare it with any explosive that you have ever used for stump blasting. After you have blasted a dozen stumps you will understand why farmers who have once used them always continue to use the Giant Farm Powders. Fill out and mail the coupon at the right, and we shall arrange with our nearest distributor to supply you promptly at the lowest market price.

There are two Giant Farm Powders—Giant Stumping Powder, used for blasting in wet soil, and Eureka Stumping Powder (which costs a little less) for blasting in dry soil. Both resist cold to a remarkable extent, seven days' exposure to a temperature of 32 degrees failing to freeze them. Ask your dealer for these brands.

THE GIANT POWDER CO., CONSOLIDATED — HOME OFFICE: **SAN FRANCISCO** — ESTABLISHED 1866

"Everything for Blasting"

Distributors with magazine stocks everywhere in the West

Have You Our Stump Book?

It is the most helpful and interesting book ever issued on Stump Blasting. It tells and shows how to save money and make land-clearing easier. It is written by Western men, from the Western viewpoint, and is full of pictures showing latest methods of blasting. Mark and mail the coupon and get it free. Other books—on boulder blasting, tree planting, ditching and subsoiling with explosives—also free on request. Mail the coupon *now*, before you lay this aside.

Warning. Giant Powder is the trade name of explosives manufactured by the Giant Powder Co., Con. Because Giant Powders are best known everywhere, many have assumed that all high explosives are Giant Powders. Insist upon having the genuine, made only by the Giant Powder Co., Con. If your dealer has only ordinary dynamite, write us and we will see that you get the genuine.

FREE BOOK COUPON

The Giant Powder Co., Con.
San Francisco.

Send me your illustrated books on the subjects which I have marked **X.**

- ☐ Stump Blasting
- ☐ Tree Planting
- ☐ Boulder Blasting
- ☐ Ditch Blasting
- ☐ Subsoil Blasting

216

Trial Order Blank

(Kindly fill out if ready to purchase)

Have your nearest distributor supply me with

.....lbs. Giant Stumping Powder

.....lbs. Eureka Stumping Powder

NAME .....

ADDRESS .....

Write below your dealer's name.

PACIFIC RURAL PRESS

SAN FRANCISCO · SEPTEMBER 1, 1917 · LOS ANGELES

Price of Wheat Guaranteed by the Government

Mr. Hoover Announces His Policy Covering 1917 Crop.

THE United States Food Administration makes the following statement of the relation of America to the world wheat trade under war conditions:

To win the war the first consideration of the United States in its food program must be to feed the people within the confines of this government. The second consideration must be for our people to spare as much food products as can be spared to feed our Allies, France, Italy, the United Kingdom, and Belgium, whose normal consumption exceeds their production. The third consideration must be to protect American farmers and other essential parties in the wheat trade from disastrous losses that might occur from the unprecedented choking of the world's arteries through which this wheat ordinarily moves.

France, Italy, the United Kingdom, and Belgium under normal conditions import annually 381,000,000 bushels of wheat. These nations have suffered a lowering of their productivity as a result of being in the war. They now have a total wheat deficiency in production of about 200,000,000 bushels. It will be necessary for them to import within the next twelve months about 577,000,000 bushels. Russia had an abundance of grain and a vast surplus, if this surplus could be released; but Russia cannot move any grain to our Allies in quantities essentially important.

North America's Responsibility.

The responsibility for furnishing our Allies this 577,000,000 bushels must fall in no slight degree upon the United States and Canada. The estimated ordinary wheat surplus of the United States for 1917 is 88,000,000 bushels. Probably the Canadian surplus will be 120,000,000 bushels. This will still leave a deficiency in wheat supplies of our Allies of approximately 369,000,000 bushels. This deficiency is still further enlarged by the fact that the United States must make reservations of wheat for neutral nations with whom we trade and from whom we secure essential products. Such reservations will increase the European deficiency to approximately 400,000,000 bushels. The way to keep the Allies alive during the war is for us to economize at every turn, and thereby increase the surplus from the United States to 200,000,000 bushels. This, together with shipments from Argentina, Canada, and Australia, should supply at least a minimum on which they can live.

How the Allies Meet Their Problem.

One might think that the American wheat producer stands in a very safe position with regard to prices, but such is not necessarily the case. The Allies, foreseeing their situation, have perfected buying arrangements and shipping arrangements, so that all wheat leaving free ports destined for consumption in any of their countries must be brought through a single agency. Arrangements are being made to liberate in far greater quantities the stored-up supplies of India and Australia. Within the last few days Australian wheat has begun to arrive in America, and will continue to arrive in increasing quantities. Other important changes have occurred since the war that seriously undermine the stability of the wheat market.

Precarious Condition of American Producers.

That crisis has arisen. The war has disrupted the world wheat trade. While our reserves are being exhausted, the reserves of other countries are banking up. For three crops the Russian grain has been held, finding very little outlet, and practically no outlet to European consuming centers. Australia has all of her last wheat crop, and part of the crop before, making a total on hand of approximately 180,000,000 bushels. Another Australian wheat crop of approximately 100,000,000 bushels will mature in January, and Australia is looking for a market. To find this market Australia has removed her wheat and flour duty, so that this wheat can now move into America, in so far as the limited number of sailing ships available will permit. India has a surplus on hand of approximately 100,000,000 bushels with this harvest. This wheat is locked up because of transportation difficulties. Although last year's crop conditions were bad in Argentina, there is a greatly expanded acreage, and by January next, when her crop begins to move, Argentina should have a surplus of 150,000,000 bushels.

Tractors Cheapen Cost of Grain Farming.

The American people are practicing economy as recommended by the Food Administration, and there is a likelihood that our 88,000,000 bushel surplus may be expanded to 200,000,000 bushels to be added to Canada's surplus of 120,000,000 bushels.

A Flood of Golden Grain.

That wheat from Australia, India, and Russia is awaiting exportation, restricted only by limited transportation facilities. If the war should end immediately this enormous surplus would be turned loose upon the world, flooding the markets. The war foundations of high prices would be knocked from under American wheat growers, because the normal export requirements do not exceed 600,000,000 bushels. Without governmental aid the American farmer would be in a position of greater insecurity in the future than ever before in the history of this country. The danger to the farmer would be more acute because his costs of production have risen enormously during the war, and the ordinary organization of the business world would be powerless to prevent the possible decline in wheat values irrespective of the costs of production, and losses would be enormous. This might disrupt the entire commerce of the United States and bring about a condition of financial insecurity.

Protecting Producers and Consumers.

To protect the public Congress has constituted an agency to step in between the central purchasing agency of the Allies and the unorganized American farmers. Congress has constituted a food control, placing this control in the hands of the President of the United States, and the President has designated the Food Administration to administer this work. The Food Administration now proposes to act for the American people to protect them in the matter of price and to provide the necessary financial guarantees to buy and store the crop of wheat on hand in 1917 at fair prices; to deal with the Allies; giving them only such surplus as can be spared; and to control the margin of profit among trading, milling, baking and distributing factors, to the end that feeds may be conserved for American farmers and cheaper bread and flour may be had by the American consumer.

Fair Price Commission.

In order to finance this undertaking and to supply our Allies, a fair price for wheat must be determined as the beginning of this work. Accordingly, the President of the United States has appointed a commission to ascertain what should be a fair price for the 1917 wheat crop, as named in detail on page 155 of the Rural Press of August 18th. It will be the duty of this commission to make a thorough inquiry into the costs of producing wheat, costs of milling, distributing, baking, etc. When its inquiry is completed and analyzed this body will announce the basic price at which the wheat will begin to be bought. This price will take into consideration not only the costs of production, but also a reasonable profit to farmers on the average, and an incentive to make it worth while for wheat growers to produce wheat in such quantities as may be needed by the United States and our Allies. The fair price commission desires a frank statement as to his actual costs from every farmer who produces wheat.

Protection for 1918.

The act constituting the food control specifically provides a minimum price for farmers of two dollars per bushel on number 1 Northern spring wheat, or its equivalent, as the basis of sales at the principal interior primary markets, subject to such rules and regulations as may be laid down by the President. Consequently, American farmers need have no fear that there will be any unexpected heavy slump in prices for the years 1917-18.

The magnificent scale on which California produces food is illustrated by this 32-mule team harvesting and threshing at one operation.

PACIFIC RURAL PRESS

Issued Every Week at 525 Market St., San Francisco.
Member Standard Farm Papers
Member Audit Bureau of Circulation.

Entered at S. F. Postoffice as Second-Class Mail Matter.

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CHICAGO OFFICE - - - Conway Bldg.

E. J. WICKSON - - - - - Editor
FRANK HONEYWELL - Publisher and Manager
W. H. SCHRADER - - Advertising Manager
D. L. SCHRADER - - Subscription Manager
R. E. HODGES - - - Assistant Editor

EDITORIALS

IN THE FOOTSTEPS OF ATLAS.

WE ARE still borne down by the weight of the great responsibility (heroically self-assumed by us last week) of helping the farmers of California to carry comfortably the great wealth which public opinion is throwing upon their sloping shoulders. Of course, as we conscientiously think about the alleged situation, we have many misgivings. It persists in appearing to us as a recrudescence of the woes of Atlas, upon whose back the ancients placed the weight of the world. All the pictorial representations which we recall portray Atlas as an immensely muscular man, struggling along with a great California squash between his rounded shoulders and finding no firmer footing than a thin cloud, upon which to support his burden. If we remember correctly, Atlas broke through the crust of the cloud and nothing has ever been seen of him since but his pictures on school geographies.

When we think of such pictures as representing the farmer carrying his great weight of profits we are not greatly moved, for we know that the ball upon his back is as hollow as the cloud beneath his feet, but when the truer and deeper significance of the effigy dawns upon the mind and one sees the great globe really representing the great patriotic responsibility which all place upon the food-producer in this world crisis and in the cloud the thin footing which the public is willing to give him for the carrying of his burden, one must become deeply concerned not only for the successful delivery of the burden but for the business safety of those who will bravely try to come through with it. For, in this conception of the situation, the thin cloud represents the promises of easy money for crop increase; of sufficiency of qualified and well-disposed labor for the work of it, and of assurance of market values which will requite both increased effort and expenditure. And we cannot greatly blame the public for its apparent belief that all these hard requirements can be met by the patriotic promises and optimistic dreams which it is so freely indulging in. The public really does not know better and this is a matter in which ignorance of economic laws may really claim some degree of excusability because the real blame must be carried back to those who do know the hard facts and laws of food production and should give the public mind no rest until it recognizes and provides for them. For example, who is to blame for the fact that the Food Administration outfit for California, the personnel of which we give in detail on another page of this issue, is perhaps four-fifths constituted of bureaucratic, academic, institutional, and social persons who are not actually producing a pound of food? It is not the fault of these earnest, patriotic persons themselves nor of the unpaid self-consecrating persons who have called them to this public service. It is not their fault that the food producers have not by organization, by influence and by authoritative declaration, made the public understand that producers alone can fully know the requirements of the patriotic duty which they are willing to assume and of the patriotic service which they are willing to render.

WILL THE FARMERS APPEAL TO THE PUBLIC?

WE APPREHEND that the current reports concerning the supply of capable laborers and the reasonableness of laborers' claims for hours of labor, wages and living provisions, are not truly representative of the needs and requirements of production. They are largely proceeding from official and academic sources and we are not disposed to add to confusion by inserting an opposite view of our own which might be condemned as pseudo-academic. If there is to be any declaration which is to carry weight as a really agricultural view of the situation in which food increase finds itself, such a declaration must come from the farmers themselves. We presume the investigations upon which official declarations are based have been diligently made, but they have not penetrated to the real sources of fact and conviction, as we understand them. Do these reports of sufficiency of labor as indicated by lack of demand for more really represent the present situation? We believe the contrary is nearer the truth, but our proof of this is no stronger than that which is alleged to support the claim of satisfaction and sufficiency. We earnestly desire—in fact, we need to know—whether farmers are really so well supplied with labor and satisfied that they can make all the produce which is required with the demanded hours of labor and the wages paid for it. If they are, we would like to shut up on this subject and take to writing some other kind of poetry! Will the farmers supply the fact and argument which will make the public wise?

We understand that an effort will be made to secure a representative assembly of real farmers in this city next month. There are, it is said, nearly 150 State and local organizations of farmers in California. The plan as reported to us is to issue an individual call to each of these organizations to send accredited delegates to a general convention at which only actual producing farmers will be invited to speak and to which delegates will bring the facts and convictions of their constituencies upon current phases of the producing situation, in order that the convention may declare the prevailing facts thereof in the public ear. We have several times suggested that this be done. We have wide and disjointed organization of California farming interests, which is by that fact uninfluential and inarticulate. This condition may be immediately corrected by a delegated, representative assembly and we can think of no other way in which it can be done broadly and quickly. If, then, such a call should be coming to local associations to which our readers belong, we suggest that they give the matter prompt and serious attention.

BLOW IN AT THE STATE FAIR.

BUT WE had almost forgotten that we began by promising to help our readers somewhat farther in the spending of the troublesome masses of money which are now being unloaded upon them. We earnestly exhort all such to carry their burdens to the State Fair at Sacramento during the week September 8 to 15. There is a good deal in this issue which pertains to that event and one might figure out how he can get rid of a lot of money seeing and buying good things. It is perhaps too bad for the quick easing of a too-much-moneyed man that he cannot get plucked so quickly and thoroughly as his father could when he went to State fairs a generation ago; for the great moral wave which submerged the nineteenth century also drowned the joyful gamblers, blacklegs, and other things which turned the old State fairs into carnivals of iniquity. Still, if he tries hard, he may find some one who will take his money on a bet on which locomotive gets its head smashed in the calculated collision. Still, too, in spite of the law, there can probably be found in Sacramento people who will be willing to give a Rube a sheol of a time at his own expense if he insists upon it. But really a State fair of today is very different from its predecessors, which one whizzed into on a roulette wheel and slid out of down a faro bank. In those times a State Fair Director had to be a good deal of a sport himself and often his only agriculture consisted in farming out gambling and guzzling privileges. But now the character of the State events is different. The fairs are cleaner of immoralities and agencies of deceit and are more suggestive and demonstrative of the best agricultural materials and methods. Even the head-on locomotive collision may be agriculturally suggestive of what may happen to farming affairs impelled by hot air and set to run on a near-farming schedule. And it is interesting to note that the Directors have become different as less sporting instinct is required of them. They are better informed about real farming and more directly participate therein. They are better fitted to do more for the actual farming interests of their districts and should become the leaders in making publicly known actual farming conditions and requirements. They might also become more influential in this very necessary activity as the practical farmers of the State rally around them, demand such service from them and help them to get the funds which are essential to the proper discharge of such a duty—and we shall let it go at that: we are mighty near to preaching again. But we will say to those farmers who are so full of money this year: take your families to the State Fair: get a clearer idea of what good livestock and other farm products are: understand better what can be done with tractors and other improved farm machinery: get to be better mixers with people whose interests and purposes are like yours and you will no longer be content to play a part which is now mute and inglorious in the world.

FOOD ADMINISTRATION NOT AUTOCRATIC.

WE SHALL probably have much in future issues about food administration under the national law and through President Wilson's appointment of Mr. Hoover. On another page of this issue is an account of wheat as it appears to the national authorities. It should be understood that Mr. Hoover proposes to proceed by exhortation, not by prescription. Addressing in Chicago last week a group of editors of weeklies, which reach fourteen million subscribers in twenty-four States, he said:

Food administration is the intelligent coordination of all the forces in the country to solve the specific food difficulties and problems which have been imposed by the international situation.

The solution of these national difficulties depends entirely upon co-operation of all those concerned. With our people, there can be no force used in production and no force used in consumption.

Every German farmer today plants exactly the seed in exactly the field in which he is directed, and is given instructions as to the disposal of the harvest. That is food dictatorship. We have no desire for such an organization. It is against every instinct of our people and it is opposed to the instinct of democracy. To adopt it would be to yield ourselves to autocracy within our borders.

There can, however, be intelligent leadership, and the stimulation of this patriotism lies in the hands of the farm press more than any other force in the country.

That is a rational and patriotic utterance and the spirit of it is exactly what editors of farm papers desire to advance in the knowledge and appreciation of their readers, but the attitude of Mr. Hoover is not that of others who are invoking patriotism as the motive in their utterances. Innocently and ignorantly perhaps they are dictating to farmers what they shall do and are prescribing producing courses for them which are doubtful and sometimes even impossible of practical pursuit. It is to render Mr. Hoover's desired results possible of realization that farmers should speak for themselves. No conscientious editor can say: "Everything is all right: get in every acre you can" because he cannot be sure that it will be possible to get the crop off and the grower's money and credit out. Only growers themselves can authoritatively declare what they need to make the outlook even reasonable. Therefore, to make Mr. Hoover's plan of increased production practicable they must speak.

IN THE MATTER OF COTTON.

THE DAILY PAPERS are pardonably proclaiming with much eclat the purpose of a prominent San Franciscan to plant a large acreage of cotton in the Sacramento Valley. In one paper the item takes this form:

That California is approaching a state of unprecedented industrial activity through the advent of its new product—cotton—is the opinion of Dr. Washington Dodge, vice-president of the Anglo & London Paris National Bank, who has just completed a series of experiments which have convinced him that cotton of the most valuable quality can be grown throughout the entire length of the Sacramento and San Joaquin Valleys. To demonstrate his confidence, Dodge will plant 9,000 acres to cotton next year on his ranch near Chico.

It may perhaps give the general reader more confidence in Dr. Dodge's conclusion to know that the late General Bidwell had cotton successfully growing at Chico in the '50s: that it was successfully grown in the great valley from Kern to Shasta during the '60s: that it was grown commercially in Merced county in the '70s, and that cotton was shipped from San Francisco to Liverpool in 1873, and that it received high commendation from English spinners. It should also be remembered that from that date forward there were at short intervals respectable acreages grown here and there all through the interior valley, but has never proved profitable in that great district because there was no dependable labor to gather the crop. The Imperial Valley growers have succeeded in putting California creditably on the cotton map because they are near to a Mexican labor supply—which, however, they have had to supplement with importations of both black and white laborers from Texas and beyond. Time fails us to tell of the frantic efforts of Haggin & Carr in the '80s to bring negroes from the South to pick their cotton in Kern county and their failure because they picked up "no account darkies" from the towns who came out for a lark and had no idea of staying in a cotton field when the shade and excitement of valet life in California cities were open to them. Of course, as Dr. Dodge thinks the matter over, he may conclude that 9,000 acres is some cotton for one man to hunt pickers for and proceed cautiously, as becomes an experienced financier. But that is his affair, not ours. The wider significance of the item which credits him with such a plan is the prominence it may give to the general fact that one has to look sharp at the available labor supply when one plans to develop in California such increased production as she is naturally capable of. One can look right now at the experience hop growers are having near Sacramento and picture the problems a man with 900 acres of cotton would be up against. Such are the things which the common exhorter knows nothing about and which the producers should make known in a way to bring to the public mind the present insecurity of farming enterprises which are wholly dependent upon hired labor.

By the Editor | **QUERIES AND REPLIES** | Inquirer Must Give Full Name and Address

How Can a Coward Kill Cottonwoods?

To the Editor: We have some cottonwood trees in ground that I have seeded to alfalfa this summer and there is about ten young cottonwoods coming up to one alfalfa plant. How can I control them? I want to deaden the trees, but my better half won't hear of it. Is there not some chemical I can give the trees by boring holes in them and kill them without leaving an outward mark so my wife won't know.—Subscriber, Fernley.

We have heard much of boring holes and filling with various chemicals such as arsenic, salt, etc., but we have never seen a tree killed that way. As a matter of fact, the inside of a tree trunk is dead already and you could chisel it all out to the "sap-wood" without killing the tree—except as the wind would blow it over. Chemicals for tree-killing must be applied to the inner bark and the sap-wood and perhaps gasoline poured into an excavation at the base of the tree may be best for that because of its great penetrating power. But killing the tree will not deaden the suckers at a distance. They will live on their own roots unless you grub them out, and though killing the tree may reduce the future supply of suckers they will take to suckering on their own account, unless you grub them all out or kill each one of them with gasoline at the root crown.

But though we are your fee-less adviser in this matter, we must say that we have more regard for your wife's purposes than yours. We believe that if you grub out the strongest sprouts and get a good stand of alfalfa on the ground it will largely overcome the sprouting propensity which is chiefly due to the injury to the roots by cultivation or by ground cracking. The alfalfa will also repress sprouts by dense shading of their attempted leafage. It is also true that as the trees get older they will have less exuberance to work off by sprouting. We therefore advise your wife to stand by her colors in saving the trees and to give you a good warm lecture for submitting to us such a cowardly proposition.

Confusion in Potatoes.

To the Editor: This spring I planted a quarter acre to potatoes. Part of them were supposed to be Snow and part Gold Coin. I have been told that they are all Gold Coin. Will you please tell me if there is any way by which one can positively distinguish the two varieties, as they seem alike in size, shape, and color?—J. W. P., San Jose.

If you should really find all your potatoes gold coin this year you will probably be better off than many growers. The nomenclature of potatoes is baffling, because so many make new names for commercial purposes. For instance, if you had bought Green Mountain, White Mammoth, Ionia, Uncle Sam, Washington, Happy Medium, American Giant, State of Maine, and Gold Coin, you would not need to be surprised to have your whole crop Gold Coin. But the name Snow is one too many for us. We have no record of it. If any one can tell how it compares with Gold Coin we shall be glad to know it.

Melons Going Off When Young.

To the Editor: We have watermelons in the garden which are about as large as a good sized cantaloupe and have found them softening at one end, opposite stem end, and then wilting. We are not in a very hot climate and they get plenty of water. What is the cause and, if possible, how to prevent the trouble?—R. K., Ojai.

We do not recognize the symptoms as belonging to any disease. As you say nothing about it, we suppose the vines and foliage are healthy. Melons, squashes, etc., go to the bad when small if the blossom has not been effectively pollinated. Not having any seed to bring along, the pericarp jumps the job—getting soft, misshapen and shriveled. If you see any more definite sign of disease, such as spots on the leaves or vine, as well as on the fruit, we shall be glad to hear of them.

Drying Kelsey Plums.

To the Editor: Can I make prunes out of small Kelsey plums? If so, please let me know how to do it, as I have several tons of small plums.—Subscriber, Fresno.

They cannot be handled like prunes nor will the product be recognized as a prune. They can be pitted and dried like "pitted plums," but they will be sour and somewhat ill-flavored. Ordinarily they would not be profitable for these reasons and because their thin juice causes them to lose so much weight in drying, but under present conditions they might be worked off to advantage. Perhaps some reader will give us experience on the subject?

Forcing the Season with Artichokes.

To the Editor: Please tell me how to grow fall and winter fruiting artichokes. I have been able to get fine spring buds, but never had any fall or winter buds. Is the secret entirely in the time of setting out the shoots, or is it a special variety? I have heard that fall and winter artichokes are grown near San Francisco.—F. W. N., San Diego.

The starting of new growth and consequently a new crop of buds is secured by cutting the old growth away close to the ground. A clean sweep of the old growth is made in July—followed by irrigation and cultivation to secure best possible conditions for new growth.

Walnut Defective in Bloom and Growth.

To the Editor: Some young walnuts have a tendency to grow lateral shoots just back of the junction of laterals which grew last year. Should these be removed at this time, or should I wait till the trees are dormant? I also have a few Franquettes five years old that have never blossomed, consequently the nuts fall off when about the size of a pea. Is there any remedy except to graft them over to some other variety?—E. F., Novato.

If last year's laterals are making thrifty growth, remove the intruders now. If last year's growth is weak, cut it out now and let the new growth take its place. Give the Franquettes more time to assume normal behavior and send out some catkins. They probably have not struck their gait yet.

Pork Value of Buttermilk.

To the Editor: What value is buttermilk as hog feed, considering hogs to be worth 10 cents per pound on the hoof?—A. B. K., McFarland.

Roughly speaking, buttermilk which is not watered by churn or butter-washing is worth about as much as skim milk, and skim milk, according to an old rule of Governor Hoard of Wisconsin, is worth for fattening hogs five times as much per 100 lbs. as hogs are worth cents per pound, and if fed with barley or corn is worth six times as much. This would make buttermilk worth 50 or 60 cents per 100 lbs. when hogs sell at 10 cents.

Why a Peach Became a Plum.

To the Editor: Two years ago I budded a clingstone peach on a three-year-old yellow egg plum tree. This year it bore its first fruit. It was a round, medium-sized light red plum, of very rich flavor with a very small pit. The leaves resemble a plum, though not very closely. Why was it a plum instead of a peach? What sort of a plum does it resemble?—A. F., San Leandro.

Probably because you were mistaken when you thought you had a peach bud. There is, of course, about one chance in a billion that the bud gave you a freak variation, but the chance is too small to wonder about. Our notion would be that you put in a bud of some Japanese plum instead of a peach.

Covering Peanuts.

To the Editor: I am growing peanuts. A neighbor insists that I must cover up the blossoms with earth, or there will be no nuts. Is there anything in this?—Grower, Ripon.

It is neither necessary nor desirable. If the soil is a light loam, keep it well loosened until the plants are ready to plunge their bloom-spikes and then let them alone with the loose surface. They know how to do the rest. They cannot do it satisfactorily on hard soil, but that does not matter—peanuts ought not to be planted on a soil which will surface-harden.

Potatoes Making Second Start.

To the Editor: What causes potatoes, planted the first week in April, with only one cultivation, and no irrigation, to sprout and send up new growth? The potatoes are of the Oregon Burbank variety, planted on medium clay soil near Walnut Creek.—A. M. G., Walnut Creek.

The potatoes were forced to maturity by drying out and then accumulated force enough to make a new start. Potatoes should be kept moist enough by good cultivation to grow along regularly until they reach satisfactory maturity. A stop and second start ruins many plantings.

Onions, Large and Small.

To the Editor: I planted onion seeds this spring. They are drying up now and are of all sizes, from one-half inch in diameter to full grown. If I pull them up, will the small ones make sets?—W. D. G., Middletown.

Yes; but do not take them up until the tops are dried down well. Then lift them out and let them cure a while on the surface of the ground before putting away. You can make sets of the smaller ones, as you propose.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., August 28, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.02	.18	60	48
Red Bluff	...	...	...	102	66
Sacramento	...	...	...	94	56
San Francisco	...	...	.01	64	52
San Jose	...	...	.04	82	54
Fresno	...	...	...	104	64
San Luis Obispo	...	...	.03	80	54
Los Angeles	...	...	...	82	58
San Diego	...	...	...	74	64

Walnut Drying Houses Save Weight and Avoid Waste

[Written for Pacific Rural Press.]

"The latest in walnut harvesting is a drying house where nuts are dried slowly in the shade," said Los Angeles County Horticultural Inspector J. R. Hyans of the Whittier district. "Most people dry in the sun; but that loses weight of meats, cracks shells, and may lose nuts by rain. You want to save moisture in the kernel, but get the shell dry." This year more than most others, there will be a large proportion of sticktights, due to the June hot spell. Everything will have to be picked up together, even with hulls on. They must not be left in the sacks long that way, however, because the hulls would stain the shells and make them hard to bleach, according to Mr. Hyans. Those without hulls should generally be washed anyhow; and the others must be rolled in a revolving drum to get the hulls off. During that operation, they must be drenched with a jet of water to prevent staining. The drum is a cylindrical wire net of about ¾-inch mesh and capable of holding perhaps six or eight sacks, so that when loaded with three sackfuls of nuts and revolved, they will pound each other hard enough to knock their shucks loose.

SUN DRYING.

The nuts must be dried after this washing, not only to dry the shells but to cure the meats. Most people dry in the sun, dumping the nuts after washing, into 6x3-foot trays six inches deep, with lath bottoms ¼ to ½ inch apart, and with handles for convenience. Two or three sacks per tray will dry satisfactorily. Trays are set on sawhorses, etc., to permit free circulation and are left one to three days in the sun. They are further aerated by carefully picking out all culls while drying. Objections to this system are that the nuts lose much more weight than if dried in the shade, they crack and air gets in, also permitting entrance for bleaching fluid at the packing house later. If they crack while drying in the shade, they close again. The trays must be stacked after one to three days to dry more slowly; and according to R. P. Sanchez of the same district, must be stacked every night on account of fog, dew, or rain and then spread out each morning for several days.

ARTIFICIAL CURING HOUSES.

Two drying houses were inspected—one in the Whittier district, the other near Santa Paula, Ventura county. Mrs. F. A. Sanchez has used one for five years, which permits her to dry as many as 60 sacks per day, according to her son, R. P. Sanchez. It is 30x40 feet, with sides slatted two or three inches apart and about 12 feet high. It is located free from trees and broadside to the southwest, so winds have free access. This saves a great deal of time in drying, as observed in connection with a neighbor, whose dry house is in the orchard.

Half of the space in the Sanchez dryer is taken up with two units or cages full of trays. Each tray is about a foot wide and 12 feet long, being ⅝-inch mesh screen wire stretched over a flat frame. About eighteen of these side by side form a floor in each unit or cage. There are seven such floors, each about 14 inches above the one below. Making a tight cage around all, is a wire net stretched on upright 2x4's. Each tray is held in place by a bolt in each end pivoting in an upright 2x4. A T iron is fastened with its top across the end on the underside of each tray. The lower ends of all the T's on each floor are bolted to a strap iron which reaches the full length of the unit. This strap iron is fast to a lever. When the lever is pulled, it tips every tray on that floor to an angle so the nuts on it roll off onto the next one. Levers are so alternated that alternate floors dump in opposite directions. If all dumped in the same direction, the nuts would pile up at one end. The lowest floor dumps onto a screen hopper from which the nuts are conveyed by belt into a cup elevator, thence into a slatted bin whence they are sacked.

WASHING AND SPREADING NUTS.

When nuts are brought in from the orchard they are first dumped into the drum washer. A narrow board lengthwise of the hopper and studded with nails, helps knock off the shucks. This one has to stop to be dumped; but new ones work continuously on the auger principle. It dumps into a chute, whence the nuts roll onto a belt. From this belt it is easy to sort culls before handling them further. It dumps onto an elevator between the two drying units. The elevator dumps onto a level belt above the top floor of trays, whence the nuts are distributed not over two inches

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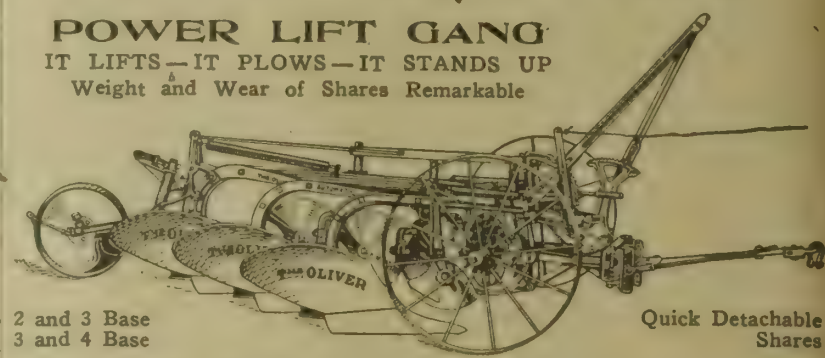

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deep. A man spreads them out evenly after every eighth sack is elevated. Next day these are dumped onto the second floor from the top and another layer of 40 to 60 sacks put on the top floor. Each day all nuts are dumped to the next floor below, and if weather is moist, they are left three or four days extra in the screen hopper at the bottom.

A 3 H. P. motor runs a lineshaft from which all belts, elevators, and washer may be operated at the same time.

VENTURA DRY-HOUSE.

C. I. Crane of Ventura county dried his entire 19 tons last year in a smaller house built differently and perhaps better. This was his fourth year's use of the house. He points out that in Mrs. Sanchez' arrangement, the tendency of wind is to blow over the nuts, but not through them. He used that system at first, but discarded it in favor of narrow, deep vertical bins of half-inch wire screen with spaces between them. Each of the 14 bins holds about half a ton, being 8 feet long, 6 high, and 11 inches through. The space between them is eight inches, but should be 11 inches.

Mr. Crane does not wash any except the sticktights, of which he has not over six or eight sacks in ordinary years. His object is simply to cure the meats. If they are very green, they are taken out of the bins after two days and put back again. Here would be the advantage of an equal size space beside the bins. Also they should be high enough so the floors would slope to one corner and roll the nuts on to a conveyor and elevator. It is now necessary to rake about half of them out of the bins. This handling could be avoided if the dryer were not surrounded by trees. Even so, four to six days in the bin are enough for the greenest nuts in ordinary drying weather, so the bins may be used four to six times per season. Mr. Crane also observes that they do not split as when dried in the sun; and last year he did not lose a sack; while people with flat dryers lost a lot by molding.

NOVEMBER BLACKBERRIES.

D. W. Moore's sweet blackberries, in Los Angeles county, bore nicely last year until the last of August, when they went dormant. If he had let them go, there would have been no more berries that season; but he watered them well every week through September, and sold about eight dollars worth of berries from about 650 hills, in November and December.

DRYING MISSION FIGS.

Black Mission figs are dried by allowing them to fall to the ground, putting them on trays in the sun until they are leathery but not hard, and sacking them. Do not attempt to process them, as dealers prefer to do this shortly before they sell them to the trade.

PRUNE RASPBERRIES NOW.

If raspberries are pruned now, it is easy to tell the old canes which should be taken out, leaving only those which have not fruited. Early removal of these reduces the chance of disease.

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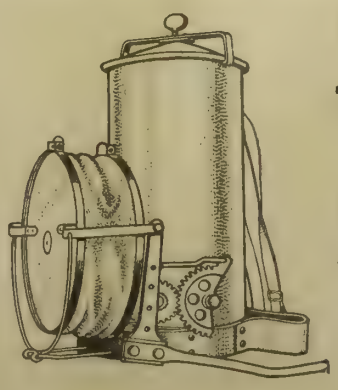

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

COVER CROPS AND FROST.

"Do cover crops make citrus orchards more subject to frost?" is the question put to the writer by B. J. Morey of Tulare county. We give the answers of several growers interviewed on the subject. Mr. Morey had cover crops and lost more by freezing than neighbors around him, so he intends to do without this year.

"Part of my orchard was in cover crop last winter and part was not. The cropped part suffered a little from frost, but I'm going to continue cover cropping all I can work down in time in the spring."—A. T. Flint, Tulare county.

"Orchards side by side in line with wind drift with and without cover crops have showed no difference in frost effect."—J. E. Adamson, Los Angeles County. (Mr. Adamson is perhaps the best posted man in California on citrus frost fighting.—Ed.)

"Where I had orchards partly cover cropped and partly not, there were spots under both conditions badly frosted, while other areas under both conditions were not touched. There seems no relation between cover crops and frosted fruit."—W. H. Neece, Tulare county.

"Cover crops make no difference in frostiness of an orchard. They hold moisture which offsets the cooler ground underneath. You want moisture in cold orchards."—H. E. Walcott, Los Angeles county.

"Our four-year Valencias in cover crop lost all of their fruit by frost. Older trees not cover cropped lost some of their fruit."—F. M. Pfrimmer, Tulare county.

PEAR COVER CROP LEFT ALL SUMMER.

[Interview by Pacific Rural Press with E. A. Gammon of Sacramento County].

"We shipped 28,000 boxes of pears from 80 acres this season, besides 10,000 boxes yet to pick, and at least 10,000 boxes of windfalls and culls that we couldn't harvest for lack of help. The cover crop did not make all of it, but it didn't prevent any of it. We inoculated and drilled vetch one way and melilotus crosswise after an irrigation last October, and we haven't plowed it under yet. The roots have opened up the soil; it isn't cloddy; there are millions of nodules. The melilotus is three or four feet tall and both it and the vetch have gone to seed. We will put sheep in as soon as the fruit is off. The old trees are headed three feet high. Sheep won't hurt them, but they would skin young trees. The cover crop will reseed itself. That's worth while at the present price of seed. If we had to plant again we would do it in September to get earlier growth.

"Our soil is heavy and we have plenty of water. We made big checks as much as five acres in each last fall, so one man handles irrigation, where it took half a dozen before with furrows. That's worth while when labor is so hard to keep. We've had five gangs continuously this season, as many as 117 men at once—three gangs working, one going and one coming. None of them had any kick on the grub or accommodations; they just had too much money. They stayed an average of five days each. It was a good thing we didn't have to plow or cultivate the orchard."

CANNED FREESTONES DEMANDED.

The demand for canned freestone peaches has been increasing, especially from the Eastern bakers, according to Manager H. C. Gordon of the Placer County Growers' Canning Association. One Philadelphian ordered 250 cases two years ago, two carloads last year, and four carloads for this year. The association is canning 12,000 cases this season, of Lovells, Muirs, and Crawfords, having begun August 14. Many of these are bought in three to 15-ton lots from Gridley growers, besides what the association's 220 stockholder members furnish.

NEW SHOOTS ABOVE BLACKENED PEAR LEAVES.

Pear twigs with leaves blackened and dead but with shoots of new growth at their tips have been found in many orchards this season. Paso Robles Horticultural Inspector T. W. Henry believed such specimens due to the June hot spell, but George P. Weldon is convinced that they are due to red spider. One tree of his own, affected with red spider, acted this way, but evidence of the spider soon disappeared.

APPLE INSPECTION STAMP.

In big apple-packing centers the $3 or $4 per carload expense of applying stickers certifying inspection under the Standard Apple Law is avoided by ingenious stamps provided by the State Horticultural Commission. A telephone counter on the stamp indicates the number of boxes stamped and cannot be turned back. A charge of ½ cent per box is made to cover the cost of state inspection. Date of inspection, number of inspector, and grade of apples are indicated by the stamp.

RAISIN PRICES ANNOUNCED.

[Written for Pacific Rural Press.]

California Associated Raisin Company's prices to the trade were announced August 22, from which we take the following prices guaranteed against association decline except sales to the government, until January 1, 1918, but subject to rise without notice:

Muscats: Sun Maid and Fancy Package Seeded, per case of 48 16's, $4.20; Bulk Seeded, Baker's Sun Maid and Choice, $1.75 per 25-pound box; Fancy, $1.90; Loose Muscatels, 1-Crown recleaned and floated, $4.15 per 50-pound case; 4-Crown, $3.90; 3-Crown London Layers, $1.60 per 20-pound box; 6-Crown Imperial Clusters, $2.70 per 20-pound box; Sun Maid Layers, $1.60 per case of 20 trays; Imperial Clusters, $3.00 per case of four 5-pound cartons; Bulk Vineyard Run Layers, $6.25 per 100-pound box.

Thompsons: Sun Maid Seedless, $4.65 per case of 47 16's; Bulk recleaned, $4.50 per 50-pound case; Baker's Thompson's, $4.90 per 50-pound case.

Sultanas: $4.75 per case of 48 16-ounce packages; Bulk recleaned, $4.50 per 50-pound case.

Bleached Thompsons: Northern Bleached Extra Fancy, $5.37½ per 50-pound case; San Joaquin Valley Extra Fancy bleached, $5.50 per 50-pound case.

ATTENTION— (K)

We are pleased to announce that we will have on exhibition at the California State Fair, Sacramento, Sept. 8th to 15th, the following well known line of KILLEFER DEEP TILLAGE TOOLS.

Heavy Duty Tractor Disc
Single Standard Subsoil and Beet Plow
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spend a few minutes at the exhibit of the WESTERN SOIL BACTERIA COMPANY, and see the living soil bacteria through the microscope.

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that are of so much benefit to your crops.

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Order your Cover Crops from me—Vetches, Burr Clover, Melilotus. Also—Farm Seeds. Special Prices on Large Quantities.

ARTHUR CANN—Seedsman
196 S. First Street SAN JOSE, CALIFORNIA

General Agricultural Review

Deciduous Fruits and Nuts.

Mrs. Laura Barlow of Sebastopol will dry 20 tons of berries.

Almond picking has begun in the Chico section of Butte county.

T. P. Irland of Sebastopol lost his dryer and contents by fire August 24, partly covered by insurance.

Prunes are dropping in many of the orchards around Healdsburg, and the work of gathering the fruit is in progress.

Fifteen thousand tons will be this season's walnut crop in California, says the California Walnut Growers' Association.

Red spiders have been going into the ground lately for winter quarters. In some orchards the surface has been red with them.

A shipment of $50,000 worth of canned apricots has just been made from Banning & Hemit to Egypt on account of the English government.

The date of the Yucaipa Apple Show has been fixed at November 1, 2, 3 and 4. Apples will be shown from all the big orchards of Southern California.

A movement is on foot by the women of Ontario and Upland to can all surplus fruit and vegetables which would otherwise go to waste and the finished product to be stored and held for the call of the government.

Geo. C. Turner, superintendent of Boys' and Girls' Aid Society, reports 250 tons of berries picked by 120 boys on Barlow and surrounding ranches. The amount earned by the boys to date, June 11 to August 20, is $4,600.00.

Under the new Standard Apple Act, special inspectors have been appointed as follows: A. W. Tate, Watsonville; W. I. Newcomb and Chas. King, Sebastopol; A. R. Gallaway, Healdsburg; and W. G. Schaefer, Napa.

Sebastopol Berry Growers, Inc., shipped East 472 tons of Loganberries, which brought $129 per ton to growers; 117 tons Mammoth blackberries, $118 per ton; 10 tons raspberries, $200 per ton. The berry growers received $14 a ton more for berries this season than in previous years.

Citrus Fruits.

The contract for the construction of the new packing plant of the Tulare County Lemon and Grapefruit Association has been let.

The Spanish government, by royal order, has imposed an export tax of $3.27 per 100 pounds on exports of fine oil in bulk.

While reports from other portions of this state are to the effect that the orange crop will be a mere fraction of the normal, in the country immediately about Porterville, indications are for a very heavy yield, it is reported.

To meet the demands of an increased orange and lemon crop in Tulare county three new packing houses are being built in that district. One at Deer Creek, one in Porterville and one at Strathmore.

Grapes.

The grape picking season is on in earnest in the Lodi section.

Three cents a tray is paid, usually, to the raisin grape pickers around Fresno. At this wage, it is said, a fairly fast picker can make $6 a day.

A car of green grapes, alleged to be under the sugar test, was seized at Sacramento under instructions from F. P. Roullard, county horticultural commissioner.

The Malaga grape crop around Turlock is not as good in quality as in former years, it is said, but there is a very large yield, estimated at about 150 per cent of normal.

At a mass meeting of grape growers representing a dozen important grape sections, at Lodi, it was decided definitely to place the Rominger Bill, through the initiative, on the ballot in November, 1918.

Tokays throughout the Lodi section are now showing considerable color. It takes two to three weeks after they have colored to develop enough sugar to make them palatable and to pass the sugar test. There will be a 100 per cent crop it is thought.

Miscellaneous.

The Bastanchury Ranch Company is erecting a new packing house at Fullerton to cost $20,000.

There are 11,500 acres of cotton in the Palo Verde valley now ripe for picking and six hundred extra hands are needed at once to help pick the crop.

The government offer of $3.50 per day for laborers to work on a training camp at San Diego is going to bring about further hardships for the Southern California beet men. It is said a large number can be used.

To consider questions of agricultural promotion in connection with the food conservation movement, the state council of defense, county boards of defense, chairmen of county boards of supervisors, directors of farm bureaus and county farm advisers will meet here September 10 and 11 upon Governor William D. Stephen's call.

The annual Humboldt County Fair and race meet opened in Ferndale with an attendance which surpassed expectations. Four days of racing with California horses is the big feature. Conferences of farmers are being held, demonstrations are in progress and the livestock exhibit, in which thousands of dollars' worth of California's finest stock is entered, is a center of interest.

Plenty of Walnuts.

The season is so far advanced that the walnut crop is now considered made. W. T. Weber, secretary and assistant manager of the California Walnut Growers' Association, has just completed a canvass of the crop of the four counties in Southern California where most of the crop is raised. He says the yield will be larger than last year, after allowing for the damage by the heat wave in June. The five-year trees of last year are six-year trees this year and the four-year trees last year are five-year-olds this year, and their increased yield and that of new trees coming into bearing, of which there are many, will more than make up the loss by damage. Santa Barbara county reports the crop there unhurt and the yield twice as large as last year's. In Ventura county the walnuts along the coast were practically unhurt. In the other part of the county the damage is put at 15 to 20 per cent. This, it is said, however, will be more than made up by the increased yield of older trees and young ones coming into bearing. Los Angeles county's loss is placed at 25 per cent. Along the coast there was little damage. El Monte and La Puente districts suffered the most. The damage there, however, will be made good by new bearing trees, and the increased yield of younger trees. Orange county is said to have suffered more than any of the other counties. Here the damage is put at 35 per cent, but this estimate may prove large if the weather continues favorable. The total crop is estimated at 15,000 tons, which is larger by 1,000 tons than last year.

We have secured the U. S. Patent Rights FOR THE

Australian KING STUMP JUMP PLOW

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Built Expressly for Small Tractors.

Four-Disc Plow, Convertible to One Furrow Less if Desired.

ITS STUMP JUMP feature is invaluable in orchard work. Its special utility is in rooty, scrubby or stony lands. When other makes of plows encounter similar conditions, the entire plow is thrown entirely out of the ground, with ofttimes very disastrous results.

With the STUMP JUMP PLOW, if a disc strikes a root, stone or stump, that one disc only jumps or rolls over the obstacle, while the others cling to the soil.

EXPANDING FRAME. It is made to alter to any desired width of furrow, from 6½ to 10 inches. All furrow and furrow wheels are automatically adjusted to width, without taking the plow asunder or the removal of any parts. Time required, one minute.

THE DISCS are made to adjust to a variety of angles to give more or less grip for varying conditions of soil.

EXTRA WIDE TIRES, as illustrated. Keep the plow up in light or spotted soils. They also lessen the draft.

SPECIAL LOW LIFT FOR ORCHARD WORK.

For the SMALL TRACTOR this plow offers many wonderful advantages over other makes.

We can assure our customers that this new plow is the best plow made for small tractors, and will give in all conditions of soil, perfect satisfaction.

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APPLES DIRECT FROM PRODUCER — Fancy Bellfleurs $1 per box; No. 2 grade 70c. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

FOR SALE — De Laval, 1350 lbs. steam turbine separator, used 90 days; 50 gal. tank, 20 gal. churn, butter moulds. W. L. Irven, R. D. 587A, Mountain View, Cal.

ALL SIZES OF PIPE and screw casing, both new and second hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard street, San Francisco.

ENGINES FOR SALE—Holt Caterpillar, 30 h. p., and Holt Caterpillar, 60 h. p. Write box 231, Marysville, Cal.

WANTED TO BUY—CANARIES—1 Coolidge Place, off Jackson, San Francisco.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

YOUNG WOMAN — Trained at University Farm, Davis, wants position on Poultry Farm. Address M. S., 2231 College avenue, Berkeley, Cal.

COUNTRY LANDS.

FOR SALE—35-acre home, all under cultivation. Fruit, alfalfa, beans; 16 miles from Sacramento. Half mile town. High school, railroad station. Details on application. John Lammiman, Box 195, Elk Grove, Cal.

WANTED—To rent, a ranch on the share basis. Grain and pasture. Owner to furnish stock, sheep, or cattle. I have work stock. Experienced; good reference. Box 770, Pacific Rural Press.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

HUMBOLDT STOCK RANCHES—1700 acres $8 with stock cattle. Long lease; additional land. C. E. Robertson, 105 Montgomery St., San Francisco, or J. E. Wilson, Carlotta, Cal.

WANTED—To hear from owner of good ranch for sale; state cash price, full description. D. F. Bush, Minneapolis, Minn.

SEEDS, PLANTS AND TREES.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

ALFALFA PLANTERS, fill your fall requirements NOW with GREENE-GOLD seed. Best quality. Low prices. Write for samples and prices to Bomberger Seed Company, Modesto, Cal.

WE BUY WEED SEEDS—Mustard, rape, anise, bitter clover, etc.; send samples; write us stating quantity and price. Globe Mills, Los Angeles.

SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar sts., Oakland, Cal.

Free—ONE YEAR—Free

We give one year's free inspection service on your Electric Lighting Plant. Get our proposition for lighting your home and farm at one-half the regular cost. Lighting Plants complete, $421.50, and up. Have your Auto rewired and equipped by us under our guarantee. Allowances made on old Battery. Edison Storage Battery expert at your service.

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For sale on easy terms in tracts of 20 acres and up.

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Highest Prices PAID FOR Scrap Iron and Junk

OF ALL KINDS

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SACRAMENTO, CAL.

Fall Potato Planting

[Written for Pacific Rural Press.]

A. J. Young, a well known potato expert of Huntington Beach, has prepared the following instructions for use in fall potato growing:

"The best time for planting the fall crop of potatoes is from July 15 to August 20, although I have had good results from planting as late as September 10. However, results from this planting depend greatly upon climatic conditions, if subject to frost and also upon the variety.

"The best varieties to plant from now on successfully are the Early Harvest King, Scottish Chief, Irish Cobbler, Bliss or Triumph, White Rose, Maul's Eureka, Extra Early, or other good early varieties that mature quickly.

"The earliest potatoes of the spring make the best seed for fall planting. These should be taken from productive hills of a good yielding variety, and at planting time should have the first sprouts just showing. Seed potatoes should be at least six weeks old at planting time.

"It is now too late to 'green' the seed, but they should be cut and limed four or five days before planting. All small potatoes should be cut lengthwise through the bud-eye cluster. Each piece should weigh about two ounces; however, the piece at the stem-end should be larger, as the seed is weaker at that end. Cut first through the bud-eye cluster and then crosswise, depending upon the size of the potato. If any black or yellow streaks are found in the potato to be used for seed, throw it aside, as such potatoes are diseased.

"In cutting the seed, have ready a pan of well air-slaked lime and a paddle that will hold about two tablespoonfuls of lime. Cut about one-half of a can of potatoes and then sprinkle a paddle of lime over them, shaking the can at the same time. This distributes the lime well over the seed. When the can is full, sprinkle another paddle of lime and shake as before. When the cans of cut seed are emptied into the sacks the lime that has fallen to the bottom of the cans will reach all sides of the cut seed. Liming prevents insects eating the seed, to a certain degree, and also acts as a fertilizer.

"If the seed is scabby before cutting, it should be dipped in a solution of corrosive sublimate, made in the proportion of one ounce of corrosive sublimate to eight gallons of water. This is a poison and should be handled carefully. The soil should be thoroughly irrigated and cultivated, making it fine, mellow, and moist, before planting. Never allow the soil to become dry—neither should it be too wet."

Killed Needlegrass in Alfalfa

[Written for Pacific Rural Press.]

That grain sowed in weedy alfalfa in the fall kills out foxtail and needlegrass is proved by the fields of a Los Molinos settler. One of them on May 11 looked like the smoothest, prettiest barley field we had seen in several counties. Getting into it, we found the barley almost up to our armpits and a strong stand of alfalfa nearly hip tall, but not blooming yet. Needlegrass was thick along the ditch banks; but none of it appeared in the field; which later yielded about three tons per acre of hay from the first cutting. This hay was most valuable, being free from weeds, and the grain in it balancing the alfalfa for a complete ration. Three dollars per ton additional value was figured for these reasons.

Of three other fields joining each other, and all surrounded by needlegrass along fences and ditch banks, one was pure alfalfa, free from needlegrass or foxtail, one was rye, clean as could be asked, and another, belonging to another party, was alfalfa in which needlegrass would constitute half the weight of the hay.

HOW WEEDS ARE KILLED.

Foxtail and needlegrass germinate after the fall rains. Harrowing at that time kills most of them and weakens the rest so that grain sowed then will choke out the weeds for the season. October 1 is generally about the right time, according to this settler, who put in 73 acres last fall. He prefers oats, but has found it not so sure a crop for this purpose, and birds like oats better than the barley or rye. About 90 pounds per acre is used. The heavy seeding seems necessary to make up for losses by birds, grain falling in crowns of alfalfa, etc. When feasible, the alfalfa is spring-toothed with alfalfa teeth before and after sowing the grain, and spike-toothed after that. If the first of this work is done after a good fall rain, a large percentage of weeds will germinate and be killed by this treatment.

G. H. Harman of the same colony proposes to use beardless barley in the same way, because it will clean out the weeds as well, and matures earlier for hay.

SULPHUR HELPED PEAS AND POTATOES.

Potato yield increased 63 per cent, alfalfa 36.8 per cent, barley 52.6 per cent, wheat 127.8 per cent, oats 57.3 per cent, kaffir 43.9 per cent, and pea yield increased 383 per cent by using sulphur as a fertilizer, in experiments by Dr. P. J. O'Gara at the American Smelting and Refining Co.'s Experiment Station in Utah. He applied 300 to 400 pounds per acre of the sulphur by-product of copper smelters.

The lima bean men are already looking ahead for labor to harvest the coming crop which is expected to be large. The Lima Bean Association is sending out a circular to directors in the various local districts. The plan is to form what will be known as the Allied Agricultural Association of California, whose aim will be to co-operate with other branches of agriculture and horticulture and import large numbers of Mexicans for harvest work.

California State Fair

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September 8 to 15, Inclusive

Make the War Time Fair the Biggest Ever

SHOW WHAT YOU HAVE DONE—LEARN WHAT OTHERS HAVE DONE—WE NEED MORE SOIL PRODUCTS—BETTER LIVESTOCK.
Exhibit Your Best to Help Solve the Nation's Food Problem

Patriotism—Profit—Pleasure

The Keynotes of the 1917 California State Fair
Great Display of Vocational Work by School Pupils—Over 500 Prizes divided between city and rural schools for Domestic Art and Science, Manual Training and Home Gardens. Greatest incentive ever offered to California boys and girls.
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OVER $30,000 OFFERED IN PREMIUMS.
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Displays of Horticulture, Agriculture, Viticulture, Forestry, Dairy Products, Dairy, Farm and Road Machinery, Tractors, etc.

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Daily Program of High-class Amusements. Night Horse Show. Harness and Running Races. A tent city of Carnival Attractions. Great Annual Band Contest Open to Entire State.

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VETCH, BUR CLOVER
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Our Sweet and Sour Clovers are scarified, insuring high germination.

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Early Rose	Campbell Seed Store	Pasadena.
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Green Mountain	Chas. Ford Company	Watsonville.
High Top Burbank	R. C. Falkenberg	King City.
Low Top Burbank	T. J. Hammond	Fresno.
Late Rose	Wm. Kelly	El Centro.
Netted Gem	C. C. Morse Co.	San Francisco.
Prizetaker	Lompoc Produce & Real Estate Co.	Lompoc.
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Pride of Multnomah	Silliman Brothers	Salinas.
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White Rose		
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H. A. HYDE, Watsonville, Cal.

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HYDRATED LIME OR GROUND LIME ROCK
Free Booklet and Prices on Application.
PACIFIC LIME and PLASTER CO.
330 HOLBROOK BLDG., Manufacturers, SAN FRANCISCO

CALIFORNIA DRIED PEARS.

[Written for Pacific Rural Press.]

The total dried pear pack of California runs about 1,500 tons per year, representing perhaps 8,500 tons of fresh fruit, while our shipments of fresh pears from the State run over 32,000 tons every year. Last year we shipped over 48,000 tons of fresh pears. The dried pears come from Contra Costa, Solano, Sonoma, Napa, Alameda, Santa Clara and Mendocino counties.

Prices to Lake county growers last year were 6 cents f. o. b. ranch, where the good fruit was shipped fresh; and up to 11½ cents where the entire crop was dried. "Extra fancy dried pears are always ready sellers, while the poorer grades are usually a drag in the market," says Mr. Stokes.

The peach packing season of the Turlock Irrigation district was good. The farmers received high prices for the fruit.

BANKRUPT SALE

Coast Wrecking Co. Stock, 3137 San Pablo Ave., Oakland. Purchased $.25 on Dollar--To be sacrificed.

25 DAYS LEFT.

Sinks, Toilets, Bath Tubs, Radiators, Ready Roofing, Show Cases, Fixtures, Pipe and Fittings, Hinges, 1000 Doors $.15, Paint, Oils, Sash, Glass, Nails, Netting, Trays, Urinals, Basins, Shades, Gal. Iron, Fire Brick, Moulding, Chimney and Casing, Tile, Window Frames, Tanks, Lumber, Furniture, Sawing Outfit, Large Motor, Wagon, etc. Office Set Furniture, cost $450.00. Safe, Filing Cabinets, Typewriter Desk, Tables, Flat and Roll Top Desks, Hat Rack, Revolving Chairs, Etc., Etc., Etc.

Stock open to inspection—3137 San Pablo avenue, Oakland.

Premises must be vacated in 25 days.

Bona fide Sale—Stock Guaranteed.

Order by Mail.

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Stores and yards:

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For 1500-acre ranch. Must understand care young walnuts and grain farming. Married man preferred. Give full details, experience. Address, Box 760, Rural Press, San Francisco, California.

Specialists in Specimen Stock for Landscape Work.

Hardy Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.

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Agricultural Investigation, Drainage. Legal Engineering and Water Right Reports. Alkali and Marsh Land Reclamation. Appraisal of Irrigation Systems. Management and Development of Lands. Ranches and Irrigation Projects. Soil Surveys.

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FARM WANTED

We have three modern homes. Will trade one or all for a good farm. Would prefer to deal in clear properties.

BERKELEY SECURITIES CO.

218 First National Bank Building, Berkeley, Calif.

MAKING THE MOST OF OUR GREAT STATE FAIR.

(Continued from first page.)

these exhibits, see the Power on the Farm Department of this issue. In these days of food crisis, it is nearly criminal to let crops or trees suffer for water if it can be had within reasonable distance from the surface. Pumps in the machinery building will give a continuous performance to show how each one works; and attendants are paid to answer questions. Gas engines and electric motors must take the places of hired men in the next year or two, and here is your chance to get familiar with all types. Farm machinery, such as plows, harvesters, silage cutters, cultivators, subsoilers, etc., must be such as to make the ground yield most with the least labor. They can be compared here.

LIVESTOCK.

Great numbers of livestock have been entered from Washington, Oregon, and Southern California, as may be seen by referring to the livestock entry lists in other columns of this issue. If you have any livestock at home, compare it with what you see here and if you have as good, bring it next time and get some free advertising. If you haven't, find out by asking exhibitors, which breed is most likely to make money under your conditions and then buy a bull or a buck, or a boar, or determine to breed your horses to a registered stallion of the breed you choose from the 2,000-pound samples of all breeds to be seen here. Dairy production and milking contests, boys' pig club exhibits, livestock judging contests, and futurity classes will attract lively interest.

GOVERNMENT HORSES.

At the request of Army officers, premiums are offered for horses suitable for cavalry, light artillery, siege artillery, draft mules and horses, and pack mules. If you want to raise horses for the army, they must come up to specifications. See the animals entered in these classes, talk with the attendants who know how to breed for what the army wants, and then let your mares produce an income while working.

GOVERNMENT EXHIBIT.

The United States government is planning a great liberty exhibit at the State Fair this year in addition to the educational exhibit which it will make in connection with the food conservation movement. Besides a complete showing of torpedoes, mines, models of warships, submarines, battleplanes, and other instruments of modern warfare, trench digging, construction of barbed wire entanglements, and sham fighting between troops will be demonstrated. Bomb dropping contests from aeroplanes, relay air races and pursuits, landing contests, and sham battles between aviators and American bluejackets will furnish thrills.

HORTICULTURE.

Those of us so fortunate as to see the County Exhibits of Horticulture before they burned last year, will look forward to the displays that will show our best and most characteristic fruits, grains, and agricultural products and indicate something of the unusual possibilities for food production within our State.

"Splendid Lubricating Qualities"

PAIGE

McKinney-Cord Motor Co., Phoenix "we cannot speak too highly of the splendid lubricating qualities of Zerolene."

WINTON

The Winton Co., San Francisco "We use Zerolene extensively. It is giving entire satisfaction."

CHEVROLET

J. W. Leavitt & Co., Los Angeles "Zerolene is our choice for Chevrolet cars."

FORD

Fahy-Atterbury Sales Co., Los Angeles—"settled on Zerolene after extensive tests."

ZEROLENE

The Standard Oil for Motor Cars

Endorsed by Leading Car Distributors

—because the records of their service departments show that Zerolene, correctly refined from California asphalt-base crude, gives perfect lubrication—less wear, more power, least carbon deposit."

Dealers everywhere and at our service stations.

STANDARD OIL COMPANY (California)

For tractors, Zerolene Heavy-Duty is especially recommended.

ZEROLENE TRADE MARK REG. U.S. PAT. OFF.

Brake Horse Power

Means something to the man whose engine has to be on the job all the time. *We will show you* at the *State Fair* that the *Victory Oil Motor 12 to 100 H. P.* will deliver the most power at the least expense. See this modern engine, under brake test, (test confirmed by University of California) pull in *excess* of its rated H. P. while operating on the cheaper grades of fuel oils.

VICTORY MOTOR COMPANY

NILES, CALIFORNIA

To Be Known for Its Goodness

That is our uppermost thought in placing our STANDARDIZED alfalfa seed on the market in such a manner that there can be no question of its identity.

That Is

WHY we have spared no expense or trouble in having our entire supply of seed field selected by an expert in this line.

WHY we personally supervise each shipment, from growing field to customer with as painstaking care as though it were for our own use.

WHY we refuse to handle any but pure, fresh seed, grown by specialists in sections particularly adapted to seed culture.

WHY, hereafter, all seed purchased of us will be in containers bearing our firm name and the trade name

Green-Gold Brand Alfalfa Seed

THIS MEANS that there is no longer any guesswork in alfalfa seed buying. That a responsible firm, whose sole product is alfalfa seed, has taken the cares and worries of poor seed off your shoulders.

AND IT COSTS NO MORE

because of our plan which eliminates all middlemen.

Write today for prices and samples of new crop seed, stating probable requirements.

BOMBERGER SEED COMPANY

728 10th Street MODESTO, CALIFORNIA

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

The California Guernsey Club has made application to erect a booth at the State Fair.

O. J. Ames of Oakdale will be among the new exhibitors this year at Sacramento, with his herd of Jerseys.

McLouth and Dado will bring some good Jerseys to Sacramento from Orland, the home of many Jersey herds.

Gotshall& Magruder of Ripon report the sale of the young sire, Stratford Juliana de Kol, to Hard Bros. of Ripon.

F. A. Heroux of Oakland, who recently added to his herd a fine lot of Holsteins secured at eastern sales, will show this year.

J. W. Henderson of Berkeley will be at Sacramento as usual with a fine string of Guernseys and a herd of Hampshire hogs.

Visitors at the State Fair this year will miss the N. H. Locke Jersey herd. The "help problem" has prevented Mr. Locke from showing.

It is announced that Walter Dupee of San Diego will show his great herd of Guernseys at the National Dairy Show, Columbus, Ohio, in October.

F. H. Stenzel recently sold to Maxwelton Dairy, Oakland, a young Holstein bull whose dam won the butter fat contest at the State Fair last year.

B. E. Nixon of Yountville will show his Revada farm Guernsey herd at Sacramento, to which he has added a famous bull since the herd was last shown.

Alexander Whaley of Tulare recently sold a fine young Holstein bull out of a 22-pound cow to J. E. Regan, McFarland, and another good one to C. A. Hall.

A. J. Welch of Redwood City will show ten head of Guernseys at the State Fair, including his herd bull, Dairy Maids' Prince, an imported cow, Argie of Lynwood, and calf, four junior heifers, a senior heifer, a senior and a junior bull calf.

J. H. Harlan Co. of Woodland will make a good showing of Holsteins at Sacramento. Their exhibit will include the young bull, Toyon Valdessa Hengerveld, an exceptionally fine individual out of a 30-pound four-year-old.

The Bridgeford Company of Knightsen will have a larger show herd this year than last, with high quality. Daisy Korndyke Mercedes, who at the age of seven months was junior champion and reserve grand champion, has developed into a great heifer.

A report of the San Joaquin Cow Testing Association says that the following are the five leading herds in milk production for the last testing period of 31 days: Gotshall & Magruder, Ripon; F. J. Kell, Stockton; County Farm, French Camp; J. Fiori, Escalon; S. Gronner, Ripon.

Modesto Farm will have a good showing of Holsteins at the State Fair, including the herd sire, King Korndyke Hengerveld Ormsby 7th, who won second prize at Sacramento last year, and a number of others whose half sisters sold at the last Stevens Bros. sale for prices ranging from $5,200 to $6,100 each. Mr. Kounias will also show some fine young stock sired by his herd bull and a young bull out of a 33.28 pound cow he recently purchased at auction from Toyon Farms.

Entered in the Holstein division of this year's show at the Sacramento State Fair, is a Holstein bull, Segis Pontiac De Kol Burke, and a Holstein heifer, Segis Dekol of Vina, owned by Gonzalo Camp y Cia of Santiago, Chile. The South American firm purchased the bull from A. W. Morris of Woodland and the heifer from the Leland Stanford ranch at Vina. After the Fair, the animals, together with 10 or 12 other pure bred heifers which the firm expects to purchase within the next month, will be shipped to Santiago. Meantime they are being quartered at the University of California farm.

Swine and Swinemen.

The Riverina herd of Yorkshires will be well represented at the Fair as usual.

J. M. Bernstein will show his great Poland China boar, President, and some of his get at the State Fair.

The Red Rock Ranch of Glen Ellen, will exhibit at Sacramento the pigs that are making that ranch famous.

L. C. Trewhitt of Hanford has taken over the well-known W. D. Trewhitt herd of big type Poland Chinas. He will enter a fine lot of hogs in the Hanford sale next month.

Carruthers Farms will show at the State Fair a breeder's young herd of Berkshires. Their aged herd was sold at the auction sale and will be exhibited by Frank Brush of Santa Rosa.

Fred Ross of Hanford will exhibit at Sacramento Holsteins and Poland Chinas. Mr. Ross's stock have been consistent winners wherever shown and his showing this year will be fully up to his standard.

F. A. Brush will have a full herd of Berkshires at the State Fair. His showing will include a gilt whose dam and sire are both world champions. He will send the herd to exhibit at the National Swine Show at Omaha in October.

F. M. Johnson of Napa will have a surprise for Duroc men at Sacramento in his new herd boar, Johnsons Defender 228403, a grandson of Defender and of Fancy Crimson Wonder. Mr. Johnson will have some other good ones in the ring.

Chapin F. Tubbs, manager of the Montelena herd of Yorkshires at Calistoga, will make a very strong showing at Sacramento, including Montelena Dick, reserve grand champion last year, and Lake Park King, an exceptionally fine boar imported recently from one of the best Eastern herds.

Wm. Bernstein's herd of 26 head at the Fair will include the aged sow, Candy Kid, who was grand champion in 1914. Among his young stock will be Kings Rosebud, a two-year-old, and Rosebud Chief, under 18 months, both weighing nearly 700 pounds, and Lily B. A., granddaughter of Candy Kid.

R. H. Whitten of Los Angeles writes us that he has sold his ranch near Glendale, and will in the future devote all of his time to his ranch and Poland Chinas in Tulare county. He expects to go to the corn belt after the State Fair and purchase 20 good brood sows to enlarge his herd, that he can meet the demand for purebreds.

M. Bassett of Hanford will have his usual fine showing of Poland Chinas at the State Fair. Victor Chief, last year's champion, and a number of his gilts will be on deck. A fine litter of March pigs by Perfect Hustler, entered in the Poland-China futurity. Besides his medium type Polands, Mr. Bassett will show Model Fellow, a big type boar he bought at auction from N. Hauck. Mr. Bassett's son, A. L. Bassett, will also show this year.

Beef Cattle.

Shorthorn men will be glad to see T. S. Glide, Hillcrest Farm herd, back in the show ring this year.

(Continued on page 216.)

SAMSON SIEVE-GRIP TRACTOR COMPANY.

Two Samson Sieve-Grip Tractors will be displayed at the "still" exhibit of the California Tractor and Implement Association at the State Fair. The Samson exhibit will occupy a space almost in front of the entrance lobby of the tent, 800 square feet in area. A full exhibit of the several working parts of the machine, which are always carried in stock for prompt replacement, will also be included in the exhibit.

The Premier Sire of the West

"IT" "IT" "IT"

His Dam Pontiac Clothilde Dekol 2nd is known as the greatest producing and transmitting cow of the breed through her sons. She is the first cow to produce 37 lbs. butter in 7 days, the first cow to produce over 1000 lbs. fat in a year, and the first cow to produce over 30 lbs. butter for 3 consecutive years.

His Sire's Dam Pietertje Maid Ormsby has twice broken the world's butter production for 30 days. She has more prize winning granddaughters and grandsons, and more large yearly record granddaughters than any other cow of the breed.

A happy combination of the blood of these two great cows has produced IT — conceded the Premier Sire of the West and one of the very greatest in the United States. At the Stevens Brothers' Dispersion Sale his offspring, including many calves, sold for an unprecedented price—a yearling daughter selling for $4000.00.

In our herd he will be given an opportunity such as no other bull of the West has enjoyed. He will be bred to over forty 25-lb. cows and eight 30-lb. cows, besides a large number of 20-lb. two year olds, daughters of 30-lb. cows, etc.

IMPORTANT

At the fall sales we expect to consign a few choice head in calf to this great sire. This will be your opportunity to secure a son or daughter of IT at your own price. This is one of the most important announcements ever made in connection with Holstein Sales in California.

McALISTER & SONS, Chino, California

Do you want long distance backing behind your coming herd sires?

If so then we have them

The first six cows that we tested for a year made the following records:

Winnie Korndyke Cornucopia De Kol	milk	31034.2	butter	1201.0
Hazel Aaggie of Oakwood Daughter	"	21208.5	"	860.9
Inka Tritomia Walker	"	21237.6	"	816.1
Princess Jetze	"	19981.8	"	766.9
Mary Acme of Oakwood	"	17977.3	"	702.9
Princess Niko Mechthilde	"	11773.9	"	620.4

An average of 20535.5 of milk and 831.2 of butter. This included one junior two-year-old, one senior two-year-old, and one junior three-year-old. Two of these being state records and one world's record for age.

Write for prices, or, better still, come and see our herd. Meet us at the State Fair.

THE J. S. GIBSON COMPANY
Box 97 Williams, California

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

Poland-Chinas.

EIGHT SPLENDID FALL BOARS ready for service. Twenty spring boar pigs for sale at private treaty. Twenty of grandest Poland China sows ever sold in California go in the breeder's sale held October 19, Hanford, from the "100 head sell." W. Bernstein, Hanford, Cal.

FIRST $100 takes my herd boar Sibberton No. 249471, farrowed July 29th, 1915. A grand young boar. Full particulars with pedigree on request. Also 5 month boar, good points, $20. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

SLATTERY MAMMOTH POLAND CHINAS. —Bred right, Fed right, Priced right. Pedigree and registration given with each animal. W. J. Slattery, Finley, Lake county, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend Sts., San Francisco.

A-1 BERKSHIRES.—Herd boars Winona Royal Champion and Charmers Star Masterpiece. Best blood lines. Immunized stock. Ayrshire cattle. Arlington Smith, Visalia.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

REGISTERED BERKSHIRES—Geo. M. York, Modesto, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

THESE PIGS PRODUCE THE BACON
Ordinary thoughts in ordinary words,
Like random shots at flocks of birds,
Seldom bring home the bacon.
Ordinary pigs in ordinary herds,
Like random shots at flocks of birds,
Seldom bring home the bacon.
RED ROCK RANCH
Breeders of Registered High Class Duroc-Jersey Hogs. A long, smooth, medium size, bacon hog. Why not the best? Give them a test. Our specialty—weanlings—every month in the year. Shipped on approval. Brood sows, gilts and mature boars for sale. R. Q. Wickham, Owner, Glen Ellen, Cal.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 third. Prices $20 and up. Haden Smith, Woodland.

DUROC JERSEYS—Young boars and gilts from imported dams and sires from the best herds in East Iowa and Nebraska. Can furnish blood lines that will cross with any of our old customers. H. P. Slocum & Son, Willows, Cal.

DUROC JERSEY BOARS.—For Sale.—Sons of Burk's Good-E-Nuff, Grand Champion Illinois State Fair, 1914. Out of Queen Is Rite, Grand Champion California State Fair, 1916. A. A. Trueblood, P. O. Box 582, Sacramento. See me at California State Fair, September 8 to 15.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

REGISTERED DUROC-JERSEYS — Service boars from prize-winning stock are money-makers. They grow faster. New England California Corporation, Ripon, Cal.

RANCHO RUBIO DUROCS—Nothing to sell at present; a fine bunch of gilts and a few extra good service boars for this fall. Elmer Lamb, Ceres, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REG. JERSEY DUROC BOAR, two years old. Price, $60. A sacrifice. Apply to F. McGuire, Clayton, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first-class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

WANTED — Unbred Holstein heifers not over 18 months old. State price. Box 740, Pacific Rural Press.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

Jerseys.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

Revada Guernseys
BRED IN THE PURPLE

Every animal on this farm is imported, and carries the blood of such noted sires as Governor of the Chene, Sequel's Monogram, and Governor of the Gree.

HERD BULL IMP, Ricardo of Edgmoor 34367

SOME FINE YOUNG BULLS FOR SALE

No Females for Sale at Present

SEE OUR EXHIBIT AT SACRAMENTO

REVADA FARM

B. E. NIXON, Proprietor,

Yountville, Napa County, California

FOR 30 DAYS—JERSEYS—Pedigreed bull calves, not registered, $25; registered, $50. Service bulls, $100, from producers. Tested registered cows, $150, with yearly records. Horses. N. H. Locke, Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

FOR SALE—Young pure-bred Guernsey bull sired by the famous Raymond of the Preel. Box 750, Pacific Rural Press.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

VERAMONT STOCK FARM — Pure-bred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

BREEDERS OF REGISTERED SHORThorns—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORThorns, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM — Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder registered Herefords. Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

RAMS FOR SALE—A few choice Shropshire ram lambs, all from guaranteed breeding. Address R. A. Holdridge, Box 282, Dixon, Cal.

J. R. BLOOM—Breeder of Shropshires. Yearling rams for sale. J. R. Bloom, Dixon, Cal.

WANTED—75 to 100 high-grade Angora goats, not over three years old. J. A. Swall, Bishop, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

HORSES AND MULES.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

BIG AUCTION OF DAIRY CATTLE on the old Carver Ranch, five miles north of Modesto, three miles east of Salida on the Salida-Sonora highway, on Tuesday, September 4, 1917. On the above date I will sell to the highest bidder for cash 100 head of dairy cows and heifers, Holsteins and Durhams, consisting of 69 cows, 30 heifers, and 1 registered bull. These cows are young and good producers, milking 16 cans per day at present from 45 head that are now milking. Several fresh, several heavy springers. The heifers are yearlings and two 10-springers. Eight head of horses, 1 good saddle and driving horse; all young horses but one. Horses to be sold before lunch. Olavera & Co. are the parties that had the 175 tons of hay destroyed by fire a few weeks ago, hence this sale. No bye-bidding, no boosting. Sale begins at 10 A. M. sharp. Free lunch. J. J. Olavera Co., Owners. Col. Cy. N. Clark, Modesto, Auctioneer.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal—the best California calf raiser. Geo. H. Croley Co., Inc., 8th and Townsend Sts., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FREE FEED FOR STOCK—Acorns for hogs, grass for cattle and sheep; get State and Government land; new booklet free. Joseph Clark, Sacramento.

WANTED to buy, 5-10 young, fresh, good cows. Write: Cheese Company, Box 160, Brentwood, Cal.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

SEE THE STATE FAIR TRACTOR TENT.

A grand vista of tractors, tractor machinery, and tractor accessories will greet the visitor to Tractor tent at the end of the race course at the State Fair this year. Nothing else, even dust or gas, will be allowed, except visitors, who will be royally welcomed by the 21 exhibiting companies. There are only three larger tents in the State than the one to be filled with tractors, 25,000 square feet, arranged by a committee of the Cal. Tractor and Implement Association as a harmonious whole. A map has been prepared showing just where and how much space each of the exhibitors will take. The space reserved is about as follows: Holt Mfg. Co., 4,000 square feet; California Moline Plow Co., 1,800 square feet; Yuba Construction Co., 1,500 square feet; Dauch Mfg. Co., 1,000; John Deere Plow Co., 1,000; Pacific Implement Co., 900; Oliver Plow Co., 900; C. L. Best, 800; Bean Spray Pump Co., 800; Samson Iron Works, 800; International Harvester Co., 800; Baker & Hamilton, 800; W. L. Cleveland, 600; Cleveland Tractor Co., 400; Union Oil Co., 400; Standard Oil Co.; Shell Oil Co.; J. I. Case Threshing Machine Co. The following notes have been received in regard to the exhibits:

BEAN SPRAY PUMP CO.

We will have two tractors at the State Fair. One of our tractors will be uncovered so as to show gears, drive pinion, and other working parts. Also we will display parts of the tractor on a large board, such as you have seen used in automobile display rooms. This display of parts will consist of gears, pinions, links from the chain of the track, parts of the motor, etc.

Possibly you know that our new 1918 model is a gear driven instead of a friction driven machine, as was our 1917 model.

INTERNATIONAL HARVESTER CO.

We have asked for 800 square feet of space in the tractor tent at the State Fair. We will have no working exhibits, but will probably exhibit one 10-20 Titan tractor, one 8-16 Mogul tractor, and one combined harvester and thresher.

PACIFIC IMPLEMENT CO.

We will make exhibit at State Fair with the Tractor Association, showing the Newell Sanders Disk plows, both in power lift and plain lift for orchard work as well as for field work. Also will show a new power lift moldboard plow made by the South Bend Chilled Plow Company, called "The Cassaday."

HUGHSON & MERTON.

We expect to show at the Sacramento State Fair, the Wallis Cub Junior Tractor. This will be a new tractor in this field, and is sold by the J. I. Case Plow Works, of Racine, Wis. The manufacturers claim for this tractor it is absolutely dustproof, having no gears exposed; and that up to the present time it has been the only tractor that will develop a pull at the drawbar equal to its own weight. In fact, recently with a dynamometer test conducted by the Hyatt Roller Bearing Company, this small tractor developed a drawbar pull of 3250 pounds. The tractor is adapted for orchard work as well as open field plowing; it has a four-cylinder motor, cast en bloc, 4¼x5¾ R. P. M., 900 normal, overhead valves, etc., and has a turning radius of 8 1/3 feet.

W. L. CLEVELAND CO.

We have applied for 600 square feet of space in which to show our tractors. We had anticipated showing, also, cement mixers, but we understand that nothing but accessories are to be allowed in the tent in which the tractors are shown.

CALIFORNIA MOLINE PLOW CO.

It is our intention to exhibit our new Model "C" Moline Universal Tractor, together with various tractor tools, at the State Fair in Sacramento. The Company will have two representatives on the ground at all times and occasionally more.

FOOD PRODUCTION POSSIBILITIES OF TRACTORS TO BE DEMONSTRATED.

Every tractor that is bought now, and used intelligently, is doing a big part toward winning the war. The gigantic problem that confronts American farmers today is to overcome the world food shortage, and this must be done with fewer men and horses available for farm work. The only way of meeting the situation satisfactorily is by utilizing tractors and other power machinery and implements.

Truly is it said that "It's an ill wind that blows no one some good." For the tremendous pressure that the war has caused on the food production question, has brought the tractor, overnight, from a position of being a pretty good thing that every farmer hoped to have "sometime," to a place where it is a necessary thing that every farmer must have "now." Realizing all these things, the Traction Engine and Implement Dealers' Association of Southern California feels that it has selected a most opportune time for its Second Annual Demonstration, September 18 to 22.

Six hundred and fifty acres of land have been secured on the Vail property on Telegraph Road, near Bandini Station. Every square foot of them will be thoroughly cultivated by sunset on September 22, as there are to be public Demonstrations every afternoon by all the tractors, and private demonstrations given by each firm, at any time, to those who are anxious to see a more detailed exhibit of the characteristics of each tractor. Rates of a fare and one-third for the round trip are to be

THE SECOND ANNUAL

TRACTOR DEMONSTRATION

VAIL RANCH

LOS ANGELES, CAL.

September 18-19-20-21-22, Inclusive

Don't Fail to Attend

The demonstration this year promises to be the greatest exhibition of power farming machinery ever witnessed on the Pacific Coast. The strides in tractor progress during the past year have been remarkable. The same is true with farming machinery, and the demand here and abroad for all foodstuffs gives added weight to this great occasion. The number of exhibits already booked will far exceed those of last year.

Those who have never attended a tractor demonstration will have many new experiences. Here you will find a miniature city of tents, housing the various exhibits, while out on the field will be thousands, following the tractors up and down the long furrows, intently watching tractor and farm implement perform. Plan to be with us—don't let anything keep you away. Admission is free and the object EDUCATIONAL.

ALL ROADS LEAD TO

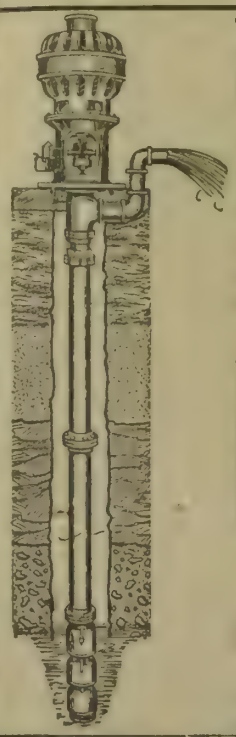
VAIL RANCH

LOS ANGELES, CAL.

Reduced rates of one and one-third fare for the round trip have been allowed from all points in California, Arizona, and Nevada. Auto busses from end of Stephenson avenue city car lines direct to grounds. Nothing overlooked for your convenience. Be our guests on the above dates.

Traction Engine & Implement Dealers' Association of Southern California

115 So. Los Angeles St. Los Angeles, Cal.



DEEP WELL TURBINES

No valves to pack or plunger to get out of order. For use in any well ten inches in diameter or over.

A complete line of irrigating pumps of all descriptions, horizontal, and vertical for belt drive or direct connection to electric motor.

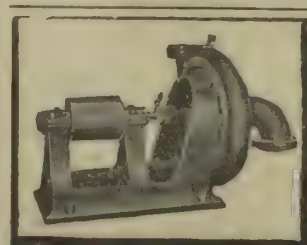
Prices as low as are consistent with good quality and workmanship.

WRITE FOR CATALOGUE NO. 47.

BYRON JACKSON IRON WORKS, Inc.

SAN FRANCISCO.

LOS ANGELES, STOCKTON, VISALIA



WOODIN & LITTLE

PUMP HOUSE

33 TO 41 FREMONT ST. SAN FRANCISCO, CAL.

PUMPS FOR EVERY SERVICE AND USE

FOR IRRIGATION—Power, Belt, Electricity, Air, Vacuum, Ship, Spray, Wine, Oil, Mines, Steam, Water Works, Wind Mills, Road Sprinkling, Rams, Hand, Deep and Shallow Well Pumps, Goulds Celebrated Triplex Pumps.

W. & L. PNEUMATIC WATER SUPPLY SYSTEMS

Pipe, Pipe Fittings, Brass Goods, Tanks, Wind Mills.

Send for our large No. 16 Catalogue Mailed Free. GASOLINE ENGINES Inquire of your Local Dealer for full particulars

TEST

Seventy-five years of experience making belting, gives us a world of knowledge which is yours for the asking.

New York Belting & Packing Co.

520 Mission St. San Francisco, Cal.

SPECIAL

Fill Out This Coupon—Mail It TODAY

New York Belting and Packing Co.,
519 Mission St., San Francisco. Dept. C-8.

Send me samples of Belting that you will guarantee to give satisfactory service on my work and quote prices delivered at

..... Station.

Horse Power	Diameter in Inches
Elec. Motor.....	Driving Pulley....
Steam Engine.....	Driven Pulley.....
Gas Engine.....	

Kind of Drive

Cross .....
Straight .....
Perpendicular .....
Width of Belt..... Ply.....
Distance between centers of Pulleys.....
Rev. per minute of Driving Pulley.....
Kind of Machinery Driven.....
My dealer's name.....
My name .....
Address .....

A pocket memo. booklet giving speed and power tables will be sent FREE to all who mail this coupon.

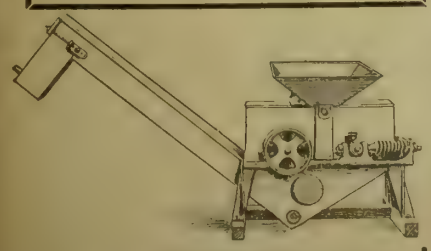
Free Tickets

CALIFORNIA STATE FAIR

For those who apply now free tickets entitling the holder from Sept. 8th to 15th to a free sight-seeing ride through the City of Sacramento to and over the Natomas Lands via the Natomas Boulevard, the $150,000 concrete highway. The most wonderful scenic ride of its kind in the State. You owe it to yourself to see the wonderful Natomas Lands. Ten years in preparation, millions spent in improvements. 15,000 Acres planted to beans, vegetables, alfalfa and corn. There is no charge or obligation.

O. C. Stine & Co.

23 Montgomery St., S. F.
610 Capitol National Bank Bldg.,
SACRAMENTO



Cut down the high cost of feeding with a
BABY CARLEY BARLEY ROLLER
Capacity, 15 sacks an hour with 3 to 4 H. P. engine. Larger sizes to meet other requirements. Write for circular.
THOMAS R. BROWNE, Stocktou

WITTE

"Kero-Oil" Engines

Immediate Shipment—All Styles—2 to 22 H.P.—No Waiting—Big Factory—Big Output—Prices most favorable. Write for my terms and prices—Cash, Payments or No Money Down.—ED. H. WITTE, Pres.
WITTE ENGINE WORKS
2860 Oakland Ave., Kansas City, Mo.
2860 Empire Bldg., Pittsburg, Pa.

I Save You $15 to $200

effective on all railroads, from all points in California, Nevada, and Arizona.

It will be very pleasant for the rancher and his family to spend their entire time, for each of the five days, at the grounds. There will be an excellent, medium-priced cafe there, for the association is to supervise all charges; there will be a comprehensive exhibit ranging from automobiles, furniture, pianos, electric motors and appliances, motor trucks and motor accessories, lubricating and fuel oils, and food products, to be demonstrated daily. In fact, there is sure to be something that will appeal to the interest of each individual, from "Father" down to "Little Sister."

Following is a list of Association members who will exhibit and demonstrate their machines. All have offices or headquarters in Los Angeles, except as noted:

Anthony, C. S.; Arnott & Co.; Advance-Rumley Thresher Co.; Best, C. L., Gas Traction Co.; Bean Spray Pump Co.; Bosbyshell, E. P., Co.; California Moline Plow Co.; California Implement Co.; Carter & Jacobs; Case, J. I., T. M. Co.; Crossman, W. E.; Cleveland, W. L., Co.; Dauch Manufacturing Co.; Dixon & Griswold; Davenport, L. M., Co.; Gregory, Wm., & Sons; George, A. F., Co.; Holt Manufacturing Co.; International Harvester Co.; John Deere Plow Co.; Johnson & Howe, Ontario, Cal.; Killefer Manufacturing Co.; L. A. Auto Tractor Co.; Samson Sales Co.; Union Tool Co.; Cleveland Tractor, Bates Steel Mule, F. T. Briles; Hughson & Merton, San Francisco, Trackford; Fredlund Co., Pasadena, One Wheel Garden Tractor.

HANDPOWER CONCRETE MIXER.

[Written for Pacific Rural Press.]

A cheap concrete mixer to eliminate backache and do fast work was seen recently in Placer county, It consisted of a barrel resting diagonally in a rectangular flat frame so it could be rolled by crank and dumped easily. Two iron strips were bolted from near the top of the inside to near the center of the bottom, and opposite each other. Half way between them were two other shorter strips on the sides of the barrel but two inches in the clear. The front and higher end of the barrel rested on two small wheels fixed to boxings on the frame. The lower end was fitted on the outside with a circular iron plate about a foot in diameter. Around the edge of the plate were cog teeth. In its center was an iron peg which rested in a boxing on the frame and acted as a pivot. The frame rested on a wooden stand by two iron pegs, one on each side, so it and the barrel could be dumped by lifting the back end. The crank axle works in a boxing on the barrel frame so the pinion at its end engages the cogs on the barrel plate to turn it and mix the concrete. As the frame is nearly on a balance, it is easily dumped. A hook holds it in position while mixing.

STATE FAIR AUTO SHOW.

Approximately a million dollars worth of automobiles, including two to six advance models of every standard make of car in America, are promised for the State Fair Exhibit. These will occupy a tent covering 25,000 square feet of grass

(Continued on page 226.)

Make Intelligent Comparisons

SAMSON SIEVE-GRIP

Reg. & Pat. U. S. & Foreign Countries

TRACTORS

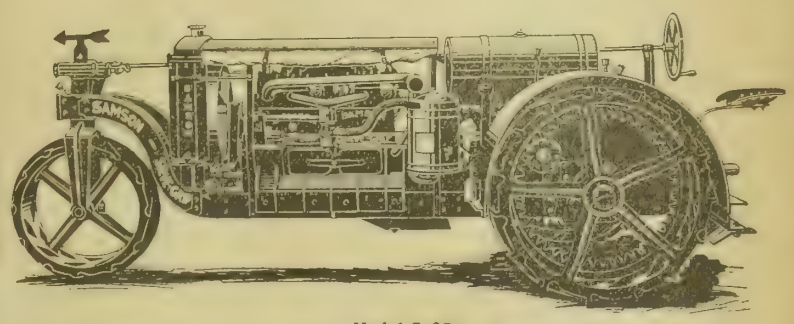
Will be Shown at

TRACTOR AND POWER TOOL EXHIBIT

CALIFORNIA STATE FAIR

SACRAMENTO

SEPT. 8th to 15th



Model S-25

THINKING FARMERS WILL APPRECIATE

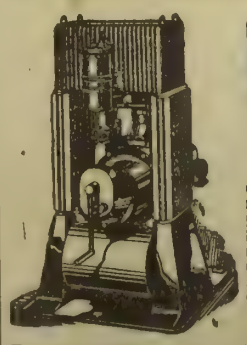
The TRACTION SURE, directly driven SIEVE-GRIP WHEELS (patented) Lubricated Roller Pinions (patented) reducing friction and wear to minimum. Nodust Moiso-Rizer, (patented) clarifies air, and keeps dust and dirt out of working parts of motor; Positive Worm gear steering device; Durable Radiator, and the Low, Compact construction, suitable for field or orchard service. Dull gray in color, it resembles a battleship, and is built like one. Dependable, Powerful, Always ready to give Service Plus.

PLAN TO ATTEND THIS GREAT FARMING EVENT.

Study these tractor features, make your own comparisons. SAMSON SIEVE-GRIP TRACTORS have stood the rigid investigation of the General Motors Company engineers. A hundred Sieve-Grip dealers in Pacific Coast territory are ready to render you prompt sales and field service. Write for the name of your nearest one.

SAMSON SIEVE-GRIP TRACTOR CO.

(Division, General Motors Company)
STOCKTON, CALIFORNIA



Uni-Lectric
GASOLINE-ELECTRIC UNIT
LIGHTING SYSTEM

Electric Light for Your Farm

Uni-Lectric lighting plant generates standard 110-volt direct current; operates from one to fifty lights, electric motor, electric iron, vacuum cleaner, electric toaster, force pump, churn, washing machine, etc. No Batteries—No Switchboard—and a better machine for less money. High speed gasoline motor, generator and automatic governor, all complete in one small, compact unit. Uses standard lamps and fixtures. Simple, easily installed, dependable, economical. Costs less than other systems to buy and to operate.

Write to-day for full description and low price.

KARL A. HEDBERG
ELECTRICAL ENGINEERS
104 Clay St., San Francisco, Cal.

Breeders Solving Dairy Labor Problem

[Written for Pacific Rural Press.]

Knowing that the labor problem is the most urgent that dairymen are now facing, we have asked a number of representative dairymen and purebred dairy breeders to tell us how they are reducing labor in caring for cows, feeds, utensils, and barns.

MILK MACHINE; MANURE SPREADER.

[By Gotshall and Magruder, Ripon.]

The writer wishes to agree with you that the scarcity of labor and the high cost of same is the most difficult question that the dairyman of today has to face. As yet, we have found no adequate way of solving the problem, but have in mind the installation of milking machines if we can prove to ourselves that they will help solve the problem. One of the small ways, however, that we have solved some of the difficulties around the ranch is of placing our manure spreader immediately outside the barn doors; placing the manure directly from the barn into the spreader. When the spreader becomes full we scatter it on the land that is ready for it. While this does not give us the opportunity of placing it just at the exact time that we wish to place it on the land, at the same time it does not require a second handling of the refuse.

Concrete floors with surface drainage to carry the spillway water some distance away from the barn helps the problem of keeping the animals in shape without making any mudhole close to the barn. We will be extremely interested in what you will have to offer from other readers.

SELL BOARDER COWS.

Of 554 cows in 36 Illinois dairy herds, the average cow of the best 138 produced more than forty average cows of the poorest 138, after the feed bills were paid, as cited in the International Harvester Co.'s new manual, "The Cow Makes Farming More Profitable."

Now, who paid the cost of labor to feed, milk, and clean up after the 40 cows? Isn't this an indication of the way to reduce labor requirements on our own dairy farms? Sell the 40 cows for beef and buy one that will make you as much money as the 40 did; and you can get along with one less milker—and then some.

FEED CAR RUNS DOWN HILL.

There is great waste of labor in feeding cows. S. J. Lowe of San Luis Obispo, who milks 50 cows during the green feed season, has located his hay and feed storage barn at a higher level than the milk barn in which he feeds, and endwise in line with it. From the storage barn through the center of the other is a straight track. The car that carries feed and hay to the cows is wide and shallow, with sides that flare at a height above the manger, so they overhang it and there is no chance of spilling feed in unloading.

EASY SILAGE DISTRIBUTION.

To save labor distributing silage in the silo as it is cut, Joel Anderson of Imperial county paid a tinner $13 to make a flexible distribution pipe from the hood at the top of the elevator so that one man inside the silo walks around with the flexible pipe placing silage just where he wants it evenly and without handling it. At the same time he is tramping it down without the suffocating dust which makes many a farm hand quit.

The elbow is open on the under side where the pipe enters the silo, as centrifugal force of the silage makes a closed pipe unnecessary. From this point down, the pipe consists of 2½-foot joints hung together by two rings and harness snaps on each. The upper end of each joint fits over the end of the next one above. An 18-inch hopper at the top catches all the silage.

Whenever the material is too dry to make good silage, water is added as it is cut; but not by running it in at the fan. A ¾-inch pipe up the side carries water to the hose which runs down inside the distribution pipe. Perhaps by this time Mr. Anderson has carried out his plan to put a water tank on top of the silo, making it unnecessary to run the pump while chopping silage, and economizing on the water tower.

ANSWERING PUREBRED INQUIRIES.

When you as a purebred cattle breeder advertise in the farm papers and they get you some inquiries, it is then up to you to furnish the prospective customer all the information needed to make him want your animal more than those of other breeders to whom he has written. Secretary G. W. Gibson of the J. S. Gibson Co. of Williams, has system about his correspondence which saves him much time. A letter file keeps all inquiries in order. They are answered at once with not only a side-view photo of each animal likely to please the customer, but also a copy of the pedigree back several generations. These pedigrees are printed in bunches on a multigraph machine, so one preparation of the pedigree of each animal furnishes enough copies to supply all inquirers. The typewriter, roll-top desk, mirror, and adding machine are found useful even though Mr. Gibson is the very opposite of a "white-collar" farmer; but they may not be considered worth their cost to many breeders.

Introducing Our Young Sire

Toyon Valdessa Hengerveld 184353,
Son of King Valdessa out of a 30-lb. 4-year-old. His dam and sire's dam averaged 36.16 lbs. in 7 days.

See him at the STATE FAIR

J. H. HARLAN CO.
WOODLAND CALIFORNIA

Hidden Valley Farm Registered Guernseys

Bred for Butter Fat and Type

Herd Headed by

Dairymaid's Prince 26353

Sire Dairymaid's Pride of Iowa, A. R. (G. son of Dairymaid of Pinehurst 910.67 lbs. B. F., 1st in Class B).

Dam Polly's Beauty 35078 (774.40 lbs. B. F., 3d in Class C).

Practically all of the females are in the Advanced Register or are on test.

Duroc Jersey Swine

Foundation stock selected are the best individuals from some of the best herds in the country.

WILL EXHIBIT GUERNSEYS AND DUROCS AT THE STATE FAIR, SEPTEMBER 8 – 16.

A. J. WELCH, Proprietor
REDWOOD CITY CALIFORNIA

A PICKED LOT OF REGISTERED JERSEYS

PICKED FOR QUALITY—NOT FOR CULLS

THAT IS THE STORY OF THE SEVENTY-FIVE HEAD OF GOOD CATTLE THAT WE WILL SELL FOR LEADING STANISLAUS COUNTY BREEDERS AT

MODESTO, TUESDAY, SEPT. 25, 1917

JNO. A. ORR, of Ceres, will sell his entire herd, except a few that are temporarily blemished by foxtail. This is one of the oldest established herds in the State and contains many animals of outstanding merit.

W. J. HACKETT, of Ceres, has consigned all of his great Register of Merit cows, to make room for heifers coming on in his herd.

O. J. AMES, Oakdale, permitted us to select six females from his herd, and we think we picked the six best ones.

M. W. BRADY, Modesto, is consigning several excellent females.

GUY H. MILLER, Modesto, is consigning a great Register of Merit cow that will make a foundation herd for some one.

RIVERINA FARMS, Modesto, consigns 12 head of choicely bred females and a richly bred herd bull that will please the man looking for breeding combined with good type.

FRED B. WULFF, Modesto, is consigning two top-notch females.

A cleaner, more promising lot of high-class registered Jerseys has never been consigned before by California breeders, and a very large percentage of the offering will be fresh or heavy springing cows and heifers, the kind that you can take right home and begin collecting dividends at once.

Stanislaus County Jersey breeders show their faith in the good health of their cattle by furnishing a tuberculin test certificate with every animal sold, and the buyer is permitted to tuberculin retest every animal he buys.

This is a safe sale to buy clean, well-bred registered Jerseys, and it will be the only place in the State this year to buy them at your own price. Write for Catalog. Sale Under Management of

California Breeders Sales and Pedigree Co.

C. L. HUGHES, Sales Manager, SACRAMENTO, CAL.
AUCTIONEERS—COL. BEN A. RHOADES, COL. CY N. CLARK

Pacific Guernsey Herd

Cattle selected from best Imported and Advanced Register Stock.

Now Offering Choice Bulls.

C. S. RASMUSSEN,
Loleta, Calif.

Federal Food Administration in California

Operating under Herbert Hoover and to pursue activities in California provided for by the law outlined in our issue of August 18, Ralph P. Merritt, Federal Food Commissioner for California has announced the staff that will carry his plans for food conservation and the control of agricultural products, marketing and distribution, and food industries. Four boards that will be his direct agents in various parts of the State have not been selected.

The Commissioner's secretaries will be Chester C. Lincoln and Frank T. Elliott. Lincoln and Elliott are graduates of the University of California. Lincoln was secretary to Major David P. Barrows, then Dean of the University, and Elliott was once assistant in charge of land defense under Colonel F. W. Coe, former chief-of-staff of the Western Department.

Oscar K. Cushing and Charles S. Cushing, legal advisers, and Frederick O'Brien, director of public information, will be attached to Merritt's personal staff. O'Brien is recorder of the Railroad Commission and a former newspaper man.

WHENCE COME THE POINTS OF VIEW?

The foregoing are largely executive assistants. In order that readers may judge of the points of view which are likely to be chiefly occupied in food production and marketing, we give the appointments made to the Advisory Committee with the chief business or professional activity of each, as follows:

A. H. Naftzger of Los Angeles, vice-chairman of the State Council of Defense. Benjamin Ide Wheeler, president of the University of California and chairman of the food supply and resources committee of the State Council of Defense. Dean Thomas Forsyth Hunt, Department of Agriculture, University of California. State Market Director Harris Weinstock. John P. McLaughlin, State Labor Commissioner. George L. Bell, executive officer, Immigration and Housing Commission. Katherine Phelps Edson of Los Angeles, executive officer of the State Industrial Welfare Commission. John M. Perry of Stockton, president of the State Board of Agriculture. Mrs. Herbert A. Cable of Los Angeles, president of the Federated Women's Clubs and chairman of the California Women's Committee of Councils of National and State Defense. Miss Ethel Moore of Oakland, member of State Council of Defense and chairman of women's committee on food conservation. Robert Newton Lynch of the California Development Board. Charles Teague of Santa Paula, representing the California Fruit Growers' Exchange. George C. Roeding of Fresno, fruit grower and nurseryman. R. I. Bentley of San Francisco, California Packing Corporation. V. S. McClatchy of the Sacramento Bee.

THE PURPOSES TO BE ATTAINED.

The food administration bureau has opened offices in the First National Bank building, Post and Montgomery streets, San Francisco. The following statement has been issued:

"It is the intention of the food commissioner to keep the people of California fully advised from day to day of the conditions in California which make for food production and conservation. To bring home to every man, woman and child of California the imperative necessity of eliminating waste and of maximum production, will be the effort of the food administration. Besides the columns of the newspapers, speakers in every county and city of the State will give in detail instructions for these endeavors, and will urge everyone to a rigid enforcement of Hoover's plans."

DAIRY COW RATION.

A good ration brought 66 head of dairy stock back from a skin-and-bone condition in four months on the Valima ranch, owned by the Timken Ranch Company in Imperial county, last fall. The ration, according to Ranch Foreman D. D. Elmore, consisted of 200 pounds of cottonseed meal mixed with 2275 pounds of silage per day, fed in two feeds.

R. A. Lewin, U. S. Food Administration Agent for Zone 12, which includes California, Arizona and New Mexico, has established offices at 343 Sansome street, San Francisco. Beginning September 1st all mills, exceeding 100 barrels daily capacity, and all handlers of wheat and rye including operators of country elevators and warehouses, must secure a license from the United States Food Administrator in compliance with the Proclamation of the President dated August 14, 1917.

STEYBRAE AYRSHIRES

Herd consists of 100 HEAD.
Stock of all ages FOR SALE.

Will. Robinhood 32nd
My Herd Sire.

Will. Vista 4th

Grand Champion at State and County Fairs 1916, and Blue Ribbon 3 year old at P. P. I. E. Has just broken World's record as a Junior 4 year old.

See her and my exhibit at SACRAMENTO.

I will be at the Traveler's Hotel after September 4th.

E. B. McFARLAND,
Steybrae Farm
SAN MATEO

THE DeLAVAL LINE

Ideal Green Feed Silo

A SAFE SILO INVESTMENT

Now is the time to plan for your silo. In selecting it, remember that it is GOOD silage that is most profitable to feed, and that GOOD silage can be produced only in a GOOD silo. Something that is claimed to be "just as good" at a lower price is never as good. A "cheap" silo is bound to be an inferior silo, and it can not produce GOOD silage. A "cheap" silo, or a silo that you can erect from "cheap" material, will prove the most costly you can buy.

DON'T TAKE A CHANCE—GET THE BEST—INSTALL AN IDEAL GREEN FEED SILO.

Acme Feed Cutter and Silo Filler

ALL-STEEL FRAME—Securely riveted. No bolts to jar loose. No warping or bearings out of alignment as is the case with the old-style wood frame cutters.

Low Feed Table, Automatic Feeding Device, Enormous Capacity, Center Hung Blower, Six Arm Blower Fan, Independent Control of Blower and Cutter Speeds, Reversible Feed Rollers, Positive Safety Device, Reasonable Prices.

AT THE STATE FAIR

The De Laval Line will be exhibited at the State Fair, Sacramento, September 8-15. A cordial invitation is extended to all to call and inspect our complete line of Dairy Equipment.

Location: **On Fair Grounds, near Creamery and Milking Barn.**

DeLAVAL DAIRY SUPPLY COMPANY

Everything for the Dairy

61 Beale Street, San Francisco, California

Edgemoor Farm Guernseys

Imp. Itchen May King, 25174.

Pretty
Productive
Profitable

Few Animals of Either Sex for Sale

SANTEE, CALIF.

H. F. SCRIBNER, Supt. W. H. DUPEE, Pres.

SUNNYSIDE HERD HOLSTEINS

HERD HEADED BY THE WONDERFULLY BRED

Sir Vreeman Korndyke Pontiac No. 156051

His sire has 75 A. R. O. daughters, nine with records over 30 pounds butter in 7 days. His dam, Beatrice Korndyke Veeman, has A. R. O. record of 30.13 lbs. butter in 7 days. This bull's best daughters will be officially tested as fast as they freshen.

We have 25 A. R. O. cows and 45 heifers and calves.

Beautifully marked young bulls from A. R. O. cows with records up to 27.41 lbs. butter in 7 days, are priced right to inquiring purchasers.

WE HAVE A SPLENDID HERD OF
REGISTERED POLAND CHINA HOGS.

Prolific and pigs are the easy feeding. Both big and medium type. Sows are early maturing kind. R. F. GUERIN, Prop., Visalia, Cal.

Raises Calves and Fertilizes Fruit

[Written for Pacific Rural Press.]

"Feed the farm and the farm will feed you," said P. W. Hastie of Fresno county, adding significantly, "I have just bought a Buick 6." Mr. Hastie operates 160 acres of grapes, peaches, alfalfa, and cows. The idea of returning to the land a compensation for what he was taking out of it, in order to keep it productive, is not new to him, for he had been buying $200 to $300 worth of fertilizer every year besides paying $90 per year for the manure from the local livery stable. He had a few cows and a little alfalfa, but the manure had been wasted by pasturing the cows around a pond, and part of the hay had been sold. This was poor economy, so he planted more alfalfa, picked up dairy calves whenever they were cheap to eat it, and last year built a barn to save the manure. He had found that "whole hay was wearing the cattle out," so he got a grinder and fixed the barn to store ground alfalfa or chopped hay. "Two tons ground and wetted are so well cleaned up that they do the cattle the same good as three of whole hay," says Mr. Hastie.

CHEAP CALVES FOR BEEF.

No milk is sold, but when a cow freshens, another calf is bought to help milk her. When the calves get good size, he takes them off and puts on one or two more, tapering off the older calves with calf meal. Most of the stock is of Holstein breeding, but Durham blood is being introduced for better beef.

BARN AND MANURE PIT.

The barn holds 50 tons of ground alfalfa, besides 10 tons of concentrates and two tons of baled straw. It is sixty feet long and has twenty stanchions. The cement floor drains through holes in a cement sidewall twenty inches high, into a cement manure pit. This is built alongside the barn, fifty feet long, eight feet wide, three and a half feet deep at the outer edge, and four and a half feet deep next to the barn. A sloping cover keeps rain out of the manure pit, and eaves run water from the barn roof into the pond to avoid mud. Last December thirty-five acres of bearing trees and vines were treated with this manure and some that he bought. "The vines have grown crazy since we put the manure on, and the peaches showed fine effects, too. I am going to increase the alfalfa acreage and the stock until I can produce enough manure on the place to fertilize it without hauling any from town," is Mr. Hastie's conclusion.

The 1917 Dairy Cattle Congress

The Dairy Cattle Congress, which will be held at Waterloo, Iowa, October 1st to 7th, inclusive, will probably surpass all previous shows because its purpose is in direct line with the extensive food conservation campaign now being conducted by the United States Government. Arrangements are under way to give a practical demonstration of every important phase of dairying and to emphasize the magnitude of the industry.

Present indications point to the fact that the high standing established for both numbers and quality of cattle shown will be maintained, if not materially increased, this year. Breeders representing fifteen States have already signified their intention of showing their herds, and a much larger territory will undoubtedly be represented by the time entries close. The premiums offered to the five herds, namely, Guernseys, Holsteins, Ayrshires, Jerseys, and Brown Swiss, total more than $8,000. The national breed associations and clubs will offer substantial premiums in addition to those given by the show proper.

The manner in which exhibitors of machinery, dairy equipment and supplies have reserved space indicates a great confidence in future dairying. The 48,000 square feet of exhibit space in the buildings and the ten acres of exhibit space on the grounds will be filled. The man who contemplates the construction of a new barn, the purchase of a cream separator, milking machine, lighting plant, water system, or any piece of up-to-date farm equipment, should visit this show.

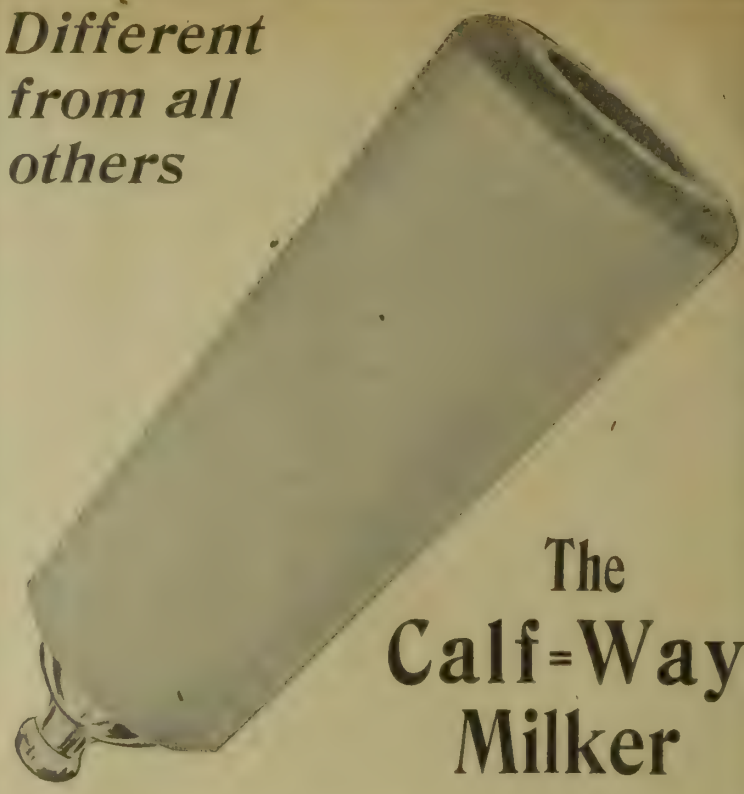
The Iowa State Dairy Association will again hold its sessions on the grounds. A well-balanced program for both the production and manufacturing sides of the industry will be given.

Special emphasis will be placed on the dairy product exhibits, consisting of butter, cheese, and market milk. Liberal premiums will be found in all classes for these products, and novel exhibits showing their food value will be made. The first market milk contest, in which the actual milk which distributors were daily selling was entered, proved so popular and instructive to consumers that it will be again repeated. Working milk plants, creameries and cheese factories will also be in operation. Every effort will be made in all of these demonstrations to show the consuming public the real value of milk products. Waterloo, the city that has financed and promoted the Dairy Cattle Congress, welcomes all dairymen, creamerymen and farmers. The commercial clubs will be turned into information bureaus and complete accommodations will be furnished to all that attend the show.

SWINGING PARTITIONS IN HORSE BARN.

Young horses confined in barn stalls have no way of working off their surplus energy except to kick. In doing this they often get splinters in their feet or spavins on their legs, and make repair bills necessary on the barn. To avoid this the Valima ranch of Imperial county put swinging partitions between the stalls. The partitions are 3½ feet high and made of 2 x 12's. They are fastened to the manger by two eyebolts, and are hung by chains from the rafters at the back end.

Different from all others



The Calf-Way Milker

Any good milking machine will save time and labor: if it doesn't injure the cow, it will save you money. The Calf-Way Milker is the only milking machine that uses a soft rubber teat cup; flexible, gentle; a downward *squeeze*, not vacuum suction; it gets all the milk from the cow by *milking* her, not pulling it out by force.

First chance you get to test a Calf-Way Milker, put your thumb into the teat-cup, and notice the action; try the same thing with any other milking machine, and notice the difference. It's a difference your cows will notice too.

Get the Best Milking Machine

The Calf-Way Milker Co.
SHELDON BUILDING
SAN FRANCISCO, CALIFORNIA

ELDORADO HOLSTEINS

—HERD HEADED BY—

Pontiac De Kol Burke
LUIT

Whose dam, Luit Burke, made 32.76 lbs. butter in 7 days, and 120 lbs. in 30 days.

His sire's dam was Riverside Sadie DeKol Burke, one of the greatest milk and butter producers of the breed.

Have some fine young bulls sired by him and out of A. R. O. cows with records up to 28 pounds.

Write or call and see them.

ALEX. WHALEY, Prop.
TULARE, CAL.

INNISFAIL DAIRY SHORTHORNS

Herd of sixteen to be exhibited at State Fair, including three imported females and two yearling bulls. The latter, out of high-producing dams, will be for sale.

ALL MILK RECORDS OFFICIAL

Herd, in charge of Dr. Little, Wisconsin, will make circuit of County Fairs.

ALEXANDER & KELLOGG Suisun, Cal.
FARM ON GRISLY ISLAND.

GET YOUR
DE LAVAL
NOW

It will pay for itself by spring, and there was never greater reason to save every ounce of butterfat and half-hour of time and labor.

Moreover, if labor and material costs continue to increase, your De Laval must cost you more later on. Buy it now and it will save its own cost in a few months, at present cream and butter prices.

See the nearest De Laval agent right away and let him show you what the De Laval will save for you. If you do not know the De Laval agent, write direct for any desired information.

De Laval Dairy Supply Co.
Largest Dairy Supply House on the Pacific Coast
61 Beale Street, SAN FRANCISCO

Gertie's Son, Victor, No. 123159
Dam, Victor Lady Lake (R. O. M.) of 536 pounds butter in 303 days as a 4-year-old.

INVEST in JERSEYS
AND START RIGHT

135 Registered Jerseys in my herd, including 18 Register of Merit Cows, Blue-ribbon winners at 1916 Hanford, Bakersfield, and Visalia Fairs.
CORRESPONDENCE SOLICITED.

A. A. JENKINS
TULARE, CALIF.

REDWOOD TANKS.
35 years in this business. I sell direct to the consumer. You act as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.
R. F. WILSON, Stockton, Cal.

Acme Herd Jerseys
QUALITY COUNTS
STOCK FOR SALE
Chas. M. McLouth, Orland, Cal.

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
GEO. P. ROBINSON CO.
426 J Street,
Travelers Hotel Building, Sacramento.
LIVESTOCK BROKERS.

J. S. Gibson Company's herd of Holsteins, one of the largest and best in the state, will be well represented in the show ring and the butter fat contest at Sacramento.

BULL PENS HELP GOVERN BREEDING.

[Written for Pacific Rural Press.]

In these days of increased provision of year-around cheap succulence for dairy cattle, it is more possible to have calves come at the season of year when butterfat is highest priced. As this practice becomes more general, it will lead more and more toward equal distribution of calves in each month of the year. To control the freshening time of cows, it is necessary to breed them individually and in predetermined months. This means keeping the bulls separate from all cows and heifers except at breeding time.

The handiest and most satisfactory system of doing this that we have observed, is that on the A. J. McPherrin ranch in Imperial county, where four purebred bulls are used and kept separate but easily accessible. Three of the bulls are kept under one roof at the edge of the corral. The pens are 15 feet square, being built of 2 x 8's six inches apart and the outsides six feet high. The partitions between pens are eight feet high. Everything is bolted together, as nails have proved unequal to the job. A tight feed manger two-thirds of the way across each pen is filled from outside through a hanging hinged panel. Drinking water is automatically kept at a certain level in all pens by a float valve outside, where animals cannot bother it. On the side of the bull pens toward the cow corral, a door opens from each into a ten-foot alley fenced six feet high with 2 x 8's. When a cow is to be bred, it is a simple matter to turn her and a bull direct into the alley and know when she is due to calve. A bigger outside yard is provided for the bulls to exercise in. The gates, being heavy, are hinged to posts at both ends and open from the middle. The alley and pens are covered with galvanized iron. The heavy construction of the pens and yards is due to the fact, as stated by Ranch Superintendent G. V. Rude, that the bulls smashed enough of lighter lumber previously to have paid for good sheds originally.

MUST SUPPLEMENT IMMATURE SILAGE.

Well-matured, well-eared corn makes good silage that will balance the ration of alfalfa hay, says E. H. Webb of San Diego county; but if dried up before mature, or cut too green so it sours, beet pulp, coconut meal, grain, or other carbohydrate concentrates will be required. About 100 pounds per month per cow is all the beet pulp he feeds.

DRY, IMMATURE MILO SILAGE.

Dry milo and feterita stalks were siloed last season by Frank Van der Poel of Imperial county, because water shortage prevented their maturing grain; but that silage did not feed well. He had to feed beet pulp and cottonseed meal as appetizers, beginning early in December.

Alexander & Kellogg of Suisun will have their fine herd of milking Shorthorns at the Fair. They have recently imported some fine females and have some good young stock. D. Little, formerly of Wisconsin, has charge of the herd.

DO YOU WANT WORLD RECORD BREEDING?

King Korndyke Hengerveld Ormsby 7th.

Four of his half-sisters sold at the recent Stevens Bros. sale for the following prices: $6100, $5800, $5200, and $3800. Two World's Records in his pedigree. If you want this breeding, write for pedigrees and prices.

MODESTO FARMS
GEO. KOUNIAS, Prop. Modesto
WILL EXHIBIT AT THE STATE FAIR

Complete Dispersal Sale
OF THE
HEMBREE JERSEYS
ORLEANS, CAL. OCT. 10, 1917

I will have a complete show herd at the California State Fair, Sacramento, this fall, every head of which will go in my sale on October 10. Come to the Fair and look them over. Send for Catalog.

Hermosa Vista Stock Farm
C. P. HEMBREE, Owner MONMOUTH, OREGON

16 GRANDDAUGHTERS OF KING OF THE PONTIACS!
3 DAUGHTERS OF SIR SKYLARK ORMSBY HENGERVELD!
A GRANDDAUGHTER OF RAG APPLE KORNDYKE 8TH!
A SON OF THE CALIFORNIA CHAMPION 36-LB. JUNIOR 3-YEAR OLD!
A SON OF A GREAT 34 POUND COW!
ALL IN ONE SALE? SURE!

And they are only a few of the extraordinary features of the TWO-DAY SALE OF REGISTERED HOLSTEIN-FRIESIANS that we will hold on McCLURE FARM, SANTA ANA, CALIFORNIA, on TUESDAY and WEDNESDAY, OCTOBER 16-17, 1917.

The total offering will be 150 head, including the absolute dispersal of the herds of Ernest Otto McClure, Santa Ana; P. H. Jarratt, Lancaster, and A. Satterberg, San Jacinto, supplemented by high-class consignments from the herds of McAlister & Sons, Chino; Santa Anita Rancho, Santa Anita; R. Nadeau, Saugus, and Aro Farm, Buena Park.

Write for Catalog.
SALE UNDER MANAGEMENT OF
California Breeders Sales and Pedigree Company
C. L. HUGHES, Sales Manager.
SACRAMENTO, - - - CALIFORNIA

Auctioneer:
COL. BEN A. RHOADES,
Los Angeles.

Clerk of Sale:
H. A. OLSEN, Orange County Trust & Savings Bank.

Bella Vista Herds
GUERNSEY CATTLE AND HAMPSHIRE HOGS
—FOR SALE—
BULL CALVES 7 to 13 months old from A. R. dams. See their records in State Contest.
BOARS, any age and at reasonable prices.
GILTS—bred to the best sires in the country—the dam of one of them sold in the ring for $680 and was Grand Champ. at Omaha.
See them at the State Fair, Sacramento. Send for booklet
DR. J. W. HENDERSON
522 1st Nat'l Bank Bldg. BERKELEY, CAL.

Keeping Hog Cholera Away

[By Dr. B. J. Cady of U. S. Dept. Agr. in Cal.]

Hog cholera is causing serious losses in many localities. The disease spreads rapidly. It stands every rancher and hog grower in hand to use every possible precaution to help in keeping his neighbors' hogs from infection as well as his own herd.

In keeping this disease from your herd a few suggestions which may be of assistance to you: Keep your animals free from lice and worms; these parasites weaken the hogs, making them more liable to disease. Some of the following mixture should be kept in a box before the hogs at all times, or placed in a self-feeder:

CHARCOAL MIXTURE.

Charcoal	1 bushel.
Hardwood ashes	1 "
Salt	8 pounds.
Air-slaked lime	4 "
Sulphur	4 "
Pulverized copperas	2 "

Mix the lime, salt and sulphur thoroughly and then mix with the charcoal and ashes. Dissolve the copperas in two parts of hot water and sprinkle over the whole mass, mixing it thoroughly.

Do not permit anyone to use anti-hog-cholera serum on your hogs that has not been manufactured under state or U. S. license. Look for the license and serial numbers on the label of the serum and virus bottles. Keep a record of same in case of trouble. Do not allow anyone but a thoroughly competent veterinarian or experienced layman to treat your pigs. Have no faith in so-called hog cholera cures or preventives. There is no practical cure and no actual preventive discovered other than the anti-hog-cholera serum. Extreme care should be used in giving the serum and virus inoculation if there is no hog cholera in your community. Some animals are more susceptible to hog cholera virus than others; thus this method given by incompetent or unresponsible persons may cause sickness. It is advisable to have animals treated when hog cholera appears in your herd or in other herds very near your ranch. Anti-hog-cholera serum alone treatment confers only a temporary protection, averaging six weeks. The serum and virus inoculation confers practically a permanent immunity on mature animals. Avoidable losses have occurred in many instances from insufficient dosage of serum and the disease spread to well animals. Serum should not be used at less dosage than shown on the following label and at times it should be increased:

ANTI-HOG-CHOLERA SERUM.

Weights of Hogs.	Amount.
25 to 50 pounds	30 cc.
50 to 75, "	35 cc.
75 to 100 "	40 cc.
100 to 125 "	45 cc.
125 to 150 "	50 cc.
150 to 200 "	60 cc.
200 to 250 "	70 cc.

For hogs weighing more than 250 pounds, add 10 cc. for each 50 pounds weight, maximum 90 cc. Do not inject visibly sick hogs. Increase dosage 50 per cent for hogs having a high temperature. Dose thin hogs according to what they should weigh in fair flesh.

VIRUS.

20 to 50 pounds	½ cc.
50 to 100 "	1 cc.
100 to 200 "	1½ cc.
200 to 300 "	2 cc.
Over 300 pounds	3 cc.

This blood will produce hog cholera unless anti-hog cholera serum is injected at the same time. It is dangerous to leave virus bottles lying around. Destroy bottle and any remaining contents by fire. The fight against hog cholera is the hog raisers' work. Don't depend on the use of serum. Clean up and keep clean. Disinfect the houses, pens, and yards, and repeat this at regular intervals. If all hog raisers would use care and judgment in feeding, watering and housing hogs the disease would be materially reduced.

CARE FOR ABORTING SOWS.

Aborting sows should be cleaned out, according to the experience of a breeder of Kings county. A pure-bred sow was vaccinated before shipment from the East; and she aborted two weeks before the pigs were due. For five months, all efforts to breed her were vain; and she was sentenced to be pork. But she was washed out as a last chance, and a lot of tissue was found that should have come when the pigs were born. She bred at the first cover afterward; but farrowed only two pigs. These, however, were considered fit for the State Fair; and the next litter may be normal.

Fred Ross sold a fine yearling Poland-China boar for the Santa Anita Ranch.

Duroc Jerseys

WINNING

Fresno, 1915—5 firsts, 2 seconds
Fresno, 1916—6 firsts, 2 seconds
Visalia, 1916—4 firsts, 2 seconds
and 2 champions.

Young stock and bred sows for sale; most popular strains.

See my hogs at the State Fair

Allen Thompson

Route A, Tulare, Cal.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's

Caustic Balsam

IT HAS NO EQUAL

For the Human Body — It is penetrating, soothing and healing, and for all Old Sores, Bruises or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

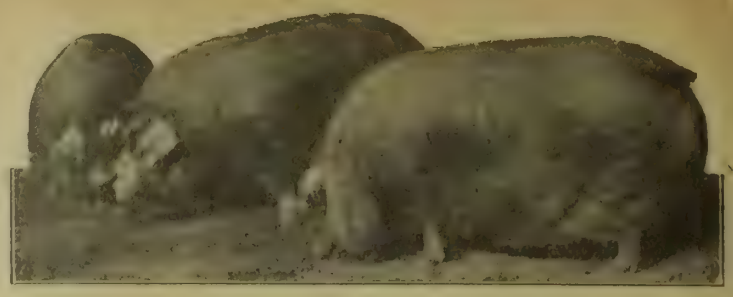
A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER

Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.

The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.



Sons and Daughters

of the type of sows you see here are the kind we are offering for sale. Twelve of the best tried sows, eight of the finest gilts, and two of the grandest boars ever offered, go in the great sale of

POLAND CHINAS

held at Hanford, Kings County, Oct. 19th.

We have eight Fall Boars ready for service and twenty Spring Boars for sale at private treaty. See our stock at the Fairs.

BERNSTEIN'S RANCH

W. BERNSTEIN, Proprietor

HANFORD, KINGS COUNTY, CAL.

ANNOUNCING

Our New Herd Boar

Johnson's Defender 228403

Sire, Conway's Defender, by Defender. Dam, Choice Belle, by Fancy Crimson Wonder. Picture taken at the age of ten months. His bone measured seven and a half inches at this age.

We are mating Johnson's Defender to our Defender, Critic, Cherry Chief 2nd, and King's Col sows for Spring litters.

See our Duroc herd at the State Fair. We are showing Johnson's Defender not highly conditioned, but in just good growing condition.

A few choice Spring pigs of both sexes for sale at the present time.

F. M. JOHNSON

NAPA, CAL.

R. F. D. No. 2, Box 87

State Fair Livestock Exhibitors

[Arranged for Pacific Rural Press.]

Livestock breeders who will get much well-deserved advertising and will pick up many points on breeding by showing at the State Fair September 8 to 15, are named below as per list furnished us by the State Board of Agriculture. Names with no numbers after them to indicate number of head entered, made their entries after August 15.

HOLSTEINS.

J. S. Gibson Co., Williams, 18.
Bridgford Co., Knightsen, 17.
J. H. Harlan, Woodland, 11.
F. A. Heroux, Oakland, 9.
Napa State Hospital, Napa, 9.
F. D. Ross, Hanford, 8.
J. W. Benoit, Modesto, 6.
S. G. Kounias, Modesto, 5.
Toyon Farm Ass'n, San Jose, 5.
E. G. Wharton, Tulare, 1.

JERSEYS.

C. P. Hembree, Monmouth, Ore., 22.
Guy Miller, Modesto, 17.
S. F. Williams, Orland, 11.
J. B. & J. E. Thorp, Lockeford, 10.
McLouth & Dado, Orland, 10.
Dr. H. W. Hand, Glenn, 7.
J. E. Wherrell, Riverside, 1.
O. J. Ames, Oakdale.
Ross H. Nelson, Independence, Ore.

GUERNSEYS.

Revada Farms, Yountville, 18.
A. J. Welch, Menlo Park, 9.
L. D. Smith, Berkeley, 8.
J. W. Henderson, Berkeley, 5.
Calla Grove Farm, Manteca, 2.
Chas. DeBois, Berkeley, 1.

DAIRY SHORTHORNS.

Alexander & Kellogg, Suisun, 16.
G. A. Murphy, Perkins, 9.
The Otis Herd, Glen Ellen, 5.
Mrs. L. M. Yore, E. Auburn, 1.

DUTCH BELTED.

U. J. Strader, Ceres, 12.
Mrs. Jennie Strader, Ceres, 12.

AYRSHIRE.

Roy Latrop, Grants Pass, Ore., 12.

BEEF SHORTHORNS.

Carruthers Farms, Mayfield, 19.
Hopland Stock Farm, Hopland, 13.
Pacheco Cattle Co., Hollister, 14.
T. S. Glide, Davis, 12.
Ormondale Co., Redwood City, 10.
Jack London Ranch, Glen Ellen, 9.
T. T. Miller, Los Angeles, 9.
T. B. Gibson Est., Woodland, 8.
H. L. & E. H. Murphy, Perkins, 5.

HEREFORDS.

W. J. Bemmerly, Woodland, 10.
D. O. Lively, Mayfield, 5.
J. A. Bunting, Mission San Jose, 3.

ABERDEEN ANGUS.

Congdon & Battles, North Yakima, Wash., 30.
Mrs. J. H. Ware, Live Oak, 2.

FAT STOCK.

Western Meat Co., San Francisco, 2 carloads.
Congdon & Battles, North Yakima, Wash., 1 steer.

POLAND CHINAS.

W. Bernstein, Hanford, 24.
M. Bassett, Hanford, 23.
H. I. Marsh, Modesto, 17.
J. M. Bernstein, Hanford, 12.
F. D. Ross, Hanford, 9.
W. A. Young, Lodi, 9.
Erickson & Gates, Orland, 8.
A. L. Bassett, Hanford, 8.
J. A. Clark, Lodi, 4.
J. Caesar, Reedley, 2.
Howard C. Peterson, Reedley, 2.
E. Miner, Lodi.

DUROC-JERSEYS.

Hayden Smith, Woodland, 14.
J. M. DeVilbiss, Patterson, 14.
F. M. Johnson, Napa, 11.
J. B. & J. E. Thorp, Lockeford, 11.
Conejo Farm, Newbury Park, 10.
H. P. Slocum & Son, Willows, 8.
L. J. Gamble, Middleton, 7.
V. F. Delcini, Davis, 6.
E. J. Weldon, Sacramento, 4.
R. Q. Wickham, Glen Ellen, 4.
Durryfield Farm, Fair Oaks, 2.
O. A. Trueblood, Sacramento, 2.
J. W. Wakefield, Acampo, 2.
A. J. Welch, Menlo Park.
Henry Cummins, Goshen.
W. J. Fulgham, Visalia.
C. L. Nielson, Fowler.
M. Rucker, Fair Oaks.
Rucker & Coppin, Fair Oaks.
Allen Thompson, Tulare.
J. Hansbrough, Modesto.
J. H. Minto, Patterson.

BERKSHIRES.

F. A. Brush, Santa Rosa, 19.
A. B. Humphrey, Escalon, 16.
A. L. Stephenson, Los Molinos, 11.
F. B. Anderson, Sacramento, 8.
H. L. & E. H. Murphy, Perkins, 7.
Carruthers Farms, Mayfield, 5.
Roland Rodrick, Patterson, 3.
G. M. York, Modesto, 3.
H. J. Hammond, Sacramento, 2.
Napa State Hospital, Napa, 2.
G. A. Murphy, Perkins, 1.
Perkins & Co., Perkins, 1.

YORKSHIRES.

Riverina Farm, Modesto, 28.
A. L. Tubbs Co., Calistoga, 16.
Lloyd & Tointon, Santa Rosa, 1.

CHESTER WHITES.

C. B. Cunningham, Mills, 24.
Mrs. L. M. Yore, E. Auburn, 8.
High Stock Farm, Fair Oaks, 4.

HAMPSHIRE HOGS.

J. W. Henderson, Berkeley, 34.
C. Eugene Gaddis, Martinez, 6.
Conejo Farm, Newbury Park.
L. A. Denken, Saugus.

PIG CONTEST.

Irwin R. Dickson, Fair Oaks.
Hiram H. Hendren, Fair Oaks.
C. A. & W. M. Johnson, Lemoore.

PERCHERONS.

California Polytechnic School, San Luis Obispo, 3.
M. Bassett, Hanford, 1.
E. A. Ward, Tustin, 1.
J. W. Wakefield, Acampo, 1.
Sonoma Valley Horse Co., Shellville, 1.
Biggs Percheron Horse Co., Biggs, 1.
H. G. Learned, Stockton.
N. W. Thompson, Patterson.

SHIRES.

Easton & Ward, Diablo, 36.
Jack London Ranch, Glen Ellen, 8.

CLYDESDALES.

O. H. Brandt, Shellville, 1.
Cal. Polytechnic School, 1.

(Continued on page 220).

A=1 RANCH
Berkshires

I have recently secured for my herd of Berkshires, Barker's "Charmer's Star Master" sire of the champion herd at the last International. Charmer's Star Master and Winona Royal Champion 5th, make a pair fit to head any herd in the country. If you want breeding stock by these sires and out of sows representing the best blood lines, write or call

Arlington Smith
Proprietor
Visalia California

MONTELENA HERD of
Large Yorkshires
Headed by

Lake Park King, 25211

As an ideal block hog, as an economical producer of the highest type of pork, strong, vigorous, healthy, and prolific, the Yorkshire stands pre=eminent.

LET US SHOW YOU OUR OUT=STANDING INDIVIDUALS at the STATE FAIR, SEPT. 8th = 15th.

A. L. TUBBS COMPANY
CALISTOGA, CALIFORNIA

DUROC JERSEYS

I will have on exhibit at the State Fair: Seven Jr. Boar and three Jr. Sow Pigs from a litter of fifteen, sired by "Fruits Orion," Jr. Champion at the Oregon State Fair of 1916. Now owned by the Henderson Co. Dam Golden Wonder, by "King Colonel," Grand Champion Boar at the California State Fair of 1914. In these pigs you have an opportunity to secure the blood of the champions from two states. If you are in the market for Durocs, look these over while at the Fair. You will see they are in line with their breeding and all will be priced to sell. I also have for sale several young Holstein Bulls sired by "Prince Gelsche Walker Korndyke" and "King Sadie Vale Elzevere" from exceptionally well-bred dams. All priced right to buy.

DR. E. J. WELDON
SACRAMENTO CALIFORNIA

Imperial Stock Farm Berkshires

Herd headed by Winona Champion 13th 211973, a 700-pound breeding son of Laurel Champion and out of the English bred sow Berryton Belle 31st. We are booking orders for fall pigs sired by Winona Champion 13th, from large, smooth, prolific sows of good blood. Absolute satisfaction or money returned. For further particulars address,

R. J. MERRILL & SON, Morgan Hill, Calif.

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

MANURE Sheep Manure, Horse Manure, Cow Manure and Rotted Manure
CALL OR WRITE
PACIFIC MANURE AND FERTILIZER CO.
429 DAVIS STREET, SAN FRANCISCO

Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
Hauser Packing Co. Los Angeles

Is There Money in Hogs?

[Written for Pacific Rural Press by W. P. Andrews.]

Uncle Sam urges farmers to raise all the meat possible, and thus help win the war. But, unfortunately, few are in a position to do this unless the business can be shown to be profitable. Hence the question, "Is there money in hogs?"

Convinced that there was money in hogs sold for pork on large ranches, but only in breeding thoroughbred stock, to be sold for breeding purposes, on a small farm, when the writer went on to his little 7-acre place near Modesto, something over a year ago, he decided to make this his chief business. I bought as well bred sows as the country affords, and bred them to the best boars in California. I thought that all that I had to do was to advertise, and buyers would be forthcoming to take my fine young boars and gilts at a fair price. Advertise I did. A few prospective buyers came, but not many, and few who came were willing to pay even as much as the cost of breeding above market quotations. They were unable to realize that pigs having an ancestry for a number of generations weighing 500 to 1,000 pounds were worth more than those that are bred with little or no care. To them a hog was a hog. Convinced that I would be unable to make a success raising hogs for breeding purposes, and already of the opinion that it would be unprofitable to raise for the market on so small a farm, I thought to sell my stock and go out of the business, but some of my neighbors were shipping hogs to the San Francisco market, and were evidently making it pay. I concluded to see them. Here are samples of their reports:

W. M. Way, who keeps seven sows, gave me his experience for a little over five months, from November 1, 1916, to April 8, 1917.

DEBITS.

Stock on hand Nov. 1	$ 490.00
Feed bill	699.75
Total	$1189.75

CREDITS.

Net from sales	$1327.45
Stock on hand April 8	475.00
Total	$1802.45

Net profit, $612.70.

Mr. Way sold only two animals for breeding purposes, and for these he was paid practically butcher prices. The balance were sold in the San Francisco market. He fed on barley, Egyptian corn, molasses, and some mercantile hog feed, always feeding milk and a little alfalfa hay. Part of the milk he bought, paying 25 cents 100 pounds for it, and charged the hogs the same price for the skim milk from his own dairy.

R. J. Ross is in the business on a larger scale. His report is from September 1, 1916, to August 1, 1917.

Sales	$3,715.00
Feed bill	1,546.00
Profits	$2,149.00

Mr. Ross bought all of his feed, except a field of milo maize, which the hogs harvested, and for which they were charged the estimated value. He fed mainly a prepared molasses hog feed, in addition to, first buttermilk, and then whey, the buttermilk at 1 cent and the whey at one-half cent per gallon. Nearly all Mr. Ross' hogs were sold for pork, and all at market prices. He has been in the business a number of years, and says has usually calculated on getting two dollars for every one invested in feed, feed costing less when pork was low. He has no alfalfa.

Both the above named gentlemen raise thoroughbred Duroc-Jerseys, and usually sell their hogs at six months of age, weighing from 160 to 200 pounds, and over. They believe it to be more profitable to pay $100 for a high-class sow than to accept any other as a gift, and of course they would use none but the best boars, or as good as they can get.

It is understood that it takes five pounds of grain, or its equivalent, to add one pound to the flesh of a hog. Mark the word "equivalent." While it is always best to feed some grain, few need make it more than half the ration. There is alfalfa, milk, whey, pumpkins, squash, etc. Five pounds of milk is the equivalent of one pound of grain. At present, by feeding three pounds of grain to my pigs, with whey and alfalfa, they are adding flesh at a cost of seven and a half cents per pound. Last fall I fed squash and alfalfa exclusively for six weeks, and the hogs grew and fattened. This year I have squash in two acres of corn and on the ditch banks and I expect them to furnish the major part of my hog feed for about three months, at practically no cost.

So I did not sell out, and will not. I am in the business of raising hogs, either primarily for Uncle Sam and his allies, and incidentally for my own profit, or vice versa.

[You must have chosen a pretty poor place to advertise. The experience of breeders who have good blood and advertise in a journal which circulates among those who know what good blood is, is generally quite different from yours. Our great trouble is that our advertisers sell out all their surplus so fast and stop their ads so quick that we do not get half a sight at their pocketbooks. What we need is advertisers who will sell just fast enough to keep their ads running right along.—Editors.]

HOG EAR TAGS SAFE.

[Written for Pacific Rural Press.]

A large ranch growing purebred hogs had some fine stock that would have been worth twice as much for breeding as for pork; but a careless foreman had allowed eartags to be torn out in fighting, without replacing them at once; and the identity of the sows was lost. We found about 60 pigs as pretty as pigs could be, but destined to an untimely though withal profitable porkbarrel. The new foreman was tagging newly imported stock in a way that fighting would not disturb. The tags were put on the back part of the ears.

HOLES AROUND CEMENT HOG TROUGHS.

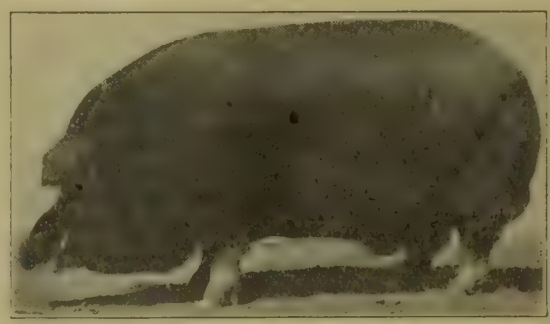
Cement water troughs are fine for hogs—that depends. We saw some recently that had been on one place so long that the place had been washed or rooted away from around them and it wasn't safe for a hog to try to get a drink. Hogs cannot stretch their necks much.

BASSETT'S

Poland Chinas

THIS grand breed, THE FARMER'S HOG, has been bred on my farm under my personal oversight for many years. The result is a herd of hogs that win 1st Prizes, Championships and Grand Championships wherever shown. Better than this they are all individuals of strong constitution, good bone, wide sprung ribs, splendid hams, straight, smooth and right in every way. They are easy keepers, coming to market weight and condition at six months of age. They make a profit as a market pork hog under present conditions of high feed prices. Years of experience convince me that they are

The Hog for the California Farmer



CHIEF'S VICTOR,
Champion and Grand Champion Sacramento, 1916; second at San Francisco, 1915. He is a half brother of Banker's Boy, my great boar that won first at San Francisco, and which I sold to Anita Baldwin for $1000.

Herd Boars

I have five distinct strains on my farm, each headed by a boar that is of championship stock. You can pick from my herd just the blood lines and breeding that you need to start or add to your herd. I can at all times supply your needs at prices that you can afford to pay.

SURPRISE,
First in Sacramento, 1916; first in Hanford, 1916. Sired by Gold Coin, who was third at San Francisco, 1915. His dam was Lady Style, who was fourth at San Francisco, 1915.

Breeding Sows

Every sow that I keep for breeding is of as high a quality as the boars to which I breed them. The result is to be seen in large litters of strong, active pigs that start right and grow rapidly into the fine prize winning kind of hogs. The kind you want.

Foundation Herds

I can furnish foundations of unrelated strains, all of champion and grand champion stock and shall be pleased at all times to figure with anyone on costs. This is the way to START RIGHT.

SEE MY STOCK AT THE STATE FAIR

M. BASSETT HANFORD, CALIFORNIA

Will consign some of my best stock to Kings County Poland China sale October 19.

HOG CHOLERA POST MORTEM.

We watched the postmorten of a pig that had died five minutes ago with cholera after moping all of the day before, an acute case. The lungs were bloodshot; the stomach lining was red as a beet over considerable areas, and had a number of sores. The intestines should have been a clear color. The spleen should be a bluish red and firm; but this was soft and purplish black. The lymph gland in the neck ought to be clear and white; but this was discolored. The membrane was taken from the kidneys to see the red or black spots on their surface where blood vessels had broken. The pig had not developed a cough or diarrhoea, but the intestines showed the latter condition. Vaccination with serum alone was the job of the afternoon, to counteract the disease in any others which might have it coming.

VETCH ORCHARD CROP FOR HOGS.

[Written for Pacific Rural Press.]

Three acres of vetch cover crop in a bearing cherry orchard furnished practically all the feed for ten hogs from January until irrigation started in March on J. W. Barnicott's ranch in Placer county. The hogs were turned into a forty-acre orchard with no other feed, but "I noticed that they stuck around close to the vetch," says Mr. Barnicott. They were taken off during the summer, but the vetch was allowed to grow and is growing yet. There are 25 pigs and hogs now which will be turned onto the vetch probably in September. The three acres, on which vetch had never been grown before, were flood-irrigated the last of September, plowed, and harrowed. About 90 pounds of seed were inoculated, broadcasted, and harrowed in early October. The vetch was a foot high before cold weather came and it grew all winter. In March, three furrows next to the tree rows were plowed. Irrigation came every three weeks by flooding, though in open orchards it comes about once per month by furrows. Mr. Barnicott has plenty of water.

The hogs never hurt the trees. Their crop was the biggest ever. Another vetch crop is to be grown on the same area by plowing the growth and seed under this fall, or perhaps only disking it in right after the last irrigation.

NOTE DATES ON VACCINE BOTTLES.

[Written for Pacific Rural Press.]

Whenever anyone comes onto the ranch to vaccinate hogs, the first thing to do, according to Dr. B. J. Cady of the United States Department of Agriculture, is to get the numbers and dates on the bottles and record them. Don't allow serum or virus to be used on your hogs after the date indicated. This was the advice given to an Imperial county farmer who had lost a lot of hogs through use of overripe stuff. However, the agent who had used the vaccine had been foxy enough to remove all dates and labels. If he had not, his license would have been revoked on the evidence of the bottles themselves in connection with the facts of the case.

Haden Smith of Woodland and H. P. Slocum & Sons of Willows will bring good Durocs from the Sacramento valley to the State Fair.

Grapewild Farm
BERKSHIRES

Our herd won Premier Breeder's Grand Championship at the P. P. I. E.

See our display herd at State Fair this year.

Grapewild Farms
ESCALON
San Joaquin Co., Cal.
A. B. HUMPHREY, - Prop.

SPECIALS ON
Pure-Bred Poland Chinas

Commercial hog prices are higher. Our prices on pure-breds have not raised.
The Grand Champion P. P. I. E. Herd
ROUGH'S GREENFIELDS
Arlington Station, Riverside, Cal.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

RHOADES & RHOADES
Expert Livestock Auctioneers
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

FOURTH
Semi-Annual Sale
OF
Kings County
Poland China Breeders' Association
October 19th
AT
KINGS COUNTY FAIR GROUNDS
HANFORD, CAL.
100---Head---100
REGISTERED
Poland Chinas
TO BE SOLD WITHOUT RESERVE
The Best from Kings County Herds—Boars of Herd Header Quality—Gilts and Sows That Equal the Best.
CONSIGNORS:
M. BASSETT F. D. ROSS
W. BERNSTEIN W. D. TREWHITT
J. A. CRAWSHAW JOHN M. BERNSTEIN
OSCAR and CLARENCE DIMMICK.
AUCTIONEER:
COL. BEN A. RHOADES.
For Catalog or Information Write
F. D. ROSS, HANFORD, CALIFORNIA.

CHESTER WHITES
BILLIKEN BRAND
BRED BY C. B. CUNNINGHAM
MILLS CALIFORNIA

Call around at the State Fair and see my stock. Look 'BILLIKEN' over and see how you like him. Have a number of his sons and daughters to offer. Everything Cholera Immune. Free certificate of registration with every animal.

Mighty Good Pigs
Moderately Priced
ANCHORAGE FARM NOW HAS FOR SALE SOME VERY GOOD SPRING PIGS, SIRED BY MAYHEWS LEADER 6TH, A PRIZE WINNER AT THE P.-P. I. E., AND A SON OF THE $3,000 WORLD'S CHAMPION, GRAND LEADER 2ND.
THESE PIGS WILL BRING FINE BLOOD INTO ANY HERD. THEY ARE MODERATELY PRICED AND ANCHORAGE FARM STANDS BEHIND EVERY ONE. SEND FOR DETAILS.
We are glad to answer your letters. Address
ANCHORAGE FARM
Orland California
Quality Products
All Anchorage Farm Pigs are cholera immune.
THE HOME OF STAR LEADER
GREATEST BERKSHIRE IN THE WEST

Live Stock Notes

(Continued from page 204.)

W. Sim, manager of the Hopland Stock Farm, is preparing two carloads of beef cattle for the State Fair.

The Pacheco Cattle Company of Hollister will show an exceptionally good herd of Shorthorns, especially in young stock.

The Carruthers Farms will show ten head of Shorthorns at Sacramento next week. The herd will be headed by Count Glory as a two-year-old (last year's grand champion); Hallwood Villiager and Hallwood Flash, both senior yearlings; two two-year-old heifers, Rookwood Bessie and Mayflower 20; one senior yearling heifer called Mayflower; one junior yearling, Broadhooks Sultana 2d; two senior heifer calves, a white and a roan. Mr. Carruthers also expects to show at Portland in November.

T. T. Miller of Los Angeles, a young and enthusiastic breeder, will enter eight head of choice Shorthorns at the State Fair from his herd of fifty odd at Compton. There will be two bulls and five cows and a calf in his show herd. It will be headed by Diamond Choice, a grand four-year-old, strawberry roan bull, weighing about 2,500 pounds. He will be accompanied by a handsome, white senior yearling bull weighing about 1,400 pounds. Both of these should give a good account of themselves in the show ring. The females will be Maxwalton Gloster 6th, a handsome five-year-old, roan cow, a daughter of the great bull Avondale. Imported Brandsby's Jenny 18, with red bull calf at foot, is another fine cow. Then there is the two-year-old red heifer, Golden Queen, and Sultana of Linwood 2d, a pretty roan heifer, and White Mayflower, a senior calf, the whole making a most attractive bunch of show cattle. After being shown at Sacramento, they go to Hanford, Fresno and Bakersfield fairs, and may be at Riverside.

Sheep and Goats.

R. L. Friend of Porterville reports the loss recently of 3,000 sheep rrom eating poisoned grain while being driven through the Deer Creek district.

Los Angeles is to have a woolen mill. Work will be begun at once on an up-to-date woolen mill in that city and the wool market thereby broadened.

A cablegram from the American consul general at Auckland states that Great Britain has purchased the coming New Zealand wool clip at last year's prices.

A great sheepmen's convention will be held at Chicago Union Stock Yards September 11 and 12. The purpose is to help in the production of more sheep and more wool.

By shearing 12,000 sheep in Stirling City, Haile & Waltz of Chico will be enabled to use the grazing lands in this vicinity at least a month longer than usual and save valuable grazing lands in the valley for winter use.

The Highland Home fruit ranch, near Banning, owned by P. T. Evans of Riverside, is to be converted into a goat ranch. There is to be put at once 500 Angora goats on the ranch, which will be fattened for the market.

The Western Yolo Sheep Cheese Company has met such success in the disposal of its product as to encourage still larger operations. This year the milk from 1,200 ewes was made into cheese. Next year the supply will be doubled. The average milk supply per head is about one quart per day for the four lacteal months of April, May, June and July. The operation of milking will next year require a force of ten milkers, working two and a half hours at each milking, morning and evening.

Record prices have recently been paid for Nova Scotia wool. In a report from this consulate, published in Commerce Reports on July 24, a price of 72 cents per pound was received by a Nova Scotia dealer for a shipment of unwashed wool sold on American account. Since then two shipments of washed wool have been dispatched from Nova Scotia to the United States for which even higher prices were paid. One of these, consisted of 4,886 pounds, was sold f. o. b. point of shipment at 85 cents, which is but little higher if any than unwashed wool at 72 cents. The second shipment, however, a full carload of 14,606 pounds, was invoiced at 95 cents, which probably constitutes a record for that district.

Horses.

Ruby & Bowers will show 50 head of horses, ponies and jacks at the State Fair.

M. Bassett will show his Percheron stallion, Ithos, last year's grand champion at the State Fair, with some of his colts.

Easton & Ward will have a very strong showing of shires at the State Fair. Their young stock is exceptionally fine this year.

Burrell & Cory of Hanford will make a fine showing at the State Fair of jacks and will show a very fine six-mule team in harness.

At the specific request of army officers, the California State Fair this year is offering special premiums for horses suitable for the use of the United States army.

Livestock Miscellaneous.

The Western Meat Company will show a carload of fat steers at the Sacramento Fair.

F. M. Johnson, Napa, recently sold to Phillip Duffey a Duroc-Jersey boar and sow.

Entries are now being received for the Stanislaus Livestock Show and Exposition September 17 to 22.

Guy Miller's show herd of Jerseys at Sacramento will be headed by the grand champion bull of last year.

C. B. Cunningham, the premier breeder of Chester Whites, will have his usual quantity and quality at the Fair.

R. F. Guerin of Tulare recently sold to B. F. Kendall a young bull out of 24.88-pound cow and sired by Sir Vreeman.

W. Bernstein recently sold Poland-China boars to S. L. Allen, Fresno, Royal Waltz, Lemoore and Mr. Willis of Henrietta.

Cannon-Phillips Company will have an 8-foot segment of their "Iowa" silo in the University Farm's silo space at the Fair Grounds.

G. A. Trueblood, E. J. Weldon and Derryfield Farms of Sacramento will be among the new exhibitors of Durocs at the Fair this year.

Berkshire men will be glad of the opportunity of seeing at Sacramento Royal Superbus, recently placed at the head of the Grapewild Farms herd at Escalon.

F. C. Trewhitt has taken over the well-known W. D. Trewhitt herd of big type Poland-Chinas. He will enter a fine lot of hogs in the Hanford sale next month.

The Toyon Farms will show at Sacramento their herd bull, Finderne Soldene Valdessa, whose dam and sire's two dams have records averaging 40.47 pounds.

The Ormondale Company of Redwood City will show at Sacramento their Shorthorn herd sire, Golden Goods, Jr., with four of his junior calves. Among their other good ones will be a two-year-old show cow recently brought out from the East.

Tulare county Duroc breeders had planned to send a carload of fine Durocs to the Fair, but the draft and difficulty of securing help intervened. Allen Thompson of Tulare and W. J. Fulgham of Visalia will bring up some good ones.

W. S. Guilford of the Butte City Ranch reports good inquiries for purebred hogs and Shetland ponies. The lot of Shorthorns he purchased in the East last winter are coming along fine on his ranch and he is feeling good over prospects for beef cattle.

Silo development in the dairy business is making progress in the different parts of the big interior valley. The installation of individual pumping plants for irrigation in various sections of the Island districts and the consequent satisfactory yields of Indian corn for ensilage is accountable for a noteworthy advance in this respect by the farmers of Merritt Island, below Sacramento.

THICK, SWOLLEN GLANDS

that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with

ABSORBINE

also other Bunches or Swellings. No blister, no hair gone, and horse kept at work. Economical—only a few drops required at an application. $2 per bottle delivered. Book 3 M free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Cysts, Wens, Painful, Swollen Veins and Ulcers. $1 and $2 a bottle at dealers or delivered. Book "Evidence" free. W. F. YOUNG, P.D.F., 86 Temple St., Springfield, Mass.

TREWHITT'S POLAND CHINAS

BIG TYPE

HERD BOAR BIG JUMBO

Some of the best of our stock will be consigned to the KINGS COUNTY POLAND CHINA SALE OCT. 19

L. C. TREWHITT =:= Hanford, Cal.

RINCON FARM BERKSHIRES

Can now furnish foundation stock, gilts bred or open, and unrelated young boars out of the finest herd of sows in the State, and by such boars as Ames Rival 102nd, Winona Lee Champion 6th, Mayfield Rookwood 2nd, etc.

Princess Leader, out of World's Grand Champion Sow by World's Grand Champion Boar.

Call and see stock or write for pedigrees and prices. Will have a full show herd at the State Fair.

F. A. BRUSH, Proprietor · C. E. BARROWS, Manager

SANTA ROSA, CAL.

Champion Ram P. P. I. E.

SAN RAMON SHROPSHIRES

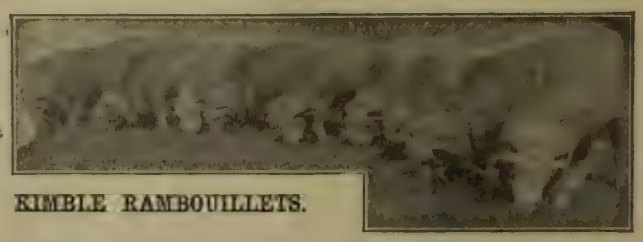
WINNINGS P. P. I. E., 1915

Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.

Purebred Registered Rams and Ewes.

Individuals or Carload Lots.

BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.



KIMBLE RAMBOUILLETS.

These sheep are purebred, large and smooth, with heavy fleece of fine, long, staple, white wool. Yearling rams and ewes. Individuals or carload lots.

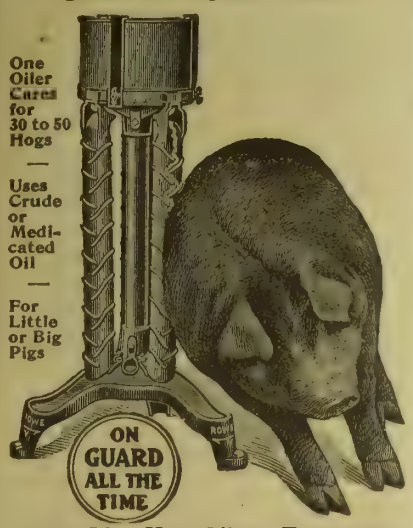
Prices reasonable. Correspondence solicited.

CHAS. A. KIMBLE, HANFORD, CAL. Breeder and Importer.

E. B. McFarland of the Steybrae Farm, San Mateo, has just purchased thirty head of Ayrshires from H. A. Johnston of Richmond. Some of these will be shown with the Steybrae herd at the State Fair.

Get Rid of Lice

Let your hogs rid themselves of these blood-sucking pests that stunt growth and spread disease.



New Idea Hog Oiler. Enormous Demand.

Write for Full Particulars.

Pacific Dairy Machinery Co.

56 Clay Street., San Francisco

Churns, Coolers, Separators, Cheese Supplies, Barn Equipment, Etc.

CUTTER'S

BLACKLEG PILLS

"California's Favorite" for nearly 20 years

For the Prevention of Blackleg in calves and young cattle

Their superiority is due to nearly 20 years of specializing in "Vaccines and Serums only."

Year in and Year Out they give better satisfaction than any other vaccine made, and the cost of a few cents per dose is cheap insurance against a disease that always takes the fattest and best.

Single Pills may be used for ordinary and range stock.

Double Pills should be used for pure bred and high grade stock.

Use any Injector, but Cutter's simplest and strongest.

Prices:
10 dose pkge. Single pills $1.00
50 dose pkge. Single pills 4.00
10 dose pkge. Double Pills 1.50
50 dose pkge. Double Pills 6.00
Cutter's Pill Injector.... 1.50

Insist on Cutter's. If unobtainable, order direct.

Write for new booklet, "The Control of Blackleg." It tells about Anti-Blackleg Serum which cures Blackleg and may be used simultaneously with vaccine to combat outbreaks and safely protect valuable stock.

The Cutter Laboratory, Berkeley, Calif.

The Cutter Laboratory of Illinois, Chicago Eastern Agent

Creamery Operators' Program.

W. B. Hopkins, president of the California Creamery Operators' Association, has been working very hard on the program for the annual Convention which will be held in Petaluma October 4, 5 and 6. A number of notable men in the creamery and dairy industry have accepted invitations to participate. Dean Van Norman of University Farm, C. F. Frevert, creamery specialist, and C. F. Doane, cheese specialist, both of Dairy Division, U. S. Department of Agriculture, as well as a number of other experts, will be upon the program.

In order to add interest to the sessions and encourage discussion of the problems that confront creamery men, a question box has been established. Any member can write a question and put it in this box. The box will be opened at a stated time at every session, the questions read and discussion encouraged.

Mr. Hopkins has given a great deal of attention to the social side of the Convention and promises to have a number of attractive entertainments. An auto ride through the hills and orchards of Sonoma county, including a visit to the home of Jack London and lunch at Carpenter Woods, is one of the main attractions. It is hoped that there will be a liberal attendance of ladies.

Oregon Jersey Herd at Auction.

An event of considerable importance in Jersey circles will occur this fall in the complete dispersal sale at Orleans, Cal., of the Hermosa Vista Jersey herd owned by C. P. Hembree of Monmouth, Ore. This herd is well known all over the West both for its high production and show ring winnings. For several years Mr. Hembree has won the lion's share of the ribbons at the California State Fair and his winnings at the P. P. I. E. are well remembered by California Jersey breeders.

A complete show herd will be shown by Mr. Hembree at Sacramento Fair next week and all will then get an opportunity to see the quality of the sale offering. The entire show herd will go in the sale which will occur at Orleans on October 10. Further announcements concerning this sale will be made.

Some Great Durocs Secured by Welch.

A. J. Welch of Redwood City received last week from C. P. Dexheimer of Spencer, South Dakota, and F. L. Crow, Hutchinson, Kansas, several Duroc sows. Two of the sows from Dakota were selected by Prof. J. I. Thompson, and he says they are top notchers, especially Crimson Bess, which he thinks is the best Duroc sow now in California. The sows are known as Wonder Lady 479872, farrowed February 24, 1915, sire Crimson Wonder Again 40705, dam Lady Chief Defender 410890; the second sow is Crimson Bess 3d 575772, farrowed September 2, 1915, sire Col. Protection 167587, dam Crimson Bess 2d 427662. The two sows from Kansas were selected by R. M. Dunlap and are fine ones, one being a senior and the other a junior yearling.

Kings County Poland Chinas Improving.

A letter from W. Bernstein of Hanford, says: "You can truthfully say the greatest number as well as the finest lot of Poland Chinas that ever left Kings county will be shown at the State Fair.

"The quality of the stock we sell at our sales increases with each auction. The fourth semi-annual sale will see the finest lot of Poland Chinas that was ever offered in California go under the hammer."

The Napa State Hospital's Holstein herd at the Fair will include the grand champion cow at Washington State Fair last year and a number of fine youngsters secured at the Vina sale recently.

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BUNCHES or BLEMISHES,
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STRAINED TENDONS.

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We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made Every bottle sold is warranted to give satisfaction Write for testimonials showing what the most prominent horsemen say of it. Price, $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

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NOTHING BUT GOOD RESULTS.
Have used GOMBAULT'S CAUSTIC BALSAM for more than 20 years. It is the best blister I have ever tried. I have used it in hundreds of cases with best results. It is perfectly safe for the most inexperienced person to use. This is the largest breeding establishment of trotting horses in the world, and use your blister often.—W. H. RAYMOND, Prop. Belmont Park Stock Farm, Belmont Park, Mont.

USED 10 YEARS SUCCESSFULLY.
I have used GOMBAULT'S CAUSTIC BALSAM for ten years; have been very successful in curing curb, ringbone, capped hock and knee, bad ankles, rheumatism, and almost every cause of lameness in horses. Have a stable of forty head, mostly track and speedway horses, and certainly can recommend it.—C. C. CRAMER, Training Stables, 990 Jennings Street, New York City.

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BIG TYPE POLAND CHINAS

My herd of sows represent the best big-type blood lines. Ten of them were sired by A. WONDER. Herd headed by J. O. ORANGE out of ANNA PRICE 13TH by BIG ORANGE, selected as the best breeding to go with A. WONDER sows.
Have also a son of MODEL MAJOR, First Prize California State Fair, 1916, and a son of SUPERBA, Grand Champion P. P. I. E., 1916.
Can furnish any number of sows or gilts, bred or open. Service boars, young boars. Unrelated herds and young pigs.

—CAN PLEASE YOU—

WM. H. BROWNING, Proprietor

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Butte City Ranch

Registered Live Stock

FOR SALE NOW—Two Shorthorn Bulls at $500 each
Ponies at from .....$60 to $250
Lots of Berkshire Sows and Pigs at from.....$20 up

BUTTE CITY RANCH
Box P.
Butte City Glenn County, Cal.

A Trip in the Cattle Country

[Written for Pacific Rural Press.]

To the railroad traveler down the Coast Line of California, the towering hills and mountains on either side seem to be the boundary of things. Indeed they are, as conceived by the farmers of intensively cultivated ranches of less than a thousand acres in the multitude of rich valleys which make California most fruit-full.

But beyond those towering boundaries of the vision and even of the thought of the traveler, lies much of the granary and the cattle-producing country of California. Doubtless similar conditions are to be found in other parts of our all-embracing state; but it was a new and glowing experience for the writer to take a 60-mile drive with Benjamin Quigley, a new and rather intensive rancher of that district east of Paso Robles, Templeton and San Miguel, and with Capt. A. Clark, who two or three decades ago saw in those wild mountains the counterpart of wild seas of his youthful stormy career. Capt. Clark for 20 years raised cattle on the 3,000-acre Vaquero Water Ranch and additional years on other ranches of this "neighborhood," where one may travel horseback for hours without seeing a house. Five ranches, close together, here comprise over 250,000 acres, one of them over 70,000 acres. It was said that on one of them cattle traveled five miles to water.

Ten acres would support a steer when the Captain located here, but overstocking with cattle and squirrels has doubled the area required to make the same amount of beef today.

The grass, as seen in July, absolutely dead and cropped as close to the ground as cattle could get it, seemed to have been unable to go to seed, though we were told that not lack of seed, but lack of moisture was the limiting factor.

Multitudes of squirrels scampered away from our path, out foraging for grass seeds and nuts from brush and trees, aiding in reduction of next year's forage crop.

Chaparral, Chemise brush, manzanita, live-oaks, and pines clothed many of the steep slopes of the granite hills. Red clay, black adobe, light silt, and sand crowd each other into well defined and limited areas. Practically all the creeks were dry, and even the San Juan and Estrella rivers were dry in many places, appearing occasionally where the subterranean flow apparently struck upward-sloping hardpan.

FEED.

The original forage here, as remembered by Capt. Clark, consisted of filaree, bur clover, bunch grass, foxtail, and wild oats. His son, Frank C. Clark, who has been operating the Cressey and later the farming operations of the Cammatta ranch belonging to the D. O. Mills Estate, mentions filaree as being the most abundant growth of early spring nowadays. This makes first class forage while it lasts. Bunch grass is scarce, and so are wild oats, which make good forage while green.

HOW TO INCREASE CATTLE FEED.

Reseeding the range is not necessary, according to Frank Clark, who says there is so much seed every fall that there is not moisture enough in the steep hillsides to support the growth that starts. He would increase cattle feed in two ways. First, get more moisture into the range soil and hold it there. Any means of preventing runoff in winter will help hold the rain, which often is not over a dozen inches. To save this moisture Mr. Clark would cultivate when moist enough in fall, with a chisel where it is too hard for a springtooth. Another way would be that suggested by his father and Mr. Quigley—leave a third of the ranges unpastured every third year. Such a practice would undoubtedly soon result in greater total carrying capacity of the ranges. Certainly now, while cattle have been sold off shorter than ever before, would be most favorable to start such a system on all fenced ranges.

The second way in which Frank Clark would increase the cattle feed on the ranges is to raise corn on the farm land being summer fallowed for grain and pasture cattle on it. This saves as much moisture for the grain in one way as it takes out of the soil by its own growth. Mr. Clark has had several years' experience at this, but that makes another story.

Forest Service to Exterminate Squirrels

In line with the food conservation measures of the Government, the U. S. Biological Survey is waging a campaign of extermination against the ground squirrels on the National Forests of California, according to the forest officers. Seven crews of squirrel poisoners, comprising about thirty men, are at work on the Sierra, California, Santa Barbara, and Sequoia forests. The work will be extended to grazing areas in other forests. "The amount of grain and stock food destroyed by ground squirrels is almost incalculable," declares Wm. C. Jacobson, of the Bureau of Biological Survey for California. "The extermination of these rodents will ordinarily increase the stock-carrying capacity of a range 10 to 25 per cent. This work, therefore, takes on more than ordinary importance at this time of shortage in food supplies."

Poisoning the squirrels through the placing of grain impregnated with strychnine near the burrows and runways is the method commonly used. When this becomes ineffective, the squirrels are "gassed." An explosive poisonous vapor heavier than air is poured or pumped down the squirrel holes. One application is usually sufficient. In wet weather, or when no danger of setting the forest afire is present, a match is touched to the mouth of the burrow and the gas exploded.

500 One and Two-Year-Old

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By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:

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Over 500 Head
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SHORTHORN and HEREFORD CATTLE
—and—
REGISTERED SWINE

ON A STRICTLY COMMISSION BASIS.

The following are some of my satisfied customers:—
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The Ormondale Co., Redwood City.
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Frankenheimer Bros., Stockton.
A. J. Welch, San Francisco.
Leland Stanford Jr. University Farm, Vina, Cal., and other prominent stock men.

I can give YOU the same complete satisfaction.
Have a shipment to arrive next month, which will include some fine individuals.

WOULD YOU LIKE TO LOOK THEM OVER?

Address,
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OR MEET ME AT THE STATE FAIR.

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BERKSHIRES
Hopland Stock Farm
HOPLAND, CAL.
Registered HERD and RANGE BULLS by RIGHT CHOICE, 282951, and TULE KING 304655. VISIT OUR EXHIBIT AT STATE FAIR.

A limited number of BOARS and GILTS sired by IOWANA RIVAL MAJESTIC 194736, RESERVE GRAND CHAMPION STATE FAIR, 1916, and a son of RIVAL CHAMPION 112500.

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And the Famous Blacow Roberts Glide

French Merinos and Purebred Shropshire Sheep

Ram Lambs and Shorthorn Bulls FOR SALE

See my Shorthorns at Sacramento September 8-15, 1917

SHORTHORNS

Herd headed by

True Dale

By Double Dale, he by Avon Dale, and he by Whitehall Sultan.

The kind of Shorthorns we breed may be seen at State Fair.

Nothing for sale at present.

Pacheco Cattle Co.

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Thoroughbred Herefords For Sale

I have decided to sell my entire herd consisting of 15 cows, eight with calves by side, others will calve soon. 3 yearling heifers, 1 herd bull, and 4 yearling bulls. These cattle are in fine shape.
Call or write.
LEE DUDGEON, - - Soledad, Cal.

Dealers in PAPER **Blake, Moffitt & Towne**
37-45 1st St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

A GROWER'S VIEW OF ALFALFA SITUATION.

[Written for Pacific Rural Press by J. M. Bomberger, Modesto.]

During the past four months the writer has traveled extensively in the large alfalfa producing sections of the Middle West, Northwest, and Southwest, with the object of studying conditions in those areas. The following observations may be worth something to our California farmers at this time, because of the approaching planting season.

I learned that in all three of the above named sections, a great many alfalfa fields have been plowed up to make room for wheat, corn, milo, beans, cotton and other summer growing crops. This condition is quite general from the Pacific Coast to the Mississippi river.

In eastern Kansas and eastern Nebraska I found that a great deal of alfalfa was winter killed last winter, which has been no small factor in decreasing the crop in those sections, at least for the present.

In our own Imperial Valley, cotton has replaced alfalfa to a great extent, and it is commonly known that alfalfa has given way to summer crops on thousands of acres in both the Sacramento and San Joaquin Valleys this year.

That there is a general shortage of alfalfa in all parts of the country needs no emphasizing in view of present high market values of hay, and it seems to me this condition must continue to exist for several years, because of the prevailing high prices obtainable for summer grown crops, as long as the war lasts.

At present, however, there are many fields in California planted to beans and other summer crops that are not profitable because the land is not adapted to their culture. Much of this is suitable alfalfa land and would prove highly profitable if seeded to this crop.

Such fields, because of clean cultivation this summer are in ideal condition for alfalfa seeding this fall, providing there is rain or irrigation available between September 15 and November 15.

In my own operations I have found that fall seeding, if not too late, gives the plant a good start for spring growth and sometimes fall seeded fields yield almost as heavily as old alfalfa. Then, too, fall seeding is one of the best ways of fighting water grasses and morning glory, which seeds cannot live through frosty weather.

I have found, however, that in fall seeding, a little more seed should be used in order that the ground space be well occupied by alfalfa plants, thus making it more difficult for spring weeds to get a start.

While not given to market prediction I have returned home with a stronger conviction than ever before that alfalfa is our one safe crop in war time as in peace.

H. L. & E. H. Murphy of Perkins will show both Shorthorns and Berkshires. The Murphy herd is probably the pioneer herd on the California show circuit.

The Hopland Stock Farm will show some good Shorthorns at Sacramento. The Shorthorn show this year will be a great one.

Shorthorn Cattle

ONE CARLOAD OF FANCY HEAVY-BONED RANGE BULLS
SCOTCH AND SCOTCH-TOPPED FEMALES.

Berkshire Swine

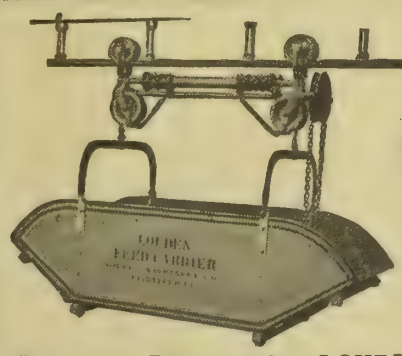
WE HAVE A FINE BUNCH OF MARCH PIGS OF BOTH SEXES SIRED BY ARTFUL KING 11TH, 2ND PRIZE SENIOR YEARLING BOAR AT THE NATIONAL SWINE SHOW, 1916.

See our Stock at the Fair and visit the Brighton Farm herds.

4 miles east of the State Fair grounds.

H. L. & E. H. MURPHY

PERKINS, CAL.



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LOUDEN HAY UNLOADING TOOLS,
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SAVE YOUR CALVES

Watertown Wis. June 13th 1916
Ryde & Co. Chicago Ill.
Gentlemen — Above is a picture of our 4 months old calf which I fed on Ryde's Cream Calf Meal. I followed your instructions closely. The meal can't be beat (Signed) Alvin Gerk

Raise Them Without Milk

Why throw away money by knocking them in the head or selling them for a dollar or two at birth when they can be raised or vealed WITHOUT MILK at a fraction of the cost of feeding milk. You profit both ways selling the milk and still have the calves.

The Best Milk Substitute to Use is

Ryde's Cream Calf Meal
TAKES THE PLACE OF MILK AT LESS THAN HALF THE COST

the most successful milk substitute on the market—the standard of perfection Thousands of farmers are using it and cannot say enough for it. It is NOT a stock food—it's a complete food that long experience has proved to be right for rearing calves. It contains all the nutrition of milk prepared in the most digestible form and is sold on a money back guarantee to give results.

BOOKLET "MILKLESS CALVES" FREE

100 lbs. equal to 100 gallons milk—Try it on your calves.

GREAT WESTERN MILLS, LOS ANGELES

RAPE OR VETCH FOR SHEEP?

To the Editor: If I plant rape about the time of first rains on 10 acres of stiff adobe where bur clover grows naturally, how many sheep will it carry from Christmas to April?—J. L. M., Planada, Merced county.

Scarcely ten head per acre, because the rape may not grow fast during cold weather. Sheep should be kept off most of the time. Ground should be plowed before April or all the moisture will be gone. Ten or fifteen years of experiments with rape in California have failed to make it popular. Vetch and oats make good winter growth if sown ready for early rains, and will leave ground in better shape for succeeding crops.

GOOD STOCK IN REQUEST.

A correspondent in one of our exchanges predicts that the demand for good breeding stock will grow stronger henceforward, and the opportunity for the purebred breeder, be he big or little, will be greater than ever before, to make money and better his farm conditions, home conditions and financial circumstances. Far-sighted men will not be slow to take advantage of this opportunity and provide themselves with the best stock obtainable, and be in a position to supply the great demand that is bound to come.

RENEWING OLD ALFALFA.

[Written for Pacific Rural Press.]

A feat which should be practiced more and can be seen at a few places in Southern California, is making old, six to eight-year alfalfa young again without sowing any more seed. It has been proved out on a San Bernardino county ranch. In the fall after the last cutting is over, triple disk; then with an 8-inch plow, very thoroughly plow up the old triple-disked alfalfa. In the spring irrigate, and very soon you will see tiny new shoots of new alfalfa springing up from the joints of the old roots, which have been chopped up and practically replanted by plowing.

TWENTY THOUSAND DOLLARS IN PRIZES.

More than $20,000 will be expended by the California Land Show for prizes for exhibits at the exposition to take place in October in San Francisco. The prizes are to be awarded also for best exhibits of deciduous and dried fruits, raisins, sweet wines, wine grapes, dry wines, champagne, unfermented fruit juices, table grapes, best packed boxes of fruits for shipment, citrus fruits, olives, olive oil, rice, garden, field and flower seeds, barley, rye, potatoes, oats and the largest exhibit of flowers. There will also be a liberal appreciation shown for California products, which will include machinery, including traction, gas engines, irrigating pumps, road plows, automobiles, etc.

STATE FAIR LIVESTOCK EXHIBITORS.

(Continued from page 213).

BELGIANS.

Geo. J. Luhrsen, Bethany, 1.
Ruby & Bowers, Davis.

GRADES AND CROSSES.

M. Bassett, Hanford, 3.

JACKS AND MULES.

Burrel & Cory, Hanford, 9.
F. A. Kingsbury, Sacramento, 2.
J. P. Yost, Fair Oaks.

HAMPSHIRE SHEEP.

Kaupke Bros., Woodland, 10.
H. H. Schmidt, Davis, 10.
Calla Grove Farm, Manteca, 5.

Shorthorns

(DIAMOND CHOICE - 398183.)

Herd combines some of the strongest blood lines of this Country and Great Britain.

THOMAS T. MILLER 314 SO. NORMANDIE AVE., Los Angeles, Cal.

SCOTCH SHORTHORNS

We have just purchased the entire herd of shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

CARRUTHERS FARMS, == MAYFIELD, CAL.

City Address: Hearst Building, San Francisco, Telephone Sutter 1311

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Economy of time, effort, and money is only one of the many services our organization is delivering to both sellers and buyers of registered livestock in public auctions.

If you want to consign cattle for public sale, or disperse your herd to best advantage, write us about it.

California Breeders' Sales and Pedigree Co.

C. L. HUGHES, Sales Mgr., SACRAMENTO, CAL.

ORMONDALE SHORTHORNS

GOLDEN GOODS, JR.
Herd Sire.

Scotch and Scotch topped breeding. Heavy boned and solid red in color. Suitable for either range grower or breeder.

OUR 1917-18 OFFERING INCLUDES

FINE YOUNG BULLS AND HEIFERS

Sired by Golden Goods, Jr.

== Will show ==

GOLDEN GOODS, Jr.

and 4 of his get at Sacramento

Visit our ranch, seven miles from Palo Alto, on Woodside road. We welcome inspection.

Prices and pedigrees on application.

EVERY ANIMAL POSITIVELY GUARANTEED.

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REDWOOD CITY, CAL.

PAICINES RANCH COMPANY

SHORT HORNS

Weanling Bull Calves, both registered and unregistered, now ready for immediate delivery. For prices and particulars apply to:

DAVID J. STOLLERY

320 SHARON BUILDING

SAN FRANCISCO, CALIFORNIA

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

STATE FAIR.

If you are going to show at the State Fair, your entries will be in before this reaches you, but there is still time for a few words of advice. Don't be afraid; fear never got anybody anywhere, and when you put your birds or stock before competent judges, you know just where you stand. You may not win, but by observing and asking questions you will learn where you are lacking. This does not apply merely to poultry, but to all livestock. State fairs are for the people, but more particularly the farming people.

Let the children compete, and the wife, and be there yourself if you only have a pumpkin to exhibit. This thing of letting the city and town folks run away with all the prizes is not right. Many a farmer's wife can bake better bread, make better jelly or preserves than any city or town woman that ever lived, but she is afraid to venture. Encourage your wife, Mr. Farmer; entries close September 1st, and if your wife has an especial lot of jelly or anything real good, put up the entrance fee and let her try it out. I know a woman who has won oodles of money in just specializing in jelly. What's more to the point, the woman in question never did any real useful work in her life that I ever heard of until she happened to find out she could make jelly. She married, but never had chick or child, and she lives in a town, knows nothing of hard work or, in fact, anything but an easy, lazy life; but she is an expert at making jelly and taking prize money away from legitimate workers.

Don't waste time arguing about it, but get a premium list and "go to it." This should have been written last week, but I was too full of my own petty troubles to think of it. But even now it will perhaps not be too late for some one to get courage up to send in something good.

GRAY TICK—CHICKEN VARIETIES.

To the Editor: I find some kind of vermin on all of my chickens that looks like gray shot imbedded in the skin. Most of them are found underneath and either singly or in clusters. They do not seem to affect them in any way except that the chickens are not fat. What are they, and what can be done to get rid of them? Also, how do Campines compare with White Leghorns in laying qualities and size of eggs? Also Hamburgs? Where could Campine eggs be procured here?—E. M. Ryder, Bakersfield.

These are the gray tick. Clean up well and examine all boards; they have a hiding place somewhere, and if you can find it and burn it up you will stand a chance to get rid of them. The only way to get rid of them is to dip the fowls in some insecticide or to use a small paint brush and go over them with turpentine. This would have to be done very lightly, or it would burn the skin when the feathers got next it, but it will loosen the ticks all right. The fowls must be run down, so will not stand much harsh treatment, because ticks are blood suckers and sap the strength out of the fowls. A solution of creolin, a teaspoonful to a pint of warm water, might loosen them if you went over them in the same way as the turpentine. You could try it anyway. It would be much easier on the fowl, because it does not burn at all; but be sure you clean up and burn all rubbish.

Campines, Leghorns and Hamburgs all lay white eggs, and all are small breeds of fowls, renowned for egg production. Robert Edgerton of Raymond and Mrs. R. S. Spaulding of Woodland recently advertised Campine eggs.

A CASE OF ROUP.

To the Editor: Will you kindly tell me through your paper what is the matter with my chicks? They have some kind of a sickness. Some of them swell around the head and show two or three colors. Their feathers kind of ruffle up and their wings drop down. They sit around with their eyes shut and walk queer. They get weak and finally die. They have no mites. They also run some at the nostrils. W. A. Conrad.

These chickens have had summer colds that have been neglected and turned into roup. Get a bottle of "benetol" and make a strong solution—say, a teaspoonful to a pint of hot water; then let cool and dip each chick's head in the water. Hold it in long enough so it gurgles. Mix a few drops more in hot or rather boiling water, about ten drops to a quart of water; let cool and give this to drink. Benetol kills all germs and is perfectly safe. Feed your chicks well and keep clean.

Science Says Buttermilk

Bulletin 162, just issued by the Department of Agriculture, states that Buttermilk is the only preventative of White Diarrhoea. It has been proven that many birds apparently in perfect health have these germs in their system and that they are transmittable to their progeny. Science has discovered that the Lactic Acid Bacilli of Buttermilk kills these poison germs. Write to Berkeley for this important bulletin, free.

The Dry Buttermilk in GLOBE A-1 BUTTERMILK MASH contains 10,000 live Lactic Acid Bacteria to the cubic centimeter.

Globe A-1 Buttermilk Mash is a high protein feed, free from any filler.

Globe A-1 Buttermilk Mash will prevent bowel troubles, keep your flock in glowing health, produce more eggs to market, better eggs to hatch.

Costs no more than non-buttermilk mash.

Satisfaction or Money Back.

GLOBE MILLS, LOS ANGELES

Write at once for valuable feeding information and sample, free.

Buttermilk GLOBE A-1 Dry Mash

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

PRODUCE CHEAPER EGGS.

A study of the egg supply proves conclusively that America must produce more eggs — not only that, but we must produce them more cheaply. We are facing another year of high feed prices. This is very evident if the law of supply and demand works out the way indications point at present. Eggs are now ten cents per dozen higher than last year. The maximum that the housewife would be willing to pay is a matter that cannot be determined, but one thing is certain, high egg prices are not the best for the industry. If eggs are cheaper, more people will eat them. We must improve our hens. We must breed hens of the laying type. We must produce cheaper eggs.

SUPERIORITY OF LEGHORNS AS LAYERS.

Leghorns produce eggs at a less cost than hens of the general purpose breed—Plymouth Rocks, Wyandottes, Reds and Orpingtons. This fact, which confirms the belief and experience of commercial poultry farmers, was one of the results obtained in a rather extensive feeding test recently reported by poultrymen of the United States Department of Agriculture. Because they lay as many or more eggs, eat only about 55 pounds of feed per head, as compared with 90 to 85 pounds eaten by the general purpose breeds, and because their egg yield very materially exceeds that of the general purpose breeds during their second and third laying years, Leghorns, the specialists say, undoubtedly are more profitable to keep for the production of eggs only.

FEED COST PER DOZEN EGGS.

In this test the feed cost of a dozen eggs for the Leghorn pens was 7.34 cents in 1913, while the average cost of all the pens of the general purpose breeds was 10.6 cents. In 1914 the feed cost of a dozen eggs for the same pens of Leghorns was 8.7 cents, as against an average cost of 15.1 cents for the second laying year of the general purpose pens. During their third laying year the cost of a dozen eggs was 8.8 cents, compared to 18.6 cents for the general fowls. The total value of eggs per hen over feed cost in the Leghorn pens for three years was $6.84, against $4.30 for the general purpose hens. The highest egg production obtained in any of the feeding experiments up to 1915 was by a pen of Leghorns which laid 157.6 eggs per hen at a feed cost of 6.7 cents a dozen.

AVERAGE WEIGHT OF EGGS.

The Leghorns produce smaller eggs than the general purpose breeds. The average weight of the eggs of a pen of Leghorns during the first laying year was 1.42 pounds per dozen, as against 1.53 to 1.58 pounds for the other pens. However, Leghorns laying eggs weighing 1.50 pounds per dozen or even more, specialists say, have been selected and bred by many poultrymen. An examination in May, 1915, of 500 eggs from three Leghorn pens showed that 31 per cent weighed more than two ounces each or 1.50 pounds to the dozen.

The value per dozen of the eggs produced by the Leghorns was from one to three cents less each year than eggs from the general purpose hens. This difference was due to the fact that the general purpose breeds are better winter layers than Leghorns, while the latter give a higher production in the spring and summer. Very few Leghorns became broody, which probably materially affects their egg yield as compared with the general purpose breeds. Better fertility in the eggs, especially with stock confined to the yards, is more often secured with Leghorns than with the general purpose or any of the heavier breeds. This is due to the fact that the smaller breeds are more active, using up their energy to produce eggs, while the larger lay on fat.

RAISE MORE GEESE.

Geese can be raised in small flocks on general farms on pasture or non-productive land, and do not require any material amount of grain. They are good grazers and do well on low, rough pasture land used for pasturing other stock and having a supply of water. During the winter months geese may be fed largely on available roughage, such as clover hay, alfalfa, cabbage, mangels or any waste vegetables. If pasturage is limited their ration may be supplemented by light feeds of the least expensive grains.

Geese do not need shelter, except when they have goslings, during which time they should be provided with fresh grass range to make rapid growth. Coops and shelters should be provided for the young goslings. Geese are very hardy and free from disease and insect pests.

A short time before killing, the geese should be confined in close quarters. In Europe the cruel method of nailing them down to the floor is practiced, which no doubt is an economical way, but is not necessary. When geese are fattened right they make a dainty dish, as tempting as turkey.

POULTRY NOTES.

Eggs exported from the United States in May, 1914, averaged 19½ cents per dozen against 21 1/3 cents in May, 1916, and 34½ cents in May, 1917.

The Australian Government has forbidden the importation of eggs into that country except by consent of the Minister of Trade and Customs. The inhibition goes into effect at once. It is a war measure, of course.

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

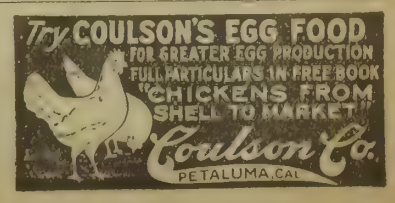
DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

"EASTMAN'S BRED-TO-LAY" Barred Plymouth Rocks, August chicks and eggs. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

BRONZE TURKEYS — Albert M. Hart, Clements, Cal.



THE HOME CIRCLE

Mrs. Best's Letter.

FALL FASHIONS REVIEWED.

My Dear Friends: While many of you, I know, are still having summer heat, here there is a tinge of fall in the air, so that it seems perfectly suitable to see the shop windows full of fall garments, hats, and furs, and much activity at the counters where the new fall goods are displayed.

In woolens, the same materials that were popular last year are shown. Oxford and homespun mixtures, Bolivia cloth, velours in many weights, twills, poplins, serges, and broadcloths. For dressy suits the broadcloth is very popular and for the one-piece dress the serge leads in favor.

What is considered the very smartest thing for fall wear is the shadow plaid dress. One house has quite a showing of these very new garments in soft dark plaids in a number of different styles. One of them in a brown plaid had a peg top skirt, with a long roll shawl revere collar with an over revere of satin, set-in sleeves with turn-back cuffs of white satin and a long narrow tie girdle.

Nearly all the dresses have the girdle in one form or another, but generally it is loose, barely confining the garment at the waist line, and tying with hanging ends. Both dresses and suits show the military tendency in their simple, severe lines and innumerable buttons and buckles.

For more dressy wear, the one-piece dress in satin seems to be a prime favorite. Most of them shown so far are in the dark shades and made rather simply with white collar and cuffs. One very girlish model was made with an Eton jacket over a white blouse front, but the sleeves, while of the material of the jacket, were sewed to an under-body. This style of sleeve retains the popularity it had last year.

During the summer, you could hardly find any colored blouses except the flesh tint, but now they are beginning to come in in a wide range of colors for the fall suits. Most of them are of georgette crepe and some of them have a body lining of net or thin silk, but many do not. The styles are very similar to what we have been wearing—fine tucks, a little touch of hand embroidery or beading, and in some cases a vest of white that extends up and forms the collar.

We seem to be hovering, undecided, between high and low necks in blouses, so far every one is wearing what is becoming. The newer low neck is square, with a collar that extends down almost like revers on to the blouse. There is a very pretty panne velvet blouse in solid colors being shown, cut very plainly, with side closing and georgette crepe sleeves of the same color. The collar was a soft turnover of white and there was a touch of white on the cuffs, also.

Sweaters continue to occupy a prominent place in the wardrobe of all girls and many women. The slip-on is the rage just now and when loose and worn by a slight, graceful girl, nothing could be prettier, but it is a garment that a stout woman should avoid. But there are beautiful ones in coat styles that are becoming to all figures in either wool or fibre silk in a wide range of colors. One very attractive one had the pockets that the military suits show and was in the same color that the officers of the Presidio camp wear.

ROSABELLA BEST.

VEGETABLE CANNING.

Vegetables are very difficult to sterilize because of their composition and because they contain bacteria that are very resistant to heat. Most vegetables are deficient in acid, so if any harmless fruit acid as lemon juice or vinegar is added, the vegetables may be sterilized as easily as are fruits.

To can string beans, prepare a brine consisting of three ounces of salt and six ounces of lemon juice to a gallon of water. String the beans and break them into proper lengths for cooking. Pack them into jars or cans. Fill the jars with the brine and put on rubbers and caps loosely. Sterilize as follows: Place a false bottom in a wash boiler or large pan and fill with water to half the height of the jars. Heat the water to boiling and boil for about two hours. Seal the jars at once.

Corn is very difficult to sterilize. Use eight ounces of lemon juice to the gallon and three ounces of salt and sterilize for two and one-half hours.

Tomatoes contain enough acid to make them easily sterilized and therefore no lemon juice need be added. Pack the tomatoes into the jars and fill with pulp or juice and sterilize for one hour.

If vinegar is used, use one and one-half times as much as of lemon juice. If six ounces of lemon juice are required, use nine ounces of vinegar, if using vinegar in place of lemon juice. In this proportion vinegar gives as good results as lemon juice.

HONEY CAKE.

Take ½ cup butter, 1 cup sugar, 1 cup honey, 1 pint flour, 1 teaspoon baking powder, 2 eggs and 1 teaspoon caraway seed. Mix the honey and sugar, add melted butter and the eggs, slightly beaten; then the flour sifted with the baking powder and seed. Mix into smooth batter and bake 35 minutes in fairly hot oven.

DILL PICKLE QUERY.

Editor Home Circle: Will some reader tell me whether you use the dill leaves or the seeds to make dill pickles and the amount necessary? —Mrs. A. L. C., Lancaster.

CORN MEAL YEAST BREAD.

One and ¼ cups milk and water, 2 tablespoons sugar, 1 tablespoon fat, 2 teaspoons salt, 2/3 cup cornmeal, 2 1/3 cups flour, ½ cake compressed yeast, ¼ cup warm water. Add sugar, fat and salt to liquid and bring to boiling point. Add cornmeal slowly, stirring constantly until all is added. Remove from fire, cool mixture and add compressed yeast softened in ¼ cup warm water. Add 2 1/3 cups flour and knead. Let rise until about double its bulk, knead again, and put in pan. When light, bake in moderate oven for at least an hour. Makes one loaf.

In mixing dough, the flour and cornmeal are to be used as separate ingredients, because the cornmeal must be scalded or a grainy bread results. When the cornmeal mixture is removed from the stove, it will seem difficult to add the amount of flour called for, but the flour will work in, producing a stiffer, stickier dough than ordinary.

GROUPING FOODS.

All foods may be divided into five groups, which follow. By consulting these groups, one may know what foods to select for a well-balanced menu.

Group one consists of fruits and green vegetables, which are rich in mineral matters and vegetable acids.

Group two consists of foods rich in protein and includes milk, cheese, eggs, meat, poultry, fish, nuts, and dried peas and beans.

Group three contains the starchy products as cereals, meals, flour, bread, crackers, macaroni, cakes, starchy puddings, and potatoes.

Group four includes the saccharine foods, as sugar, molasses, syrups, honey, candies, preserved fruits, and jellies.

Group five includes the fats, as butter and cream, lard, suet, salt pork, bacon, and salad oils.

THE BUTTER MERGER.

There is a new, simple contrivance on the market now, known as a butter merger, which produces two pounds of butter from one pound of butter and one pint of milk. Merged butter is not as rich in butter fat, but is creamier and more delicate and is just as delicious for eating.

To merge a pound of butter, put into the small churn a pint of sweet milk, a pound of sweet butter cut up and a pinch of salt. Force the dasher up and down until the contents are thoroughly merged. Then remove the dasher, scrape off the butter that adheres and shake it down and put in a cool place to set. The roll will come out firm and fine. This merger can also be used for whipping cream and mixing cake batter.

THE HOME.

To say that it is woman's task to make the home is to miss its most exquisite meaning. No one of the group can make the home, though anyone can mar it. It must be made by all, for the uses of all.—Elizabeth Woodbridge.

Snap-Shots from Home.

Give cheer to the boys in camp and on shipboard by sending them pictures from home. There are likely to be some tedious, homesick days and a little cheer-up in the way of photographs of the home folks and the home doings will do them a lot of good.

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Good Health.

[By H. E. Pastor, M. D.]

Hay Fever Sufferer Blames Johnson Grass.

Ed. Health Dept.: Your article on "Hay Fever" was read by me with great interest, as I am one of the many sufferers from that disagreeable trouble. With all due respect to Dr. Selfridge, to whom I believe you refer, it seems foolish to state that the pollen of the black walnut is the main cause of the disease. Mine is caused, by my own experiments, by the pollen of Johnson grass. I have tried a great many remedies with small success. A trip to San Francisco bay will stop it with me, but that, unfortunately, I am seldom able to afford. This spring the inflammation worked down into my bronchial tubes and laid me up with a pseudo (or real) bronchitis. At the present time the grass, when it touches my bare arms, affects me very much like poison oak, but the irritation is easily removed by an alcohol rub. We have no black walnut trees on the place and I seldom come in contact with one.—Worthington Ames, Browns Valley, Yuba county, Cal.

[We believe it is the consensus of belief among the members of the medical fraternity that the principal cause of autumnal hay fever, the most prevalent form, is the irritation of the mucous lining of the nostrils by the pollen of the common ragweed (Ambrosia Elatior)].

Coddling Ourselves Overmuch.

We have just read what purports to be an authoritative statement to the effect that one-half the male population of the United States, between the ages of 18 and 45 years, is unable to pass the physical examination required for military service. This is a lamentable revelation, though not at all "startling," as the writer asserts, for everyone who knows anything about the subject knows that the side-stepping of all forms of active physical exercise to which the present generation is so prone inevitably leads to physical deterioration. Hard manual work, which falls so abundantly to the lot of the farmer, is not an unmixed evil. It has its redeeming rewards. When not carried to excess it promotes the appetite, induces sound sleep, eliminates waste material and renews the vital tissues of the body. Most of the blood, and brawn, and brain that conducts and directs the energies of our large cities, is drawn from our rural districts. Unfortunately, the devitalizing effects of urban life, however, soon become apparent, and each succeeding generation is less efficient than the preceding, the sins of the parents being visited upon the children unto several generations. "The parents eat sour grapes and their children's teeth are set on edge." About the only remedy for this state of things is a return to that simple life which involves more physical hardihood, plainness in diet, moderation in desire and in the effort to attain it. We are over-pampered and under-exercised.

Bad breath may come from decaying teeth, nasal catarrh, diseased tonsils, or putrefying matter in the stomach, bowels, or when lodged in a "pocket" in the œsophagus.

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—Chemist
—Gas Engineer
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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, August 29, 1917.

WHEAT.

An unexampled state of affairs exists in the wheat market here. With no transactions on the call board, there is no way of establishing values, which apparently do not exist any more, and until the food control board shows its hand there will be no offerings.

For the present, the call board exhibits no quotations whatever.

Sonora wheat	$4.00@4.10
Northern Club	None offered
California Club	None offered
Northern Bluestem	$4.35@4.50
Northern Red	4.10@4.50
Russian Red	None offering

BARLEY.

The inquiry for brewing and shipping that developed last week prevails no longer. Choice feed has advanced, because of light receipts, but there are few buyers. It is thought that the calling in of the last 30 per cent of the Liberty Loan has caused a fancied stringency among buyers, who refrain from operating.

Shipping, per ctl	$2.32½@2.35
Brewing	2.32½@2.35
Choice feed, per ctl	2.37½@2.40

OATS.

Prices of last week remain unchanged, and the apathy of buyers is appalling. Blacks are no longer offering in the market. Some buyers, for a venture, went into the country during the week, thinking to purchase oats and other grains at an advantage, but met with no success.

White Feed, per ctl	$2.65@2.70
Red Feed, per ctl	2.90@3.00
Red Seed, per ctl	3.25@3.50

BEANS.

Holders of beans are still cleaning up old stocks before the arrival of new crop. The uncertainty produced by the absence of any details as to Government policy regarding prices has paralyzed operations and prices on almost all lines have declined. Even at the cheaper values there is no temptation for buyers, and the published quotations may be looked upon as being weak and liable to concessions on the part of holders.

Bayos, per ctl	$ 8.00@ 8.25
Blackeyes	6.50@ 7.00
Cranberry beans	8.50@ 9.50
Horse beans	3.50@ 4.00
Small whites (south)	11.50@12.00
Large whites	10.00@11.00
Limas (south, recleaned)	10.00@11.00
Pinks	8.00@ 8.25
Red kidney	9.00@10.00
Mexican reds	8.00@ 8.25
Tepary beans	None offered
Garbanzos	4.50@ 5.25

CORN.

Some stocks of Eastern Yellow arrived during the week, and are again quoted, but the volume of these importations has been small. Due to the influence of the apathy in other grains, the corn market is considerably weaker and quotations are not firmly held.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, per ctl., blk	$3.80@4.00
California, sacked	$4.25@4.50
Milo Maize	4.00@4.25
Egyptian	None offered

HAY.

Receipts of hay during the week have been 500 tons greater in volume than for the previous week or as heavy as for any week during the season. The usual rush of hay into this market during July and August did not take place on account of the car shortage. Usually at this season of the year all hay warehouses in the city are practically filled, and with heavy arrivals coming in concessions in prices have to be made in order to move hay away from the railroad tracks. This has not been the case during this season and prices have advanced. The crop has changed hands in the country at higher prices than ever known before. This indicates higher prices for hay as soon as it has been drawn from the fields and is taken from the warehouses. Beyond this the state of the pastures will determine future prices. Almost all receipts are of excellent quality. Stock hay is scarce and selling out of all proportion to other grades. Alfalfa is firmly held, with a good demand. Trade in San Francisco is very slack compared with former seasons.

Wheat, No. 1	$19.00@21.00
No. 2	16.00@18.00
Tame oats	19.00@21.00
Wild oats	16.00@19.00
Barley	15.00@19.00
Alfalfa, new, first cut	16.00@19.00
Stock hay, new	14.00@16.50
Straw, per bale	50@90c

FEEDSTUFFS.

Very little alfalfa meal is offering and it has advanced in price. Most of the various lines of feedstuffs bought in large quantities have been obtained in the country without undergoing transportation.

(Per ton, San Francisco.)

Beet Pulp, per ton	$38.00@40.00
Alfalfa meal, per ton	27.00@30.00
Bran, per ton	40.00@41.00
Oilcake	50.00@55.00
Coconut cake or meal	40.00@41.00
Cracked corn	83.00@84.00
Middlings	50.00@52.00
Rolled barley	53.00@54.00
Tankage	None offered
Rolled oats	856.00@58.00
Rice middlings	None offered
Rice bran	$30.00@33.00
Shorts	43.00@45.00

POTATOES, ONIONS, ETC.

Cucumbers are more plentiful this year than ever known before and market is flooded with them. As a consequence, they have declined sharply and are weak at quotations. String and wax beans are scarcer and higher. Heavy arrivals of summer squash caused a lowering of values. The heavy shipping demand for potatoes has fallen off and available stocks are coming into this market. As a result of oversupply, prices have weakened and show declines which may be repeated before many days have passed. Garlic has advanced, owing to heavy demand in New York.

Asparagus	None
Peas, per lb	4@4½c
String beans, per lb	5@6c
Wax beans, per lb	5@6c
Hubbard squash, per sack	$1.00
Summer squash, per box	35@50c
Cucumbers, per box	25@40c
Celery, per lug	Nominal
Tomatoes, per lug box	50c@$1.00
Potatoes, Salinas	$2.75@3.00
Oregon	None
New, Rivers, per ctl	$2.40@2.75
Sweets, per lb	4@4½c
Onions, yellow, per sack	$1.00@1.25
Reds	85c@$1.10
Garlic, per lb	3½@4c

POULTRY.

Receipts are fairly heavy, with demand equalling the supply. Hence prices are maintained on the same level as during previous week. Geese show a higher value. No arrivals of Eastern stock have supplemented the carload of last week.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb	20@22c
do, dressed, large, per lb	None
Broilers, 1½ to 2 lbs	27@28c
do, 1¼ lbs	27@28c
do, under 1 lb	27@28c
Fryers	27@28c
Hens, extra, per lb., colored	20c
Small leghorn	15@16c
Smooth young roosters, per lb. (3 lbs. and over)	28c
Old roosters, per lb	12@13c
Geese, per lb	18c
Squabs, per doz	$2.50@3.00
Ducks	15@18c
Old	12½c
Belgian hares (live)	14@16c
do (dressed)	16@18c

BUTTER.

High values prevailing are due largely to shipping operations, conducted on a small profit basis, to Los Angeles and northern points. Most of them do not go through the exchange. Good extras are scarce. While many dealers consider present prices too high, they seem to be maintained without difficulty.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	41½	42	42	42	42	42
Prime 1ts	40½	41½	41	41	41	41½

EGGS.

Receipts for the week fell off a little from the heavy receipts of the previous week. Several cars of eggs went East Tuesday, which assisted in maintaining values. There is no indication of any approaching sagging of the egg market, although it is the unexpected that happens very often, especially in the egg market.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43½	43½	43	43½	43½	43½
Extra 1sts	42½	42½	42½	42½	42½	42½
Extra pullets	41½	41½	41½	42	41½	41
Extra 1st pul.	40½	40½	40½	41	41	40½

CHEESE.

Young Americas fell off ½c Wednesday, but flats did not recede. A quantity of inferior cheese is arriving, which does not meet with approval. Fancy cheese is very scarce and represents the main cause of the well-maintained values, which show no signs of decline.

Y. A.'s	24½c
Fancy California Flats, per lb	22c
Monterey cheese	8@18c

FRESH FRUITS.

Peaches, figs and plums are arriving in great plenty but are taken care of. Watermelons are higher, as prices have advanced in the country. They are selling there f. o. b. shipping points at $12 a ton. Persian melons fetch 1¼ cents a pound and casabas command $1.25 to $1.50 per dozen.

Apples, Gravenstein, per box	$1.50@2.00
Pears, per box	75c@$1.50
Cantaloupes, per crate	$1.25@2.00
Apricots, per box	None
Peaches, per box	50c@$1.00
Figs, per box	50c@$1.00
Plums, crates	50c@$1.00
Watermelons, per doz	$1.25@3.00
Grapes, Malaga	75c@$1.00
do, Seedless	75c@$1.00

CITRUS FRUITS.

All lines of lemons and lemonettes are down 50 cents, due to a slacking of eastern demand, because of cooler weather there. Oranges are rather weak at quotations, but do not show any change in price.

Oranges:	
Valencias, fancy	$3.50
Valencias, choice	$3.00@3.25
Lemons:	
Fancy, per box	$8.00
Choice	7.00
Standard	5.00
Lemonettes	5.50
Grapefruit, fancy	3.50@3.75

DRIED FRUITS.

The market is quiet and weaker, with declines on apples, prunes 1916 basis, pears and peaches. The additional embargo on the exportation of dried fruits expected to be announced soon, has an enfeebling effect on values and business in dried fruits, generally. From the present outlook, the export to neutral countries will be very light.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop	10@12c
Apricots, per lb	12½@16c
Figs, black, 1917	5¾@6¼c
do, white, 1917	6½@ 7c
Calimyrna, 1917	10 @11 c
Prunes, 4-size basis, 1917	6 @ 6½c
Prunes, 1916, basis	7¼c
Pears	6@8c
Peaches, 1917	7@9c

BERRIES.

The third crop of berries is now in, as shown by the increased arrivals. Straws, rasps and blackberries have all declined because of oversupply at this time of year when berries have to give way to the larger fruits. Otherwise these lines move well.

Strawberries, Banners, chest	$5.00@5.50
Longworths	None
Blackberries, per chest	$3.50@4.50
Raspberries, per chest	$8.00@10.00
Gooseberries	None

HONEY.

Prices of all lines are firmly held, under the influence of extraordinary light receipts. The crop is very late this year and the meager supplies cannot satisfy demand.

Comb—	
White honey	13@15c
Light amber	11@15c
Amber	8@10c
Extract—	
Water white, per lb	12@14c
Light amber, per lb	9@11c
Amber	8@10c

HOPS.

Very few transactions are taking place as growers are marking time until after the harvesting of the crop. No change can be made in the wide range of prices of spots and futures are still quoted at 29 to 31 cents.

Baled, per lb	8@20c

LOS ANGELES.

Los Angeles, August 28, 1917.

BUTTER.

Receipts of week ending August 28, 367,600.

Receipts of same week last year, 454,350.

While the receipts were fairly good the past week there was less moving. The high prices turning many consumers to oleomargarine. Still with the eastern markets firm and tending up, a 42c market on extras was maintained throughout the week. There was taken into cold storage during the week only 282 pounds against 51,703 pounds the same week last year. The cold storage holdings now are 213,996 pounds lighter than this time a year ago. Tuesday the receipts were heavy, but not enough to break the market, which was made just the same as the day before.

We quote:

California extra creamery	42½c
California prime first	41c
California first	40c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	42	42	42	42	42	..
1916—						
Extra	28	28	28	29	29	29

EGGS.

Receipts (railroads) for week ending August 28, 1917, 863 cases.

Receipts (railroads) for week ending August 28, 1916, 1855 cases.

Very light receipts and higher prices of meats, which makes eggs as cheap as meat, caused a steady and firm market throughout the week. Market demand was largely local and not heavy, as consumers are economizing in egg consumption at an advance of 10c over last year's prices. There was taken out of cold storage during the week 655 cases, still the holdings are 14,906 cases heavier than this time last year. But this failed to influence the market in the face of very light receipts, which for the week show a falling off of 992 cases compared with a year ago. Chicago is up ½c on firsts for the week and New York 1c, which had a sympathetic influence. Tuesday, with better receipts and demand light, case count went off 2c and pullets ½c, while extras remained unchanged.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	43½	43½	43½	43½	43½	..
Case count	42	42	42	42	42	..
Pullets	39	38	38	38	38	..
1916—						
Case count	32	32	32	32	32	32

POULTRY.

Hardly so much in the past week and tone of the market better. Receipts of broilers show a falling off and rule a little higher and were in good demand. More fryers coming in, slow sale and weak. Roosters dull and lower. A good many light hens arriving and continue dull. Heavy hens in fair demand and steady. Ducks, turkeys, and geese continue dull.

We quote from growers;

Broilers, 1¼ to 2 lbs	21@23c
Fryers, 2½ to 3 lbs	21c
Hens over 4 lbs	21c
Hens under 4 lbs	14@15c
Ducks	15c
Geese	12c
Roosters, 3 lbs. up (soft bone)	20c
Turkeys, heavy, 12 lbs. and up	29@30c
Turkeys, light	24@25c
Squabs, live, per doz	$3.00@4.00
Dressed	3.50@4.50

FRUITS.

The market the past week was quiet. Prices were generally held about steady, but sales were slow. There was a little more doing in apples. More coming in and offerings of better quality. Peaches steady and firm, but dull. Figs, that is the best of them, were in fair demand, but the cheaper kind dull. White Pacific and fancy blacks meeting with the best demand, all others dull. Grapes coming in more freely and in fair demand but lower. Plums dull but steady and quinces dull and lower. Nectarines in fair demand.

We quote from growers:

Apples, Gravenstein, per 4-tier box	$1.40
Bellefleur, 4-tier	1.05
do, 3½ tier	1.10
do, 4½ tier	.90
Peaches—	
Freestone, local, per lug	35@60c
Clings, Tustin, per lug	35@60c
Northern, per lb.	1½@2c
Figs—Black, 2-layer	$1.00@1.35
Figs—White Smyrna, 2-layer	60@75c
Figs—White Pacific, 2-layer	$1.25@1.40

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, August 28, 1917.

Under heavy offerings in all auction markets, prices have ruled equally as well as the week previous, with the possible exception of peaches. Shipments of Malagas are increasing, with a noticeable effect upon the market. Stock that is arriving is fairly good quality, but account of the berries running small market is showing an easier tone. Pears, when good quality, were in strong demand and fruit of this character held firm, while medium and low grade stock ruled from 5c to 10c lower, though demand is good at prices realized.

The demand for Thompson seedless seems to have become inactive and has been replaced by Malagas and Tokays, a few lots of which have already arrived. Tokays are coloring up so that a few cars have already been shipped and the movement will practically be on about September 1. We look for an exceptionally good demand at satisfactory prices.

The slump in peaches was expected, but as the market receded only temporarily it rallied during latter part of the week under lighter offerings and lesser receipts from Eastern States.

California growers and shippers can congratulate themselves on the fact that they will be able to dispose of their plum shipments during the next ten days or two weeks, as offerings from the Northwest will be heavy and quite a proportion of the crop has been pledged at prices ruling considerably less than that now quoted and accepted on California stock. The following prices have ruled for the week:

New York.—Bartlett pears averaged $2.98, Elberta peaches 78c, Crawford 71c, Tuscan $1.20, Thompson seedless $1.49, Malagas $2.66, Gross plums $1.60, Duke $1.48, Giant $1.20, Sugar $1.13, Diamond $1.17, Kelsey $2.10.

Chicago.—Bartlett pears averaged $2.87, Elberta peaches 84c, Tuscan 64c, Crawford 72c, Yellow Free 61c, Malaga grapes $2.33, Thompson seedless $1.18, Kelsey plums $2.11, Diamond $1.53, Hungarian $1.55, Giant $1.54, Sugar $1.41, Duke $1.66, Gross $1.65, Egg $1.50, Tokay grapes $2.50.

Boston.—Bartlett pears averaged $2.82, Thompson seedless $1.95, Malaga grapes $2.92, Tragedy plums $1.15, Diamond 85c, Fellenberg $1.27, Gross $1.55, Grand Duke $1.27, Hungarian $1.17, Kelsey $2.65, Duane 95c, Elberta peaches 72c, Crawford 72c.

Total shipments by cars for the week ending August 24 as follows: 290 peaches, 251 plums, 254 pears, 467 grapes.

Total number of cars shipped to date, 1917: 9,419.

Total number of cars shipped to date, 1916: 9,421.

Special Citrus Market Report

Los Angeles, August 28, 1917.

Shipments of citrus fruits from Southern California from November 1 to August 26: 36,899 cars, and lemons, 7297 cars. Same time last year: Oranges, 29,050 cars, and lemons, 6328 cars.

The past week was another dull one in this market. The eastern markets were both dull and lower. Still there was some little doing and while prices are lower, they still pay the grower something. Very little doing in either oranges or lemons. The latter lower in sympathy with the decline East and cooler weather. Local packers still paying 10@11c per pound in the grove, picked, for Valencias, and 1½@2c per pound in the grove, picked, for grape fruit. Lemons are being bid for at 2@3c per pound in the grove, picked.

AUCTION SALES.

New York, August 26.—Market easier and lower on poor quality of Valencias and lower on lemons and grapefruit; 23 cars oranges, 2 cars lemons, and 1 car grapefruit sold. Valencias averaged $1.60@4.50. Lemons averaged $4.90@6.25.

Boston. August 26.—Eleven cars sold. Market is higher on both oranges and lemons. Valencias averaged $1.90@4.35. Lemons averaged $5.05@5.65.

Philadelphia, August 26.—Six cars sold. Market is unchanged on both oranges and lemons. Valencias averaged $2.40@4.30. Lemons averaged $3.70.

Grapes—
Malaga, per lb. .....2½@3c
Muscat, per lb. 3c
Black Hamburg, per lug.....75c
Plums—
Burbank, per lug.....20@30c
German prunes, per lug.....90c@$1.00
Satsuma, per lug.....40@50c
Pears, per lb. .....2@3c
French prunes, per lug.....50@60c
Quinces, per lug .....40@50c
Damsons, per lug .....60@70c
Nectarines, per lug.....75@90c
Apples, green, per lug.....25@30c

VEGETABLES.

The past week was a very quiet one in this market. Offerings very good. Northern potatoes coming in more freely and local in consequence slow sale and lower. Onions continue dull. String beans in light supply and Kentucky Wonders in good demand and higher. Tomatoes dulf and lower. Lots coming in. Corn steady and in fair demand. Egg plant dull and lower. Summer squash and cucumbers steady but dull. Northern peas in fair demand and higher. Cabbage steady but dull.

We quote from growers:

Potatoes, Northern, per cwt.....$2.75@3.00
do, local ..... 2.50@2.75
Peas, Northern, per lb. .....7@7½c
Onions, Yellow Danvers, per cwt..$1.35@1.40
do, Australian Browns.....$1.25@1.35
String beans, wax, per lb.....1@1½c
do, Kentucky Wonders, per lb.....3@4c
Tomatoes, No. 1, local, per lug.....20@25c
do, No. 2.....15c
Summer squash, per lug.....10@15c
Cucumbers, per box of 2½ to 3 dozen .....15@25c
Green corn, per lug .....45@50c
Cabbage, per 100 lbs.....40@50c
Lima beans, per lb.....2@2½c
Okra, per lb.....5@6c
Bell peppers, per lb.....1½@2c
Chile peppers, per lb.....1c
Celery, per crate.....$2.25@2.50
Egg plant, per lb.....2@2½c
Sweet potatoes, per cwt.....$3.25@3.50

MELONS.

Market well supplied the past week and some very nice melons offering. The best cantaloupes were in very fair demand and a little higher. Watermelons slow sale and weaker. Honey Dew melons dull at unchanged prices.

Cantaloupes—
Local, Pineapple and Tiptop, jumbo crate .....75c@$1.25
Pineapple and Tiptop, pony crate .....65@70c
Columbia, jumbo crate.....75c@$1.25
Paul Rose, standard crate.....60@70c
Watermelons, per cwt.....75@80c
Casabas, per jumbo crate.....$1.25@1.30
Honeydew melons, per box of 9-10, 75@90c

BEANS.

With harvest now well under way and the crop a big one a dull and declining market was had the past week. Limas and whites are lower and even at one cent per pound decline, trade took hold cautiously and only took such lots as needed for immediate use.

Limas, per cwt.....$10.00
Large white, old, per cwt..... 12.50
Small white, old, per cwt..... 12.50
Large white, new, per cwt..... 10.00
Small white, new, per cwt..... 10.00
Pinks, per cwt..... 9.50
Blackeyes, per cwt..... 8.00

HAY.

The market remains steady and rather firm. Receipts light the past week owing to scarcity of cars, and under the influence of lighter offerings full quotations secured. Receipts, 160 cars.

F. O. B. Los Angeles:

Barley hay, ton .....$21.00@22.00
Oat hay, ton ..... 21.00@22.50
Alfalfa, northern, per ton..... 18.00@19.00
Alfalfa, local, ton..... 20.00@21.00
Straw, ton ..... 9.00@10.00

Special Livestock Market Report

San Francisco, August 29, 1917.

CATTLE—The price market in San Francisco moves along on a pretty even keel, being affected little if any by the price flurry in Chicago. The livestock market in that city may be said to be in a demoralized situation. High prices of corn and other feedstuffs doubtless are a factor, but the speculative mania is believed to be mainly responsible for the sensational prices on which trading in that market has been based latterly.

Grass Steers—
No. 1, weighing 900@1200 lbs..8½@8¾c
No. 1, weighing 1200@1400 lbs..8½@8¾c
Second quality .....8@8¼c
Thin undesirable .....6½@7½c
Grass Cows and Heifers—
No. 1 .....7¼c
Second quality .....6¼@6½c
Undesirable .....4@6c
Hay-fed cattle ½c to ¾c higher.
Bulls and Stags—
Good .....5½@5¾c
Fair .....5@5¼c
Thin .....4@4¾c
Calves—
Lightweight .....9¼@9½c
Medium .....8¼@8½c
Heavy .....7¼@7½c

SHEEP—There is little change to report in the sheep market. Stock is scarce and hard to obtain. The prices demanded by growers deter would-be purchasers, the holders being under the hypnotism of high wool prices.

Lambs—
Yearling .....11½@12c
Milk .....11½@12c
Sheep—
Unshorn wethers .....10@10½c
Unshorn ewes .....8@8½c

HOGS—It was predicted a short while back that hog prices would advance. Receipts are fully up to requirements, and prices have sagged slightly since our last quotations:

Hard, grain-fed, 100 to 150.....14c
do, 150 to 300.....15c
do, 300 to 400.....14½c

DRESSED MEATS.

Steers—
No. 1 .....14c
Second quality 12½c
Cows and heifers.....12@12½c
Calves as to size, etc.....12@15c
Lambs—Suckling 22c
do. Yearling 20c
Sheep—Ewes 17c
Hogs 21c

HORSES.

Unquestionably the Government's requirements for horses and mules has stirred the draft-horse market into some activity throughout the country, though little change can be noted in the local situation. That the future looks bright for the well-bred, all-purpose horse is pretty generally conceded. Prices are unsatisfactory to quote in the absence of a recognized market, but the following are the figures on which trading is done as nearly as we can ascertain, good type and conformation considered:

Horses—
Heavy drafters, up to 1700 lbs and up .....$250@275
Light drafters, 1550 to 1650 lbs..$150@175
Chunks, 1350 to 1500 lbs..... 150@175
Wagon horses, 1250 to 1350 lbs.. 110@125
Delivery wagon horses, 1050 to 1250 lbs..... 85@100
Farm workers ..... 60@ 75
Mules—
900 lbs., 4 to 7 years.....$125@150
1000 lbs., 4 to 7 years..... 150@175
1100 lbs., 4 to 7 years..... 200@225
1200 lbs. and over, 4 to 7 years.. 225@260

WOOL—The demand for wool at the present time surpasses anything known in the recent history of that commodity. While prices are still inordinately high, there is no likelihood of prices falling for a year to come.

Los Angeles, August 28, 1917.

CATTLE—Hardly so many in the past week and well finished cattle were rather scarce and firm. Medium and fair fleshed continue in fairly good supply and market for them lacked especial life. Young calves scarce and firm, but heavy calves in fair supply and dull.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1,000 to 1,100 lbs....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers..... 6.50@7.00
Calves, per cwt..... 8.00@9.00

HOGS—Last week's advance is being maintained and what few hogs coming in meeting with fair demand. While killers are getting what few medium and fair fleshed hogs wanted at quotations, choice well-finished hogs continue scarce and command a premium.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs..$12.00@13.00
Mixed, 200@250 lbs..... 13.00@14.00
Light, 175@200 lbs..... 13.00@14.00

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—A steady and firm market continues. Demand not heavy, yet ample for all receipts and killers are having to bid up full quotations to get what they want.

Per cwt. f. o. b. Los Angeles:

Prime wethers .....$ 9.00@10.50
Prime ewes ..... 9.50@10.00
Yearlings ..... 10.50@11.00
Lambs ..... 13.00@14.00

North Portland, Ore., August 27, 1917.

CATTLE—The pens included a large number of feeders of all classes, including high-grade smooth feeders to roughs and commons. The demand for feeders is active but prices are not advancing. The most business was transacted in top stuff, in which department there was not an excessive supply. The following prices:

Best beef steers, $8.25@8.75; good beef steers, $7.00@8.00; best beef cows, $6.50@7.25; ordinary cows, $3.50@6.00; best heifers, $6.75@7.25; bulls, $4.50@6.50; calves, $6.50@9.25; stockers and feeders, $4.50@6.75.

HOGS—The hog department showed up a splendid string of finished hogs, which resulted in the springing of prices offered at the close of the week, and the bulk of the sales crossed at the top of the quotations are taken from the sales. Prime light, $17.25@17.50; prime heavy, $17.00@17.25; pigs, $15.50@16.00; bulk, $17.50.

Publisher's Department.

With this issue of the Rural Press its circulation exceeds 28,000 copies. Last week we added 404 new paid subscribers, which carried us over the mark we had set to pass by September 1st. This week closes the subscription campaign carried on for the past three months in order to make good to our advertisers, but does not mean that we will suspend active work for a still larger list. At this time we wish to acknowledge the valuable and loyal assistance of our field force. Never for a moment have they faltered in the work. Some were needed in other places, but they wanted to help secure the full quota promised last spring, and stayed with the work. To each one of them we extend hearty thanks.

We believe our present subscription list to be the best and largest ever regularly secured for a farm paper in the West, and our editors will continue in their efforts to furnish a paper each week that will make of every subscriber a friend who will renew his subscription upon expiration. At this time we are putting into effect a new advertising schedule of $2.45 per inch flat, based upon a circulation of 28,000. This new rate is an advance of about 45c per inch. The former rate was based upon a circulation of 18,000 copies weekly—so the raise is only 20 per cent, based upon a gain of over 50 per cent. Advertisers will recognize the fact that our columns now offer a great business opportunity.

Pardon us if we seem to unduly emphasize the position the Rural Press has attained during recent years. Not long ago the paper had less than 3,000 subscribers—its subscription price was $2 per year for a sixteen-page paper; since then steady progress has been made until now we have a 28,000 list, we issue a 24 and 32-page paper at $1 per year, and maintain the same editorial standard. The great agricultural need is for strong journals to properly understand and express the fundamentals of farming, and we believe the Rural Press has been and is doing this work in its field. Every farmer should support that kind of a paper, just the same as business men do the journals published in their lines.

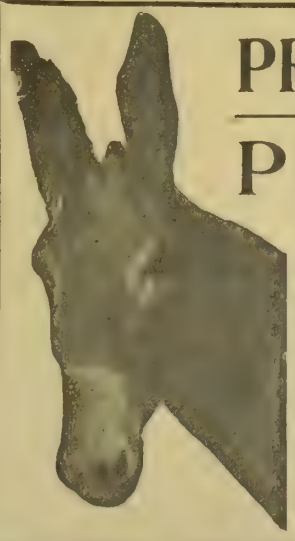
You Want Real Horses

Ithos, Grand Champion at Sacramento, 1916.

One real good horse will do as much work as two ordinary scrub horses and will eat only half as much. Replace your present stock with real horses and release half your land for the production of food for the Allies and thus help win the war.

Will exhibit Ithos and his get at the State Fair.

M. BASSETT, Hanford, Cal.



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See our Jacks and Mules at the STATE FAIR

JOHN BURRELL HANFORD, CAL.

STATE FAIR AUTO SHOW.

(Continued from page 207.)

at the usual place near the main entrance. So many farmers now have money for automobiles, but do not know which to buy, that this is a rare opportunity to pick up the strong points of each before deciding. Auto trucks will be shown in a separate tent.

SNATCH BLOCKS REPLACE MULTIPLES.

The multiplication of power by use of pulleys always results in multiplication of distance through which the power is applied. The more pulleys the more power, and the greater distance the man, team or tractor at the end of the rope will have to travel. Many jobs like pulling stumps involve rapid change from the need of great power to a light pull. With a light pull the man, team or tractor can do the work without traveling so far, if he can quickly reduce the number of pulleys. This is one reason why J. D. Cox of Sonoma county uses several single snatch blocks instead of two double or treble blocks in stump pulling. Another reason is that with multiple blocks the pull often comes on a twist and may even cut the rope over the edge of an iron block. For a light pull he ties the rope to a stump, sets it into a snatch block on the stump to be pulled, and pulls on the other end. If a little more power is required, he ties the end into the snatch block on the stump to be pulled, lays the rope into a snatch block on another stump and through the one it is tied to. For additional power, extra snatch blocks are hooked into the eyes of those already in use.

AUTO SUGGESTIONS.

If a knock shows up in your gas engine the sooner fixed the better.

Brake bands which are not worn out, but do not grip right or tight, can be helped along by a few small pieces of beeswax slipped under the bands. The writer has grease cups tapped into the lower half of bands, and when brakes don't grip tight enough screws a little thin beeswax between them.

Be sure that your oil pump and pipes never get clogged up; otherwise new bearings will be the result.

It is cheaper to oil auto springs than buy new ones; besides, old ones oiled ride more smoothly than new ones.

Occasionally autos which start hard can be remedied by adjusting spark plug points closer, cleaning the breaker points of magnetos, and also setting them closer.

Don't rely on getting new timing gears to go automatically in place. It is necessary to set the cams and valves over in case you need new ones.

TRUCK HAULS POTATOES FROM FIELD.

An auto truck proved most satisfactory to haul potatoes a mile from the orchard in which they were grown by Arthur Swall of Tulare county, to the sorting and sacking gang. It hauled 68 boxes of 50 pounds each for awhile, but the springs bumped together, so the load was reduced to 58 boxes, which were hauled direct from the plowed ground. The long haul made its extra speed very desirable, especially if help had been scarce.

TRUCK SAVES TIME AND FRUIT.

[Written for Pacific Rural Press.]

It used to take a day to make 1½ trips to the cannery with peaches, about five tons per four-horse wagonload, for Cutter Bros., who have large orchards in Sacramento county. Now the autotruck driver makes five or six loads per day after 9:30 A. M. He uses a five-ton truck and often hauls a three-ton trailer in addition. It takes 60 to 75 minutes for the round trip of twelve miles. The 16-year-old son of E. G. Cutter hauls about five loads of shipping fruit per day on an 1800-pound truck, besides helping at the packing house in the morning. With a heavy load, says he, the fruit does not shake up much on the road, though on the trailer it jumps around more or less. There is a great advantage in having the fruit on the road in the sun such a short time.

TRACTOR SHORT COURSE IMPROVED.

[Written for Pacific Rural Press.]

Special plans are being made for enlargement of the Tractor Short Course to be held at University Farm November 5 to 15, 1917, under supervision of Prof. J. B. Davidson, head of the Department of Agricultural Engineering. Prof. Davidson had several years' experience with tractor courses in the East before coming to California two or three years ago. The Tractor Short Course of last year was full of exactly the things that tractor drivers want to know; and eight manufacturers furnished one or more of their machines for students to operate under instructors. There is no tuition for Californians to take the course.

TRACTOR THROUGH SAND.

While the standard wheel type tractors will turn their wheels if hitched to a barn, they occasionally get up against it in a sandy patch where lack of footing prevents pulling a heavy load through. J. T. Onstott of Sutter county, with his little vineyard tractor, sometimes got through a bad sandy spot by tieing grape stakes to the wheel rims.

TRACTOR ON DAIRY RANCH.

The 15 h. p. tractor on the Garden Dairy Ranch in San Luis Obispo county, plows and works the soil down for silage corn and other crops, and runs the silage cutter in the fall. It pumps water for dairy use and to irrigate the alfalfa. It is found more and more convenient as each new use suggests another.

POWER NOTES.

The Chico Water Supply Company have ordered a 70 foot 12 inch high capacity pump from the Layne & Bowler Corporation to be able to meet the increasing water demand for the city of Chico. This pump was purchased after considerable investigation by the Water Supply Company

In the farm blacksmith shop used on the Swall Land Company's ranch in Tulare county, a two-horsepower gas engine runs a short lineshaft. From this belts operate the grindstone, an emery wheel and polisher, and a steel drill.

That simply turning the grease cup regularly on a machine is not enough, is shown by the experience of B. J. Foster of Tulare county, who burned out the cap on his tractor axle because the grease cup tube was stopped up.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler of the "Giant" Type

Will Work Wonders on Your Farm

Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL

So extremely simple, a child could operate one as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

Send today for full information and our latest catalog of earth moving machines.

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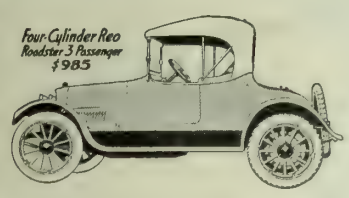
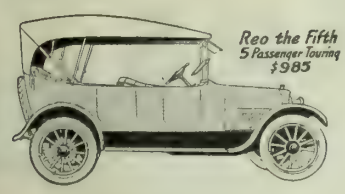
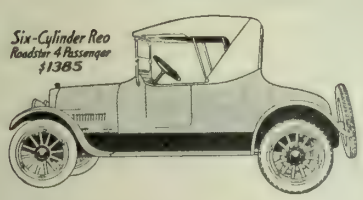
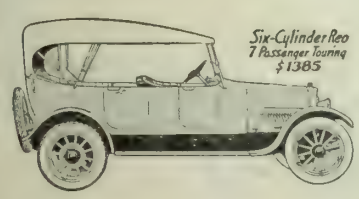
REO

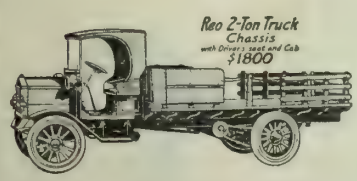
The GOLD STANDARD OF VALUES

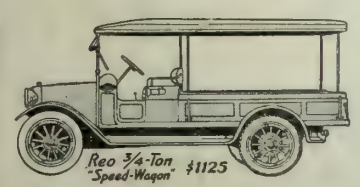












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WE SHOW HERE SIX Reo Models, comprising Fours in Touring and Roadster types; Sixes in Touring and Roadster; and the two Reo Commercial Vehicles—the ¾-Ton "Speed Wagon" and 2-Ton "Heavy Duty" Truck.

IN THIS ADVERTISEMENT we have space only for a brief paragraph pertaining to each Model—lest you forget the line is so complete that you can find the car you desire, in the type you prefer, and in a Reo.

REO THE FIFTH, "The Incomparable Four," is America's most famous automobile. Standard in practically its present form for now eight seasons—"going on nine." At its present price, $985, this car is verily "A gold dollar for ninety cents."

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THE FOUR ROADSTER is the handsomest model of its type you'll see on the road—at any price. And, for the present, you can get it for $985 and freight from the factory.

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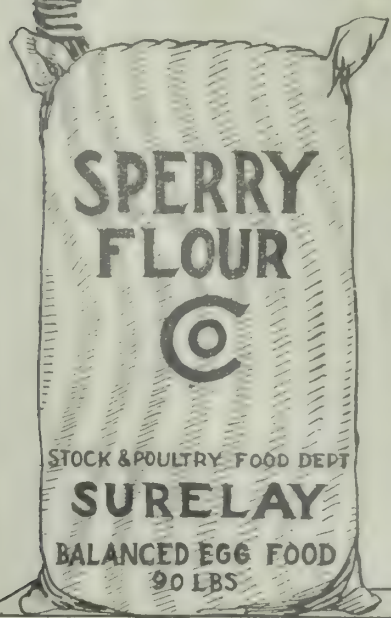

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VOL. XCIV—No. 10

THE PACIFIC RURAL PRESS

Forty-seventh Year

SAN FRANCISCO SEPTEMBER 8, 1917 LOS ANGELES

Hens and Peas Boost Productiveness of Old Trees

[Written for Pacific Rural Press.]

A STEADY increase in crop and vigor of prune trees now over 30 years old has been obtained on the Tuxedo Ranch, operated by Manager Frank Abernathy of the Sorosis Ranch in Santa Clara county. The trees five years ago were dying in the tops and going back badly, as evidenced today by the irregular framework of many of the trees. The crop in 1911 from the ten acres of prunes on this ranch was 19,440 pounds green. In 1912 it was 22,516 pounds; in 1913, 33,077 pounds; in 1914, 31,137 pounds. The record for 1915 was not available, but the crop on the whole Sorosis Ranch of 185 acres of prunes that year was only slightly less than in 1914. The Tuxedo crop in 1916 was 39,533 pounds of green fruit, and this year it is estimated at double that of last year.

"Our crops this year have been altogether too big, in cherries, apricots, peaches, and especially prunes," said Mr. Abernathy. "Limbs are broken down in spite of all our old props and hundreds of new ones. The fruit is too small and lacks sugar. The first picking of prunes, which, however, is always least sugary and most immature, won't average over 65's; but those now on the trees seem larger. Yet the trees have made extraordinary growth for next year, considering their age."

Necessary Humus Provided.

Pruning and spraying are not much responsible for the improvement in this old orchard, for these have been done no better than many other people do them; but at least two practices are distinctive here and little done elsewhere. Five years ago last fall the Tuxedo Ranch was planted to barley, which was plowed under in the spring. Every winter since then a crop of Canadian field peas has been grown under the trees and plowed under in the spring. This place has been fortunate in being the last one under Mr. Abernathy's direction to be plowed every spring, because a pump makes it safe to allow the peas to make their greatest growth. Because much nitrogen has been fixed in their tops from the air and in a form readily available for the trees soon after plowing, this gravelly soil has been much enriched by winter crops while it was not producing fruit. The humus provided by the rather mature pea tops was much needed, as it is on many other orchards of that neighborhood. The subsoil under about 18 inches of gravelly loam is composed of big cobblestones at least 55 feet down, mixed more or less with clay. If it lacked humus, the water would leach away rapidly and take out whatever of fertilizer it might dissolve on the way. How much actually does leach is not known; but the practice is to irrigate twice per year, eight or ten days per irrigation, for the whole 17 acres of prunes and apricots on this ranch. The pump is driven by an electric motor and delivers about 400 gallons per minute, the limit of the well. This means about 70 acre-inches in 80 hours on 17 acres or four acre-inches per acre about twice per season, in addition to the normal seasonal rainfall of about 20 inches. Without humus so much of this would be leached and evaporated from gravelly soil that the trees could not mature strong buds for increasing crops. For the same reason the other distinctive branch of improvement would be largely wasted.

The heaviest prune crop in the community resulted from winter cover-crops and the fertilizer from 2,000 to 3,000 hens, in addition to irrigation, cultivation, etc. The lower picture shows a branch from one of the French prune trees on the Tuxedo Ranch, with leaves removed to show fruit. Upper picture characteristic of the orchards.

Poultry Kept for Fertilizer.

Five years ago some 2,500 or 3,000 hens were located on the Tuxedo Ranch in the hope that their eggs and whatever stock should be sold would pay the cost of feed and a man to care for them at $60 per month. The profit was to be in the form of rich manure f. o. b. the ranch. Colony houses were tried the first year, but proved unsatisfactory; and permanent houses with large pens were installed in part of the orchard. The hens have the run of the whole orchard, except about two months during apricot and prune picking. They get lots of worms and bugs in the spring, to say nothing of the abundance of fine protein greens until the peas are plowed under. They scratch around so much that one objection to having them is the dust that gets on fruit. Apricots, however, are generally off before dust gets bad. It is good for the hens, which do show a favorable balance of one or two hundred dollars per year, though all feed is bought except the cover-crop and an acre of alfalfa which supplies greens through the summer. The real profit from the hens lies in the wagonload of manure spread among the trees every week. Apricots get the manure during prune picking and vice versa; otherwise it is placed wherever seems most desirable. Wheat and mixed mashes have been bought for the chickens until this year, when barley has taken the place of wheat. Mash was mixed on the ranch for awhile, but the only advantage found was in knowing what was in it; such mash was found equally expensive as the mashes bought already mixed and did not seem to produce any better results. Fruit does the chickens no good from the egg standpoint; but the chickens damage fruit which they walk over and pick at. This is a main reason for providing permanent yards. Part of the yards are among apricots, and part among prunes; though the ones in prunes were continued in use without fruit damage by chickens, by shaking the trees and picking the fruit at once. Despite the high price of feeds and the complaints of many poultrymen that they did not make profit the past year, Mr. Abernathy feels that the chickens have paid him as a fruit man. Certainly a large number of prune growers are not vexed with the problem of too heavy crops, even in this good year.

On the Sorosis Ranch, vetch, barley, and Canadian field peas have long been grown and part of them fed to the herd of dairy cows installed at the home place several years ago for the same purpose as the hens on the Tuxedo Ranch. The cover-crops furnish pasture, silage, and hay, as well as green fertilizer and cow manure.

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EDITORIALS

HELP FOR THE SWOLLEN PURSE!

WE ARE STILL harping on that frog-belly aspect of the farmer's purse which bulks so large in the public eye. If we were sure that it contained anything but wind we would call the attention of the United States Senate to it and insist that the slitting-machine which is now being contrived to relieve the bursting coin-sacks of multi-millionaires and monopolies should have an attachment which would reach the farmer's heart-case or moleskin—for we imagine that these quaint receptacles are still in vogue in the remote rural districts for holding money as they were in the days of our boyhood. We are perfectly sure that the contention which our California Senator, Hiram Johnson, is now making at Washington, that those who can shall pay for the war, is eminently just and fitting. No doubt our readers are paying attention to this issue as it is outlined in the daily reports of congressional proceedings, so we need not repeat the facts and arguments which are being cited in the support of the proposition that those who are making most profit out of war trade and manufacture should pay most of the cost of the war. As, however, the common error that the farmer is making most of the money is being brought forward frequently in shallow discussions, it seems desirable to say a few words to correct any wrong impression which may be engendered in the public mind by the unwarranted outcry that the farmer is getting over-rich.

HOW SHALL SWOLLEN PURSES BE CUT?

ALL THE PROPOSITIONS which we have seen to levy largely upon excess profits for war purposes are based upon exact ascertainment of net profits secured by trade or manufacture because of the opportunity for high prices which the war demand affords. All such profits are, of course, noted after all unusual expenditure for production has been carefully deducted from gross returns. Everything which the trader or producer desires to add to his cost of production is charged up against the product he handles. In this way he recovers all his increased overhead, his enlarged interest account, his higher labor account, his increased cost and risk in transportation—in fact, every old thing he can think of is deducted from his gross returns before he reports any net profit at all. If, then, the Government should take all the net profit, there would be no loss occasioned to such an institution by its war-time operation: for all material, all operating salaries, all labor cost, all interest on borrowed capital, and rate of depreciation would be covered, and the outfit could run indefinitely and never wear out so long as the demand for the product continued. But no proposition to take all the net profit is pending in this country. It is proposed to leave to the concern at least as much profit as it would receive from the same capital and effort in ordinary times and with ordinary prices, so that invested capital shall be requited not a whit less than it would be in similar activity in times of peace. The Senate has voted that as much as 80 per cent of this extra war profit shall not be taken and it has, apparently, a lot of talking still to do before it decides what percentage of war profit shall be taken. The exact determination of that does not concern the point we wish to make.

TROUBLE AT THE PUCKERING-STRING!

THE WISER one gets in the ways business is done, as roughly outlined in the preceding paragraph, the clearer it must appear to him that the farmer is not in the game at all. He has gross receipts and when prices are high he may get a hatful of them, but does he get them into his privy purse? The public thinks he does: he knows he does not—and that is where the trouble comes in. The old leather puckering-string has been so often wet by surplus perspiration that it will not loosen quickly enough to allow him to chuck in what really should belong to him. And this is the reason why he does not belong in the category of men from whom the Government can safely take lots of money and be sure of inflicting no great hardship. His business is not, except in rare instances, organized and accounted so that he can definitely determine the cost of production. He cannot figure in either overhead nor underfoot, and so far as selling of farm produce is concerned, it would not influence the price if he had it all figured out to the third decimal, for he has nothing to do with fixing the price, either on the basis of cost of production or of return to himself or on any other basis of fairness. Nor does he get his fair share of prices which are fixed by others because they are fixed for their own purposes and not for his. Therefore, when the shallow claim is made that because food prices are high the cost of the war should be collected from the farmers, the public should not be misled by it.

Of course, those concerned with the government of this country know that these things are so. They know that the farmer is not able to do his business as other producers do theirs and as producing business ought to be done. For this reason the Government is stopping speculation, licensing warehousing and milling to get regulation of secondary handlers of farm products and fixing prices of certain staples which seem most to need protection from manipulation. It is for this reason that Congress passed a law that wheat of the crop of 1918 should not sell for less than $2 per bushel and for the same reason President Wilson has proclaimed that 1917 wheat shall be sold at $2.20 per bushel or its equivalent. The record from Washington of the commission appointed to fix the latter figure appears upon another page of this issue. It is virtually a demonstration of the fact that if the Government had not intervened the growers would have failed to receive the cost of production for this year's crop and that the price fixe. gives them only a small margin above that. It may also be taken as a general demonstration that the reason why the farmer's purse is not swollen is because everybody else grabs the gross returns before he can get the string loosened up.

TO GET MORE INTO THE FARMER'S PURSE.

READERS WILL NOTICE that we are not trying to build an argument this week but are only carelessly stating a few simple facts to fill the space. We are trying to observe labor day, upon which everyone is expected to lay down all implements of toil and refrain from everything but jawwork—of which there is good and plenty being done today in all public halls and on all street corners. It is manifestly impossible for us to lift our voice to the circuit of a hundred thousand readers in twenty-eight thousand and a few odd hundreds of families, so we give our fountain pen the lightest possible task, which is to state facts. It takes some hard sputtering to dress up a lie so our discriminating community of readers will not recognize it.

Manifestly, it is a simple fact that the work which the Government is doing in food control and price fixing, as indicated in the last paragraph, is not to put more money into the farmer's purse but to prevent other people from pulling so much out of it. If more money is to ever go into the farmer's purse, he must put it in himself. How can he do that?

The answer to that question was given the other day by State Market Director Weinstock when he proposed the formation of a State federation of farmers' marketing associations to a conference of fruit growers, poultry producers, and dairymen. The objects of the proposed federation would include the following:

Elimination of waste in distribution.

Joint employment of an all-year-round sales organization to solicit orders from retail dealers for California farm products.

Joint employment of demonstrating organizations to interest consumers in California products.

Economic distribution by the joint employment of brokers or salaried agents at Eastern marketing points.

Securing more favorable State and Federal legislation in the interest of California farmers.

Using joint influence in securing transportation rates.

Collective buying of supplies used in farming.

Securing by joint influence financial accommodations at lower rates of interest.

Naturally nothing is said about price fixing, for that would perhaps stamp such an organization as illegitimate at its birth. As we understand it, a co-operative association of the producers of a particular product may fix prices upon that particular product, but it might be illegal for representatives of all farm products to schedule the prices for all of them. Price fixing and sales control by those who have clear right to undertake them would, however, be a by product of a general association or affiliation such as Colonel Weinstock proposes, while other things which he does not mention, such as labor supply, service and compensation, tariffs and taxes, and the whole battery of economic artillery which the farmers need to fire for the sake of fairness to their industry, would be found emplaced behind the earthworks of "State and Federal legislation in the interest of California farmers," which he throws up in his category.

For clearness of understanding we should say that Colonel Weinstock's proposition for an affiliation of marketing organizations is not the exclusive assembly of farmers which we commended in these columns last week. That movement is proceeding from a different source and has rather more specific purposes. It is our conviction, however, that on the present bleak campagna of unorganized agriculture all roads faithfully followed will lead to Rome!

BETTER FARMING BUSINESS WILL DO IT.

WHY COLONEL WEINSTOCK does not more specifically describe the objectives to be reached in his grand drive on unorganized agriculture, is not a question of any importance. Let us suppose that he desires to make a forward rush without advertising to the enemy where counter-attacks should be made. That is a sufficient reason, no matter how many more can be thought of. If we can get a widely affiliated effort among organizations which exist for producers' business purposes, is it not clear that we are likely to get farmers acting together on a business basis more broadly and efficiently than ever before? And is not that exactly what is now most desirable? There are really very few things about successful farming which do not strike through to the business of farming, and there are very few things which pertain to the increased influence, higher citizenship and broader success and prosperity of farmers which do not arise from the business of farming well done. Therefore, it seems to us a simple fact, and we are dealing with facts, not with arguments, that if Colonel Weinstock can get his broadly patriotic and promotive affiliation of "farmers' marketing associations" duly at its proper work of affiliating, it will affiliate on everything which the farming interests really need to have done, in spite of all that opposing organizations can do, and their political progenitors and progeny can cough their lungs out in efforts to silence it. For the men and women who are now in official connection with our State and local marketing organizations (of which we suppose there are perhaps one hundred and fifty in the State) are among the most upstanding, independent, and specially wise people of California: knowing details and needs of both production and marketing in their several lines and knowing also how to meet and move people in directions which their constituencies desire and need. And, this being the case, there is only one more fact to state in this connection. If these people can be brought together, knowing what and knowing how, they will do it and will keep on doing it—until the thermometer at Satan's gate marks 32 degrees.

PROGRESS IN LAND SETTLEMENT.

A DEMONSTRATION of the feasibility of successful home and farm making on subdivisions of good land made fit for it and sold to qualified settlers at fair prices and long term repayments, and furnished with necessary capital at low rates to come through, was provided for by California law and appropriation by the Legislature of 1917. The purposes and methods of this legislation were outlined and approved in our issues of May 5 and June 9 last. As soon as the new law had passed the whirlpool of recall, Governor Stephens appointed the board to carry it into effect, as follows: Dr. Elwood Mead, Berkeley, chairman; Frank P. Flint of Los Angeles; Prescott F. Cogswell of El Monte; William H. Langdon of Modesto; and Mortimer Fleishhacker of San Francisco. Prof. D. N. Morgan, Berkeley, was elected secretary. The headquarters of the board is in Agricultural Hall of the University.

It devolves upon this board first to select the land upon which its plan of development, subdivision and settlement is to be carried out. The following preliminary statement is made:

The State Land Settlement Board of California desires to acquire from four to six thousand acres of farm land for the purpose of subdivision, improvement and settlement. This land should be either irrigated or suitable for intensive cultivation and stock raising without irrigation. It may be in one tract or in a few contiguous tracts. Owners who are willing to sell on the terms given below are invited to describe the lands they are to sell. If they are found suitable, and a satisfactory price can be agreed upon, the board will contract with the owners to make a cash payment of 5 per cent and will immediately begin subdivision and improvement of the property, expending whatever is necessary of the State appropriation of $260,000. The land will then be opened for settlement and as settled a cash payment of 45 per cent of the purchase price of the settled portion will be made. The remainder due the seller will be paid in amortized payments, which may be extended over a number of years, not more than thirty-six. Interest on deferred payments will be at 5 per cent per annum. Offers of land for the purposes indicated will be received until October 15 next.

As offers are received land will be passed upon by experts under direction of Dean Hunt of the University. It will naturally be several weeks or months before this can be done and development work will follow. It is not expected that subdivisions will be offered to settlers until the spring of 1918. The plan is to prepare the land for cropping and perhaps seed parts of it: to plan and perhaps to build houses, barns, etc., and, in short, to provide the settler with a farm on which much of the unproductive work has been done and to arrange for completing other preliminaries with the least loss of time and at the least possible cost for creditable improvements. Applicants must have some capital and must satisfy the board as to character, knowledge of farming, etc., and to such qualified persons loans to equip and operate the land will be made on long terms of repayment. We shall advise our readers fully of all these things as the enterprise proceeds.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Strings of Spuds.

To the Editor: What is the matter with these potatoes, growing this way? They are planted in new ground, which is very rich and moist.—Joe Pacheco, Ignacio, Marin county.

We never saw potatoes growing in this way to such an extent and we do not know why they do it. Instead of growing at the end of an underground stem as potatoes usually do, the stems form tubers by large lateral enlargements on their way out and then finish with a terminal spud. These tubers do not grow one from another nor do they appear at the ends of lateral or branching stems, as often happens. The stem seems to go right on its course until it has formed two to four tubers following each other like beads on a string. We presume it would come under the phenomenon which the botanists call "proliferation," but why the plant does we can only guess that it has been moved by Mr. Hoover's appeal to all created things to do their patriotic duty by multiplying their usual production. The soil richness and moisture and the cool growing season we have had on the coast no doubt contributed to the ability of the plant to do its duty by inducing great vegetative energy and abundance of sap for the return flow which makes all potatoes. These conditions might also be considered causative if most of his plants behaved that way this year—but how that is Mr. Pacheco does not say. The beaded potatoes are rather small but still of merchantable size.

Red Spiders Will Work as Long as It Is Dry and Hot.

To the Editor: I have pink and Mexican red beans. Four days ago I noticed red balls on the tops of the vines. On examination found that it was red spider—hundreds of them gathered together making a small ball on the very tip end of vines. I got some sulphur and went to the field the next day and those balls were gone. I could only find the spider in small quantities on the under side of the leaves. The spiders are only found on the very highest land. The beans are in full bloom and cover the ground. Will they do any harm to the crop this late in the season? If so, should I use sulphur, or would that hurt the blossoms?—D. R., Ripon.

Red spiders are aspiring little cusses. If they can't get to the top of a plant they will take to the top of a clod, and if there are no clods they will take to dry high land. They want to get out of the wet and the drier the State becomes the harder they will work and the faster they will multiply. You should sulphur all the bad places as soon as you can. Even if you do injure some blossoms, which is doubtful, you will get more beans than if you give the spiders a chance to get them all by killing the plants. They will work very fast just as long as the weather is dry and hot. A good rain would stop them, but you cannot afford to wait for that.

Thoughts on Green Manure.

To the Editor: I have been thinking of the benefit to the soil of plowing under green manure. Would it be profitable to sow vetch when fall rains make it favorable, to plow under in March for potatoes or corn? I have also read of sowing buckwheat the latter part of April, plowing the matured crop in ten weeks, and repeat again, and then sow grain for a hay crop. Would that be practicable? How much vetch seed is needed per acre, and would you advise sowing barley with it?—J. T. S., Beaumont.

Your thoughts on the general desirability of plowing in green stuff are good, but in working them out it often requires some quite specific thinking also. We would not plant either potatoes or corn on a fresh plowing under of green stuff if there is very much of it, unless you give a good irrigation to settle the ground and help the stuff to decay. Even then it is better to plow under earlier and give a couple of months for it. The revolving buckwheat proposition is all right if you have plenty of water for it, for that gives some months interval before you start the hay crop probably. Unless you have plenty of water you must be careful about plowed-in stuff, for it dries out the ground fiercely if it grows much. Sowing barley or rye with vetch is good if you want feed. Vetch is generally sown 60 pounds per acre.

Kill the Bean Thrips.

To the Editor: How can I kill or even retard the work of thrips on beans? They are now causing much damage in large white beans and are also showing in pink beans, but have done no damage to them as yet. Do you advise the use of sulphur for thrips, or does it do no good whatever? The thrips work on the under side of the leaves and in a short time the leaves all fall off, leaving the vine bare.—T. B. M., Rio Vista.

We have already prescribed for thrips several times recently, but perhaps many have not noticed the remedy until the insect has forced them to sit up and take notice. Sulphur is not efficient for thrips. They do not seem to be bothered any more by fumes than a side-show giant in a smoking car. You have to slap the tobacco right on the sides of them. Dissolve two pounds of soap in a pail full of hot water, pour that into cold water enough to make fifty gallons, and to this total amount add five ounces of tobacco extract (called black-leaf) and stir well. Apply with an upward-shooting spray nozzle to reach the under sides of the leaves.

What Can You Do with a Peach?

To the Editor: Can peach trees be grown from cuttings? Can they have peaches on trees the first or same year they are set out?—J. A. S., Porterville.

The peach will grow readily from root cuttings. We never saw growth from top-cuttings, but presumably it can be secured with suitable heat and moisture from cuttings of new wood. Most fruit trees can be grown that way, though some are very easy and others very hard. The peach tree is, however, so easily had by budding on seedlings that there seems no reason for recourse to cuttings. Peach trees often show bloom and sometimes set fruit the summer after planting, but the fact is of no value in making commercial calculations.

Cutting Back Apricots.

To the Editor: I have apricot trees in San Mateo county that were planted too close. They are now about twelve years old. They were properly pruned in 1916, but the previous fall they were not pruned back as far as they should have been. They are prolific bearers, but the branches are now coming together. Will it injure the trees to prune them back this fall into the 1915 wood? If the reduction in fruit next year will be the only disadvantage, I would have no objection to that.—J. H. B., San Francisco.

Cut back reasonably into old wood. The trees will not resent it. You will not wholly lose the next crop, for the apricot bears on old spurs as well as on new wood.

Silage for Hogs Limited.

To the Editor: I would like to know what success has been had in feeding hogs on silage.—C. B. R., Rockaway.

Systematic tests and common experience seem to agree that while some silage may sometimes be fed to hogs advantageously it will not do to feed hogs on silage. That is, its use must be limited and only to serve as a filler with other better foods. Authorities say that corn silage is perhaps worst because of its excess content of fiber and alfalfa or other leguminous silage better because of the less content of it.

Harvesting Grain Sorghums.

To the Editor: I have a small field of kafir corn, which is about ready to gather. I suppose it will have to be dried before putting away in the barn. Is that true?—J. M., Vacaville.

Yes, it is apt to heat and go to the bad if bulked before it is thoroughly cured. It is usual to cut by hand, throwing the heads into a wagon bed and hauling to spread on a dry, sunny place for two weeks or more, according to the weather—spreading in a thin layer to facilitate drying. When cured it can be stored in the head or threshed much as barley is and stored in sacks, etc.

Brown Apricot Scale on Prunes.

To the Editor: I have brown or apricot scale on my prune trees. What kind of spray shall I use, and what is the proper time to apply it?—Reader, San Jose.

Give the trees a thorough spraying with kerosene or distillate emulsion as soon as the leaves get out of the way. It is important to get it on them as early in the fall as possible before they get sealed down too tight: therefore, it may not be wise to wait for all the leaves to fall. Go at it after the fruit is out of the way, as soon as it is possible to hit them on the twigs.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., September 4, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.02	.25	64	50
Red Bluff	...	...	.06	96	54
Sacramento	...	...	.01	90	54
San Francisco	...	...	.01	66	52
San Jose	...	...	.05	76	46
Fresno	...	...	...	98	58
San Luis Obispo	...	...	.05	76	52
Los Angeles	...	...	...	86	56
San Diego	...	...	...	76	62

Pear Soil Improved by Drainage

[Written for Pacific Rural Press.]

The pear and apple orchard district near Agnews, Santa Clara county, was under a foot of water for awhile last winter. Four days after it passed, the water had drained to 40 inches below the surface in a post hole on one of F. A. Wilcox's pear orchards, while on the next orchard above him and not over 150 feet from his line water was still standing on the surface. The difference is due to tile drainage, with the tile laid 120 feet apart. The post hole had been dug midway between lines of tile.

On the home place water used to stand almost at the surface of the ground. A pear can endure that for awhile, but peaches or cherries would not. In 1904 Mr. Wilcox laid tile 2½ feet deep in his adobe, underlaid at about four feet by stiff clay. This didn't do the work, so more recently he put four-inch tile four feet deep. He drains these tile at ½-inch fall per 100 feet to an 8-inch outlet 1,000 feet away.

The outlet is reached by running the water from the lower side of his place across the upper side. To accomplish this he had to lay the tile 5½ feet deep on the higher side. Last winter the outlet ran full of water almost under pressure, for days at a time. Now he wishes, on account of the slight fall, that he had a 10-inch outlet.

Had this water remained in the soil, it would certainly have kept it cold, soggy and perhaps sour. It would have kept air out and prevented bacteria from making plant food available until the soil should have baked and cracked and much of the water evaporated.

On another 20-acre orchard Mr. Wilcox has about 6,000 feet of tile in five long lines, put in last year. This had never been really plowed before—just skimmed over it as best he could. This year it plowed fine, while an undrained 25-acre orchard across the road plowed much harder immediately afterward.

DRAINAGE AIDS IRRIGATION.

Both orchards were irrigated right after plowing. The drained orchard took water like a sponge. The undrained orchard was cracked and hard, not mellow like the other, and it took lots less water.

All tilings are closed during irrigation. It was noticed that while irrigating on the upper side water seeped to the tiling and followed it around to the lower side of the orchard, where it subirrigated the land. Now Mr. Wilcox says he would pay $500 for an outlet so he could drain the 25-acre piece.

New Apple Standardization Law

[Written for Pacific Rural Press.]

The old apple standardization law was repealed by the past Legislature and a new one enacted to go into force July 27, 1917. It applies to all California or imported apples.

All apples packed in closed containers must be graded into one of three grades and properly labeled with grade, number of apples or net weight, variety if known or otherwise stamped "unknown," name and business address of person or firm for whom packed and the date of packing or re-packing. Variation of five apples from stated number is allowed.

The State or County Horticultural Commissioners or their deputies or Inspectors appointed by them may enter and inspect any packing establishment any time. Inspection may be refused those who fail to use stamps, but violators of the law are punishable by fine or imprisonment or both. Stamps or labels certifying inspection are supplied at ½ cent each.

APPLE GRADES.

Each grade may have 3 per cent of any one defect or 10 per cent of total defects. The variation of size in either of the higher two grades must not be over ⅜ inch.

"CALIFORNIA FANCY."

"California Fancy" grade shall consist of apples well grown, properly matured, one variety, hand picked, stems retained (except Gravensteins), well colored, uniform size, well packed, free from insect pests, diseases, visible rot, visible Baldwin spot, insect bites, bruises, and other defects except those caused in packing, and virtually free from dirt.

"B" GRADE.

Requirements for "B" grade are the same as for "California Fancy" except that "B" grade permits insect bites healed in maturing and also slightly misshapen apples. Stems do not need to be retained in this grade and there are no color requirements. Frost marked and sun scalded specimens, if injury is only skin deep, may be packed as "B" grade.

"C" GRADE.

"C" grade consists of properly matured specimens of one variety, free from insect pests, visible rot, visible dry rot, visible Baldwin spots and diseases.

No apples shall be possessed for sale if they have more insects or diseases than allowed above, except as part of crops delivered in bulk to packers or to by-products manufacturers.

PINEAPPLE QUINCES.

[Written for Pacific Rural Press.]

Pineapple quinces have a good market because they ripen earlier than other varieties. They are ready to ship about the first of September when Eastern housekeepers have their fruit canning and preserving equipment in use for peaches, etc. By the time other varieties of quinces are shipped, that equipment has been put away and they do not want to bring it out for more fruit. The quality of pineapple quince, which is one of Luther Burbank's productions, is of the best; and the past two years they have never netted less than $1.00 a box here, says J. E. Bergtholdt of Placer county. They should be just showing yellow when picked for Eastern shipment. The trees bear at an early age and regularly. We plant them on ground too wet for pears, which occupy the wettest draws on most ranches. They are worked on quince roots. Most of these have come from France as seedlings, which are better than cuttings of the common quince on which the pineapple could be worked.

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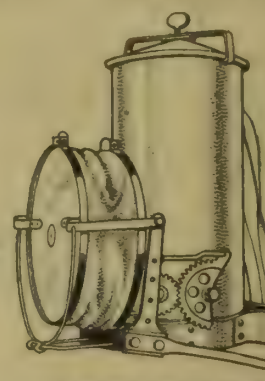

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

ELIMINATING WASTES IN RAISIN DRYING.

"Lots of people pick into buckets or pans and dump the grapes onto the trays. In spreading them out to make a few grapes look like a trayful, they bruise the berries, break them loose so they are lost in turning, and make the raisins sticky," says John McBriar of Fresno county. Some pickers even waste time to cut bunches to make them spread farther, though there might be some excuse for cutting bunches to make them dry evenly and fast. They should not be handled after being laid on the tray, on account of the bloom.

Picking too soon is wasteful of weight and quality, though it may be necessary for some people with small vineyards or grapes otherwise undesirable from a picker's standpoint, to take the helpers who are idle waiting for larger or better jobs to start. They will be surer to get their crops picked and at less cost. Trays are best counted after filling, on account of possible misplacement.

Lots of people vary the size of their stacks. There are twenty-eight trays per sweat box, and that many should be put in each stack, with stacks opposite each other in adjoining rows. Then a wagon can haul the sweat boxes through the vineyard and two men on each side can dump trays into the sweat boxes without taking them off the wagon. This takes a helper or two on the wagon. If not enough horses are available, sweat boxes may be distributed and filled on the ground by men or boys, and later loaded quickly by men.

OPPORTUNITY TO IMPROVE TREES.

"Some citrus growers are figuring now on just keeping their trees alive," says Rialto Horticultural Inspector S. J. Bolser. Now while the fruit is off is a great opportunity to invigorate them with good care, so they may be more resistant to what may come in the future. Generally, skimping on water is not likely, because that is paid for anyway; but cultivation is being neglected. That in two ways prevents the trees from getting water enough. The ground bakes, so what water is in the soil evaporates faster, and what is applied runs off. Neglect now will tend to put citrus trees into the condition of oft-traded orchards which get irregular good and bad treatment and are most often affected with scaly bark and gummosis. Trees weakened by poor culture proved least resistant to frost last winter and heat this summer, and lost more fruit.

BORERS AT BASES OF TREES.

Several of our subscribers are finding damage to prune, plum, and peach trees due to peach borer worms which work under the bark at the base of the tree, both below and above the ground. The best practice is to dig the dirt away from the crowns, dig out the worms with wires or other instruments, and coat the trunk for several inches both above the ground and below it with grade "C" or "D" asphaltum. Crude oil and other preparations are sometimes used; but the asphaltum or crude oil and whitewash seem most popular. Dig and treat the trees systematically in fall and again in spring. Myrobalan stocks are not infested with the borers.

PAPER RAISIN TRAYS.

Paper raisin drying trays have the advantage of drying the grapes quicker, because they rest flat on the hot ground, and they are cheaper; but they do not hold so much as wooden trays, and cannot be stacked. If rolled to preserve them from wet weather, there is danger of getting sand among the raisins, and there will be some loss by spilling. In turning them, extra motion is required, as noted elsewhere. In rain they tear badly and spill raisins, but if wooden trays are short, paper ones may be used until turning time, when they are doubled up on wooden trays. There is more loss of raisins in handling them so, but they are more easily handled and the trays may be used first for Thompsons and later for muscats.

FRUIT NEEDS FALL IRRIGATION.

The early rains last fall made orchards and vineyards look better than they ever did before, says G. E. Rice of Fresno county. C. W. Adams made the same remark about his grapes. Pretty good indication that fall irrigation would help. In grapes this seems scarcely practicable, but in orchards it is very often done as soon as the fruit is off. Mr. Rice would not irrigate after September 15, because he wants the trees to go dormant early enough to avoid frost damage to shoots that would be encouraged by later irrigation.

BEAN STRAW FERTILIZER.

Fruit growers should get in touch with bean growers to get bean straw for fertilizer. This is rich in nitrogen and makes good humus. The National Orange Company of Riverside expect to use large quantities for their trees, which are basined. C. D. Baker of Los Angeles county considered it worth $10 per ton at the grove last year. Certainly it will be worth more this year, with fertilizers gone up; and there will be lots more of it. Bean straw should not waste this season.

SWEAT BOX RAISINS OVER-PACKED.

To save sweat boxes a few growers still tramp and pack and press raisins into them until they gross 225 pounds, where they ought to gross not over 200 pounds. The raisins are smashed and broken and caked like pomace. This makes them unmarketable as good raisins, and is not allowed, if known, by the raisin company.

PRUNE CROP REDUCED.

This year's prune crop in the Sacramento Valley has suffered material reduction on account of red spider. Buds for next year have been weakened in affected orchards. Fall irrigation, winter cover-crops plowed under early in spring so they can become plant food before tree blooming, and any other good care may enable these weakened buds to set a crop.

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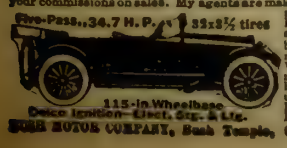

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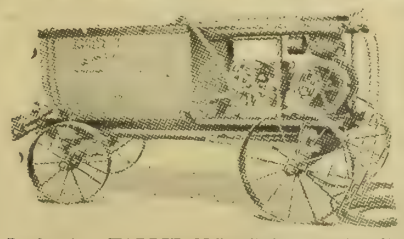

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How the Price of Wheat Was Fixed.

A New Thing in American Government.

On August 31 President Wilson announced the price for the 1917 wheat crop in these words:

"Section 11 of the food act provides among other things for the purchase and sale of wheat and flour by the Government, and appropriates money for the purpose. The purchase of wheat and flour for our allies, and to a considerable degree for neutral countries also, has been placed under the control of the food administration. I have appointed a committee to determine a fair price to be paid in Government purchases. The price now recommended by that committee —$2.20 per bushel at Chicago for the basic grade—will be rigidly adhered to by the food administration. It is the hope and expectation of the food administration, and my own also, that this step will at once stabilize and keep within moderate bounds the price of wheat for all transactions throughout the present crop year, and in consequence the prices of flour and bread also. The food act has given large powers for the control of storage and exchange operations, and these powers will be fully exercised. An inevitable consequence will be that financial dealings cannot follow their usual course. Whatever the advantages and disadvantages of the ordinary machinery of trade, it cannot function well under such disturbed and abnormal conditions as now exist. In its place the food administration now fixes for its purchases a fair price, as recommended unanimously by a committee representative of all interests and all sections, and believes that thereby it will eliminate speculation, make possible the conduct of every operation in the full light of day, maintain the publicly stated price for all and, through economies made possible by stabilization and control, better the position of consumers also. Mr. Hoover, at his express wish, has taken no part in the deliberations of the committee on whose recommendation I determine the Government's fair price, nor has he in any way intimated an opinion regarding that price."

THE COMMITTEE'S REPORT.

The report of the committee addressed to the President follows:

"The undersigned committee has been asked by you to recommend the price which the Government should pay for the 1917 crop of wheat.

"In its deliberations the committee has kept constantly in mind the three following factors:

"First—The fact that the United States is at war.

"Second—The need of encouraging the producer.

"Third—The necessity of reducing the cost of living to the consumer.

"In reaching its conclusion the committee has been guided by the principles you have announced, that a fair price should be based upon the cost of production for the entire country, plus a reasonable profit. We have relied upon the cost estimates for the crop of 1917 furnished by the United States Department of Agriculture, checked by the results of our independent investigations and the evidence submitted to the committee by producers and their representatives. The committee has considered the regulations recently established by the United States Grain Corporation for the different grades of the wheat through which all transactions in wheat are to be standardized and speculation to be entirely eliminated. All the profits to the grain dealer, miller and flour dealer have been regulated and reduced by the grain corporation, effecting a material reduction in the cost of flour. In consideration of the foregoing facts and circumstances, this committee respectfully recommends that the price of No. 1 Northern spring wheat, or its equivalent, at Chicago, be $2.20 per bushel."

HOW THE PRICE WAS REACHED.

Current gossip is that the committee worked at its problem for three days and its last vote was unanimous. Representatives of the producers began by voting for a price of $2.50, and labor's representatives for $1.84. The two extremes eventually narrowed down until the votes were only a few cents apart, and most of the last day's voting showed only a slight difference. Both factions appeared uncompromising at the start.

EQUIVALENTS IN GRADES AND PLACES.

The price differentials worked out by the food administration are: No. 1, dark hard winter, $2.24; hard winter basic, $2.20; red winter basic, $2.20; yellow hard winter, $2.16; soft red winter, $2.18; dark northern spring, $2.24; red spring, $2.18; hump-back, $2.10; amber durum, $2.24; durum basic, $2.20; red durum, $2.13; red walla, $2.13; hard white basic, $2.20; soft white, $2.18; white club, $2.16; No. 2 of each grade is 3 cents less; No. 3, 6 cents less; No. 4, 10 cents less.

Relative market basis: Chicago, Galveston, New Orleans, basic; Kansas City and Omaha, 5 cents less than basic; Duluth and Minneapolis, 5 cents less; St. Louis, 2 cents less; New York, 10 cents more than basic; Baltimore and Philadelphia, 9 cents more; Buffalo, 5 cents more.

PLOWS ALFALFA ROOTS UNDER.

[Written for Pacific Rural Press.]

Plowing old alfalfa for another crop is not so easy, but B. M. Brown of Tehama county has made some observations worthy of comparison. It is easier to plow alfalfa ten inches deep than four inches deep, because at four inches the ground is not firm enough for the plow to cut the tough roots against it. Four horses are needed to pull a twelve-inch plow, weighted with eighty-five pounds, ten inches deep in alfalfa, as Mr. Brown did on five acres last winter. He disked it, but did not harrow, because he wanted the roots to stay underground. "Not over two bushels of roots are left on top of the five acres," said he. "You can't cut alfalfa roots on plowed ground with an ordinary disk, so better leave them underneath."

An educational exhibit will be made jointly at the State Fair, September 8 to 15, by the Forest Service and the State Fish and Game Commission. It will contain a Forest Service lookout tower, fully equipped with telephone, heliograph, etc. Nearby will be a model hunter's camp, showing the proper way to construct a camp fire and containing mounted specimens of California game birds and animals found in the National Forests.

PRICE FARMERS RECEIVED FOR WHEAT.

Farmers received an average of about $1.44 for their 1916 wheat crop, which compares with 98 cents for their 1915 crop, 99 cents for their 1914 crop, and 79 cents for their 1913 crop. During the past year the price advanced steadily from 93 cents a bushel on July 1, 1916, to $2.48 on June 1, 1917. Sales were heaviest during August and lightest in June. Total sales during the year are estimated at about 615,000,000 bushels, as compared with about 850,000,000 in the preceding season.

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MICA AXLE GREASE

Field and Garden Suggestions

[Written for Pacific Rural Press.]

DO YOU KNOW BEANS?

There are some lots of beans still in growers' hands in California, and it would be well for each grower to know how they grade before offering them for sale.

Each season, as early as possible, the California Bean Dealers' Association of San Francisco, in connection with the San Francisco Chamber of Commerce, collects representative bags of each variety of beans from each important section of the State. They take samples from these sacks and mix them thoroughly in the offices of the Association in the presence of its officers and members, making up a large quantity of the mixture for each variety. This lot is called f. a. q. grade (fair average quality of the season), and is the basis for sales to their customers. The Chamber of Commerce takes part of each lot.

KEEP FARM HARNESS CLEAN.

It is a good plan to clean the farm harness as soon as the year's work is finished in the fall. Take the harness apart and remove all metal parts. Wash the leather in rain water to which has been added a handful of good washing powder. Thirty minutes' soaking will assist greatly in removing the dirt. After soaking, scrub the straps with a good, stiff brush. After washing, hang the pieces up to dry, but before they are quite dry go over with harness blacking, which will prevent their turning red. After the harness is dry, polish well with a cloth, always rubbing with the grain of the leather. Then apply, a day or two apart, two coats of neats-foot oil to which has been added a little kerosene and lampblack. Do not dry the harness in artificial heat.

BRACING GATE POSTS.

Diagonal braces on wire fence gate posts are hard to fit and set permanently. A Stanislaus county farmer avoids this by setting an extra vertical fence post about seven feet from each gate post and in the fence. Then a level brace is fastened between their tops so the extra fence post braces the gate post. To hold the former erect, a double wire is run from its top to the base of the gate post and twisted.

SUDAN WITHOUT RESOWING.

Last fall, before cold weather, George Call of Los Angeles county spread thickly over his Sudan grass stubble a mixture of two-thirds dirt and one-third manure, almost entirely covering it. This spring it came up anew, and he got four cuttings in addition to the four cuttings made last season.

REDWOOD GRAPE STAKES.

Redwood stakes that had been in the ground 22 years supporting grapevines have been taken out in the past year or two by J. T. Onstott of Sutter county. Some of them were considerably rotted; but lots of them are entirely sound.

OAT HAY PREFERRED.

Only red oat hay is grown around here, said Walter Jansen of Lincoln, Placer county. Animals clean it up best; there is a lot of nourishment in it. Wheat hay scours animals, especially in summer.

FALL PLOWING FOR SUDAN.

Sudan grass is of no profit in San Luis Obispo county, as observed by a careful rancher, unless on good soil, plowed in the fall, and well cultivated until planting time.

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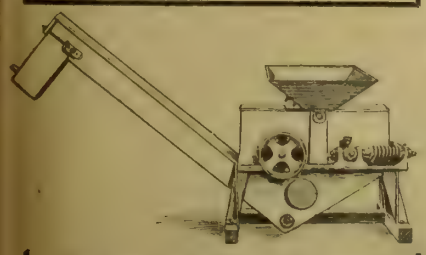
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Harrow Buying Made Easy
HARROWS that do the best work and last longest cost so little that there is no economy in buying any but the best. A post card will bring you complete information about International Harvester disk, spring-tooth and peg-tooth harrows. Write the card now and mail it as soon as you can.
In the line there are bumper disks with rigid frames, four-wear bearings and gangs that are level at every cutting angle. Also disk harrows with independent gangs that can be used for side hill work and for filling dead furrows as well as on level fields. For wet, cloddy fields we have spring-tooth harrows with teeth that cannot work loose and that can be set to any desired cutting depth. Our smoothing harrows have square teeth that cannot twist, and stiffening bars that keep all the teeth at the same cutting angle regardless of extra strain put on any single tooth. Riding attachments and other special features can be furnished for all spring and peg-tooth harrows. We have also a complete line of one and two-horse cultivators.
This spring you will need tillage implements, harrows or cultivators. If you want the best your money will buy, write that post card today and mail it.
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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

PUMPS AND VETCH CHEAPER THAN MANURE.

[Written for Pacific Rural Press.]

Cutter Brothers of Sacramento county have been paying $160 to $170 per carload for manure to put onto their replant trees. But the cost is prohibitive for general orchard use, according to Geo. H. Cutter, who is also president of the California Fruit Exchange. The place was originally in alfalfa, on heavy soil, but overflow from the American river deposited six or seven feet of alternate layers of mud and sand on it, so peaches seemed the best money crop, though they are working over to plums and pears, of which latter they now have eighty acres. The sand was not rich enough; and in the absence of enough manure, the Cutters tried bur clover cover crop two years. This gave poor results, especially on the sand, so vetch has been grown the past two winters and will be grown again. But it must get an early start to get heavy growth and not to throw plowing too late in the spring. Part of the vetch has been planted to take advantage of first rains, but these came too late last year to make a good crop. Where twenty acres were irrigated, plowed and harrowed, about October 1, as soon as fruit was out of the way and vetch harrowed in, good crops resulted, and the irrigation helped develop fruit buds for regular crops.

There is no ditch water, however, and the Cutters have found it cheaper to put down shallow wells in various parts of the orchard where the water does not have to run far through the light soil, than it is to pump directly out of the river which borders the orchard. Several direct-connected electric motors and centrifugal pumps have been set in pits about six feet deep without additional equipment except a derrick to lift them out when the rains commence.

So the pumps enable the Cutters to fertilize their ranch with the cheapest fertilizers, grown where they are used, and requiring no hauling or spreading.

ENGINE PUMP SUPPLEMENTS DITCH WATER.

[Written for Pacific Rural Press.]

"Never let a peach tree get dry while it is growing," says H. C. Sweezey of Fresno county. "Orchard after orchard in this country doesn't have enough moisture. Irrigations in most cases depend on when we can get the ditch water." Very often that is unsatisfactory, so Mr. Sweezey has installed a No. 5 pump, throwing about 700 gallons per minute. A seven horsepower engine would operate it easily, for the lift is only twelve to sixteen feet; but Mr. Sweezey has a twelve horsepower engine. Now he irrigates whenever the peaches need it.

LITTLE HARVESTERS FOR SMALL GRAIN FARMS.

"Nothing beats heading, stacking, and stationary threshing," says J. Staffen of western Kern county, who works 150 acres of grain. "If a man has 200 acres, one of the little combined harvesters put into our country last season by the International Harvester Company will save enough horses and men so it pays for itself that way alone. Also, if rust or smut bother greatly, having one's own harvester is fine insurance that the disease will not be spread over his farm by a combined harvester from the neighbors. Then seed treatment will generally give a clean crop that will help pay for the harvester."

BEAN SPRAY COMPANY ENLARGED.

The Bean Spray Pump Company has recently increased its capital stock from $500,000 to $1,000,000, and the company has now under construction a large three-story and basement concrete warehouse, a new blacksmith shop, and new brass foundry furnished with all of the latest and most up-to-date foundry equipment. So great was the demand for the tractor last season that it has been necessary to make these additions to their plant, besides spending a great deal of money for additional lathes and machinery.

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"Kero-Oil" Engines
Immediate Shipment—All Styles—
2 to 22 H-P.—No Waiting—Big Factory—Big Output—Prices most favorable. Write for my terms and prices—Cash, Payments or No Money Down.—ED. H. WITTE, Pres.
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EVER ATTEMPTED ON THE PACIFIC COAST
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ever offered to the Ranchers, Orchardists and Growers on the Pacific Coast. Here you will see 40 types of Tractors under every working condition. Come prepared—be critical in your examination of these machines. Ask questions—learn all you can, for this is of educational value to all. We will prove to you, beyond any question, that these Tractors and Tractor-Drawn Tools are adapted to your requirements.
Exhibits will be made by well-known Automobile Dealers, Auto Trucks, Accessories, Oils, Greases, Household Goods, House Lighting, Gas Engines, Irrigating Plants, Portable Houses, Foodstuffs, etc. Come early. Splendid meals obtained on the grounds, and at reasonable cost.
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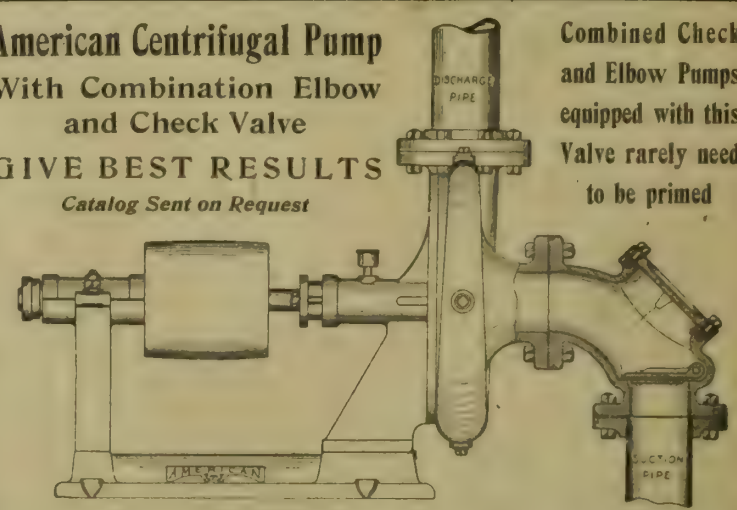
American Centrifugal Pump
With Combination Elbow and Check Valve
GIVE BEST RESULTS
Catalog Sent on Request
Combined Check and Elbow Pumps equipped with this Valve rarely need to be primed


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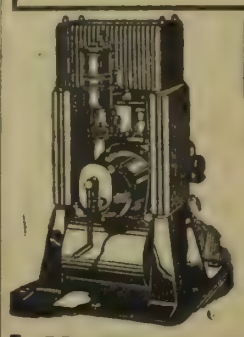
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Electric Light for Your Farm
Will have Plant in operation in Machinery Hall at State Fair
Be sure to see it
Write today for full description and low price.
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ELECTRICAL ENGINEERS
104 Clay St., San Francisco, Cal.

LEAKY CONCRETE OIL STORAGE.

[Written for Pacific Rural Press.]

The concrete tank in which Frank Watson of Butte county stored oil for frost fighting lost 1600 gallons of oil in one night, unaccountably, for the concrete seemed perfect, though not plastered inside. The wall was "smooth as a sidewalk," however, and tight. It may be that his trouble was due to one or more of the points mentioned below by A. Losee, also of Butte county. The Losees were about the first to smudge almonds in their section, nine years ago, and their concrete storage tank has proved satisfactory.

Concrete oil storage tanks for frost fighting should be built a month before the oil comes, in order to allow the cement to set so the oil will not leak out.

In making the concrete never spill dirt into it; use small gravel, and not less cement than one part to five of sand and rocks or gravel. Make the walls five or six inches thick, and plaster them inside with pure cement and water. Then be very sure to keep it moist for about ten days. The best way to do this is to cover it with a canvas and keep the canvas wet by sprinkling, dripping, or by lamp-wick action, keeping the ends of it in water. The moisture is necessary in the chemical action by which cement hardens. Plenty of tamping and a rather moist mixture help make the concrete oil-tight.

Instead of the cement and water many people use waterproofing of various kinds. Mr. Watson tried two patent compounds, one of which would not stick to the walls and the other of which was no good. Mr. Losee's neighbor, Mr. Jesse, applies a very effective cream-colored compound with a whitewash brush in four coats, allowing each to dry a week.

MODERN PLUMBING IN COUNTRY HOME.

[Written for Pacific Rural Press.]

That country homes, even 12 or 14 miles from a railway, may have all sanitary conveniences as readily and perhaps more cheaply than city dwellings, is proved by the completely equipped home of Benjamin Quigley in San Luis Obispo county.

Cold water is piped throughout the house from a 3,000 gallon tank resting on a closed storeroom above the milkhouse, so the water is at least four feet above the upstairs wash bowl. Hot water is piped to all wash bowls, bath room, kitchen sink, stationary wash tubs, etc., from the small tank heated by pipes from the kitchen stove.

Water is pumped from a 77-foot well by windmill when the wind blows, and by a 1½ horsepower engine when necessary.

SEPTIC TANK.

The sewage and bathroom water drain into a septic tank installed two years ago by Mr. Quigley and his brother at a cost of $60. They dug a hole 20 feet from the house, built in it a covered concrete box 6x6x4 feet with a concrete partition across the center a foot high to break the current. The inlet pipe is just a trifle higher than the outlet pipe. These pipes are of terra cotta. The outlet is on sloping ground 50 feet from the tank. Seldom is any gas noticed, and only when the bathroom is used excessively does much water reach the surface.

No drainage from the wash tubs or kitchen sink is run into the septic tank on account of alkalies, soaps, etc., which would prevent bacterial action on the sewage. They are drained by a 4-inch pipe 200 feet long. Milk house drainage runs to a hole covered with redwood and having a gas vent 4 inches in diameter. No odor comes from this, as very little milk is spilled about the dairy room.

TESTING SPARK PLUGS.

We watched Benj. Quigley test his spark plugs by lightly touching a screwdriver from the top of each plug to the iron of the engine as it was running out of gear. "If that does not retard the speed, the plug is not working," said he.

OIL TRACTORS AT FAIR.

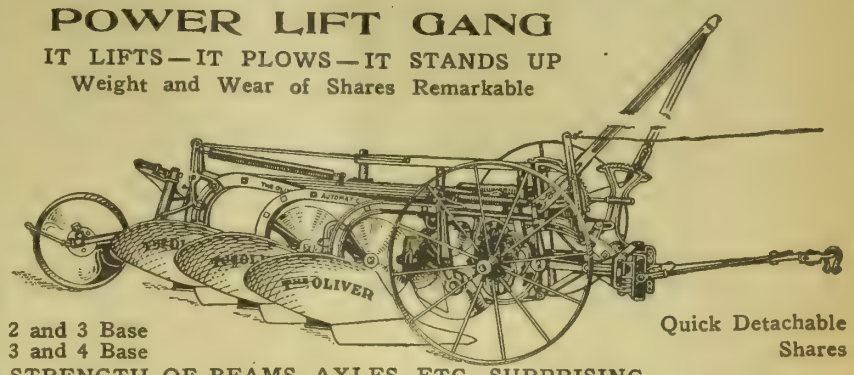
Occupying 1,500 square feet in the Tractor Tent, the J. I. Case Threshing Machine Co. will show an all-steel threshing machine, a 10-20 gas and oil tractor, two 9-18 gas and oil tractors. The 9-18's are new models, and embody the latest ideas.

THE OLIVER

POWER LIFT GANG

IT LIFTS—IT PLOWS—IT STANDS UP

Weight and Wear of Shares Remarkable



2 and 3 Base
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Quick Detachable Shares

STRENGTH OF BEAMS, AXLES, ETC., SURPRISING
ACTUAL PLOWING RESULTS MOST PLEASING

Call and Examine it at the Tractor Tent at State Fair

OLIVER CHILLED PLOW WORKS SAN FRANCISCO LOS ANGELES

Power=Farming Machinery

"The farmers of the Nation should do everything in their power, as I am sure they will, to improve the efficiency of their farming operations and to extend them wherever it is practicable to do so."
WOODROW WILSON.

"I heartily endorse the suggestion that farmers plant the largest possible crops."
THEODORE ROOSEVELT.

Greater production and better efficiency on the farm means an increased use of tractors and tractor implements. Horses aren't equal to the emergency; labor is scarce. The modern power-farming outfit displaces from two to eighty horses, does their work with less trouble and less expense, requires only one or two men to operate it, works day and night when necessary, reduces costs, increases efficiency. Now is the time, more than ever before, to investigate and adopt power-farming methods.

AT THE CALIFORNIA STATE FAIR

SACRAMENTO, SEPTEMBER 8—15

In a big joint exhibit in the Tractor Tent you will find the most complete showing of tractors and implements ever made at the State Fair. There will be more than twenty separate exhibits, covering 25,000 sq. ft. of floor space. You will have the opportunity to see and compare, and to select the equipment best suited to your needs. Don't fail to take advantage of this real educational opportunity. Here are the concerns ready to assist you to more efficient farming:

Baker & Hamilton
Bean Spray Pump Co.
C. L. Best Tractor Co.
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Pacific Implement Co.
Samson Tractor Co.
Shell Oil Co.
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Union Oil Co.
Yuba Mfg. Co.

California Tractor and Implement Association

General Agricultural Review

Field Crops.

The price of rice is advancing in Japan.

The Antelope Valley Fair will be held at Lancaster, Cal., September 26-29.

The Richvale Land Company near Biggs threshed 1,600 acres of grain, principally wheat.

Recently 300 bales of Sacramento hops sold at 31½c, and in the Sonoma district 35c is the asking price.

The hop growers of Mendocino county have fixed the wage to be paid for hop picking at 1c a pound.

The bean crop of Southern California now being harvested is said to be one of the largest ever raised.

Hop picking has begun in the vicinity of Sebastopol. Growers report hops noticeably free from lice this year.

Oxnard reports the threshing of small beans under way. The season is said to be ten days earlier both for small beans and limas.

The tomato cannery at Lindsay has put out its first canned product. A splendid quality of tomatoes are being received and turned out.

Red oat hay growers around Lincoln have been refusing to sell in the field at $20 per ton baled and are storing at a cost of $1 to $1.25 per ton.

The new cannery of the McCrosky Cannery Company at Hueneme is completed and they have started on canning tomatoes, of which there are a great many around Hueneme.

Miss Harriet Johns, a Carroll Park grammar school girl, Long Beach, has just harvested 1,769 navy beans from four stalks, raised from as many beans. One stalk raised from a single bean held 709 beans.

R. L. Church of Oxnard, manager of the California Lima Bean Growers' Association, is just back from Washington. He says the Government will not fix the price of beans unless the market becomes too much inflated.

Cotton picking is now going on rapidly in the Imperial Valley. The first cotton seed was sold last week at 2c per pound, or $40 per ton. This, it is said, means about $3,000,000 for the cotton seed crop of the Valley for 1917-18.

There has been active trading in wheat at Porterville since the Government fixed the price of wheat at $2.20 per bushel. This means $3.60 per cwt., whereas before the Government fixed the price sales were being made at $3.20 to $3.25 per cwt.

Inability to get necessary labor for farm work and a lack of fertilizer, especially phosphate, are among the principal obstacles in the way of an increased rye and winter wheat production in 1918, experts tell representatives of the United States Department of Agriculture in conference.

Cotton buyers of Calexico purchased the first bale of California cotton ginned this year at 25c a pound. There were 438 pounds in the bale, making the cotton bring $109.50. The seed was sold for $22, making a total value of the first bale in Imperial Valley for 1917, $131.50.

First picking in the hopyards in the Willamette Valley, Ore., is on. The output appears small. The big cuts in acreage and the unfavorable season have reduced the probable yield for the season more than half. The pick this season will not go above 40,000 bales, it is thought, as compared to 100,000 bales a year ago.

The announcement is made that rice threshers met in Gridley recently and decided to charge 22½c per sack for harvesting heavy rice and 25c a sack for poor grade product. This means a primal cost of $22.50 per ton for harvesting the good and $25 per ton for harvesting the poor rice. Last year the rice threshers fixed the price of harvesting the crop at 20c.

Deciduous Fruits and Berries.

J. H. Paige of Corralitos, Pajaro Valley, is showing a new apple called the Orinco.

The drying of immature fruit is being discouraged by the California Peach Growers.

The Prune and Apricot Exposition is to be held at Mountain View, September 21 and 22.

More than 600 tons of berries were shipped East from the Gold Ridge section of Sonoma county this season.

More than 10,000 cars of deciduous fruit already have been shipped this season from California to Eastern buyers.

California's pear movement up to August 28 amounted to 3,612 cars, as compared with 3,200 to the corresponding date last year.

The heaviest windfall of peaches in years is reported from all sections of the San Joaquin Valley, with Tulare county suffering less than any other county.

It is said that the fruit crop of San Benito county is much larger than was anticipated and that between 500 to 600 tons of apricots and nearly 2,000 tons of prunes will be marketed from this county this season.

The picking of Tulare county's prune crop is well under way. The crop promises to be the finest gathered in recent years. Fear is expressed in some sections that when the heavy picking season starts, together with the heavy grape season, there will be a shortage in labor.

Citrus and Semi-Tropical.

The death of Frank A. Fletcher, pioneer citrus grower of Whittier, is announced. Age 75 years.

John T. Eyster of Altadena claims that he has discovered a formula for preserving lemon juice with its natural flavor.

Reports that the orange crop in Southern California is short and the yield in Florida much below the normal are supplemented with the information that the European output also will be small this year.

Few formal notices are being issued this season to orange growers, commanding them to fumigate their properties in control of the gray scale, according to C. H. Doyle, the inspector for the Porterville district.

It is announced from Fullerton that the new Orange County Fruit Exchange will have offices in the First National Bank Building. It will be headquarters for orange shippers of Fullerton, Anaheim, Placenta, Yerba Linda and La Habra. Dale R. King, who was district manager of the California Fruit Growers' Exchange in San Francisco, will be the local manager and took office September 1.

A meeting of about fifty orange and walnut growers of Southern California was held in Pomona last week to discuss the valuation of citrus and walnut lands as applying to loans from the Federal Land Bank. The appraisers for the bank, in making their appraisements, only looked at the land value, which they have put at $150 to $450 per acre. This, growers say, is entirely too low, as nothing is allowed for the trees and earning capacity of the groves. It is said that most of this land is earning 5 to 6 per cent on a valuation of $1,000 to $4,000 per acre.

Grapes.

J. D. Cox of Healdsburg has installed a Smith Bros. prune grader.

Jim McCord says: "The man who has some good big Shire colts need not worry whether school keeps or not."

Abortion In Cattle

High Meat and Milk Prices Make Abortion Control Doubly Necessary

Authorities are alarmed at the increasing losses caused by contagious abortion. Some state it is causing more damage to live stock than tuberculosis.

Careful breeders are realizing that meat and milk products will continue to mean more and more money to them. They are accordingly taking active steps to systematically and efficiently stamp out abortion from their herds.

Research men of the U. S. Government and other institutions assert that there is no absolute abortion "cure," but all authorities agree that abortion can be controlled and the losses stopped.

No serum or vaccine has been found that gives any protection. These authorities all recommend that a thorough system of sanitation be followed on every farm, including treatment of bull, cows, calves, and buildings. This is the only certain means of controlling and preventing abortion—sterility—premature birth—retained afterbirth in cows and white scours in calves. These all seem to be symptoms showing the presence of abortion germs.

In the case of abortion itself the germs inhabit and develop in the albuminous matter in the tissue lining of the uterus and vagina and here is where the fight for control must be efficiently and systematically waged. The germs produce an acid slime or discharge which eats the lining of the uterus and vagina and prevents healing of the torn, raw membranes.

To correct this condition, B-K, the powerful antiseptic, used as a douche, kills the abortion germs, dissolves the albumin, removes the slime, neutralizes the acid, cleans the tissue and thereby puts the organs in a condition for natural healing.

B-K does not irritate, but is soothing and healing to torn membranes, and does not cause straining. Other substances, such as carbolic acid, cresol, iodine, etc., are more or less irritating, do not dissolve albumins, but tend to coagulate or thicken them, thereby preventing destruction of the germs and thorough cleansing of the infected tissues.

B-K is a powerful germ-killer. Its remarkable germ-killing strength is plainly marked and guaranteed on every package. B-K contains no poison, acid nor oil—it is clear and clean as water and as easy to use. B-K may be used freely in the drinking water, helping to destroy the germs which accumulate in the tanks; may also be used effectively to disinfect the bull and wash calves at birth.

B-K is handy. You have in one jug, all ready for use by simply mixing with water, your treatment for calves, cows, and bulls; also the best disinfectant you can possibly have for general use—no special mixing of various ingredients—saves trouble and mistakes—insures promptness, accuracy, convenience, and successful results.

Contagious abortion is being successfully controlled in many herds by following our simple plan with B-K. One man writes: "I have been using B-K according to directions and the results have been very gratifying. My cows have every one passed the time for aborting and are calving all right in a natural way. I had lost $1,500.00 on my cows and feel that B-K has cleaned up the trouble entirely."

B-K is sold by dairy and farm supply houses, druggists, general stores, etc., everywhere. If your dealer does not have it, send us his name.

Clean and Clear as Water

Write for testimony of users and reasons why B-K is used so successfully in this work.

Send for these useful booklets.

Bulletin No. 52
Contagious Abortion Prevention and Control

Bulletin No. 136
Calf Scours—How to Save Every Calf

Awarded Gold Medal at the Pan.-Pac. Expo.

GENERAL LABORATORIES

3400 S. Dickinson St., Madison, Wis.

B-K·B-K·B-K·B-K·B-K·B-K·B-K

Four driers have been destroyed by fire in the Sebastopol section this season.

Black Hamburg grapes bring $1.30 to $1.35 a lug box around Los Angeles, and Muscats about the same.

Eleven cars of Fresno Malagas averaged in the East $2,272, or $190 per ton. This is claimed as a record price.

It is reported that there is a sufficient amount of harvest help available to take care of the Fresno grape harvest.

Up to August 28 California had shipped 1,710 cars of grapes, as compared with 550 up to the corresponding date last year.

Thompsons are picked and turned before Muscats ought to be picked. They dry faster because of their earlier season and smaller berries.

St. Helena's Grape Festival was a great success. The exhibits, the allegory, the attendance, and the weather were all that could be desired.

Fresno County Horticultural Commissioner Roullard will analyze the different sawdusts used by the shippers in packing grapes to find out which is the best as a standard.

Grape shipments East are placed by experts at from 10,000 to 11,000 cars. It is believed that when the final returns are received the total may run this year to 23,000 cars of deciduous fruit.

Fred K. Howard, Kings County Horticultural Commissioner, announces that he is ready to test grapes for their sugar content and will be glad to do so for any vineyardist who may be anxious to know how his raisin crop is progressing toward the point where it may be picked.

The Government has announced that it will permit grape brandy to be distilled for the fortification of sweet wines. This decision saves half of the State's 7,000,000-gallon brandy yield, which was threatened by the new food law. The new law abolishes the making of brandy for other uses, for which more than 3,000,000 gallons were distilled in California during 1916.

Grape drying season in Sutter county has commenced. There has been little change in the prices for fresh grapes for drying, the principal driers offering about $30 per ton delivered. Some lots have been sold at $32 per ton at the vineyard picked and for shipping $35 per ton has been offered. The price of drying, stemming and boxing has advanced from last year to $45 per ton, instead of $40.

Miscellaneous.

Some unimportant strikes are reported at several of the canneries.

Rice growers in Willows section are anticipating getting 4 cents a pound for their product.

Turlock cantaloupes were awarded first prize in a contest conducted by a Detroit newspaper.

One hundred and fifty sacks of wheat were bought from a grower August 13 by Walter Jansen of Placer county for $769.45.

The Alfalfa Growers' Association of Riverside county, through its secretary, has set the price of alfalfa this season at $21.00 per ton.

The Sperry Flour Company is making arrangements for an exhibition of Sperry products from September 10 to 17 at the State Fair.

A new pest has appeared in the Turlock district. The damage is evidenced by an affection of the root of the plant, which rots and is infested with maggots.

The warden of San Quentin has announced that the price of prison-made bags has been advanced from 10c to 12c and the output for delivery before November 1 has been sold.

The American Beet Sugar factory at Oxnard is now running at full capacity, enough Mexican laborers having been brought in for topping beets to give the factory a full supply.

The first three bales of Georgia's new cotton crop to arrive in New York City were auctioned from the steps of the Cotton Exchange August 13 for $700, nearly 50 cents a pound.

It is announced from Oxnard that the lima bean harvest in that district, while not as large as last year's, promises to be a normal one. The pink and small white beans have been cut.

The Texas sand burr and Russian thistle have made their appearance in the Redlands district. Walter Hadley, Horticultural Commissioner, says he shall at once make war on these weeds and rid the county of them.

Two Chinese farmers on the Moro Cojo ranch below Castroville, harvested enormous pea crops this season. One obtained a little over 80 tons, and the other 90 tons. They received 7½ cents a pound, or $165 a ton.

C. W. Gates of Los Angeles, owner of 23,000 acres of Tulare Lake bottom land, is preparing it for seeding to wheat. Several tractors and gang plows are at work. Harvesting of 13,000 acres of Egyptian corn on the Gates property is now going on.

The United States government's rice crop estimate places the California yield at 5,120,000 bushels, as against a production of 3,263,000 bushels in 1916. The forecast for the nation is 34,600,000 bushels, as against 40,702,000 bushels produced last year.

The garnering of the harvests being one of the most vital issues confronting the people of the State, Mr. George H. Hecke, State Horticultural Commissioner, has asked the State Council of Defense to employ its influence in delaying the opening of the term of school for one month.

The Nevada State Fair will be held this year at Fallon, Nev., from September 17 to 22, inclusive. Many attractions have been planned to make this an eventful occasion. There will be interesting racing events and there are indications that the livestock exhibit will be one of the best in the State's history.

The bean harvest in Orange county has commenced. There are 55,000 acres of beans in the county, 35,000 acres of limas and 20,000 acres of blackeyes. The limas, it is said, will yield about ten sacks to the acre and the blackeyes seven sacks to the acre. This is said to be 15 to 20 per cent below normal.

The first bale of Imperial valley cotton of this year's crop sold at El Centro last week by W. F. Summerhill to Suggs Bros. at 25 cents per pound. The bale weighed 438 pounds and brought $109.50. Two bales ginned by J. T. Lee of Seeley followed Summerhill's and went to the same buyers at 23 cents per pound.

W. F. Summerhill, Meloland, was in El Centro recently with the first bale of this year's cotton crop. It was ginned and weighed 438 pounds and produced 1,400 pounds of seed which was sold for $50. A price of 22¾ cents per pound was bid for the cotton, which would make the bale worth $99.64, and with the seed $149.64.

It is estimated that the California rice crop will take 2,500,000 bags; maize and various corns, 1,500,000 bags. These are in addition to the 6,000,000 bags necessary for the bean crop, which is now being harvested. Dealers figure that there are not more than 2,000,000 bags in local houses and they say that conditions in other parts of the country are no better.

MILK PRICES RAISED IN SAN FRANCISCO.

The schedule of new prices for household milk and cream in San Francisco, effective September 5, is as follows:

Milk to household trade, 7 cents a pint, 12 cents a quart.

Table cream to household trade, ¼ pint 8 cents, ½ pint 14 cents, 1 pint 26 cents.

Pastry cream, ½ pint 20 cents, 1 pint 40 cents.

Certified milk, 17 cents a quart.

Buttermilk, 6 cents a quart.

Milk sold in three-gallon cans to the wholesale trade will go up from 75 cents to 95 cents a can.

The price to be paid to producers of milk by the distributors is 25 cents a gallon, an advance of above 6 cents over the old price. The 25-cent price is based on Dean Hunt's figures on costs.

OFFERS OF FARMS WANTED.

The California Land Settlement Board, first of its kind in the United States, with Dr. Elwood Mead of Berkeley at its head, has issued its call for land proposals, following its first organization meeting recently in Agricultural Hall at the University of California.

The board has asked for offers from land holders on 4,000 to 6,000 acres of land, which is to be purchased under the Breed land settlements act, passed by the last Legislature, suitable for the first experiment in this country of land colonization by the State Government. The board has a quarter of a million dollars with which to make the experiment. The land will be resold by the State to farmers in small tracts on long term payments, after all the required improvements have been made thereon by the board. Dean Thomas F. Hunt of the Agricultural College at Berkeley will report on the land offered, and October 15 was fixed as the final date for receiving proposals.

Classified Advertisements

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

MISCELLANEOUS.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero st., San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smith's Cash Store, 106 Clay st., San Francisco.

APPLES DIRECT FROM PRODUCER—Fancy Bellfleurs $1 per box; No. 2 grade 70c. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

ALL SIZES OF PIPE and screw casing, both new and second hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard street, San Francisco.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

WANTED—Position as herdsman; understand testing, scientific feeding and treatment of disease; good references. Box 780, Pacific Rural Press.

COUNTRY LANDS.

IF YOU WANT 160-ACRE FARM in the best climate and above the fog belt, Lake county is the place; land values are based on what they will produce; ideal for chickens and fruit; good for stock and grain; 18 acres walnuts, interset with prunes, besides 50 acres wheat land; 3-room cottage, 4-horse barn; 1 mile to school, 3 miles to town; price $7,500; no exchange. Address Box 71, Kelseyville, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

HUMBOLDT STOCK RANCHES—1700 acres $8 with stock cattle. Long lease; additional land. C. E. Robertson, 105 Montgomery St., San Francisco, or J. E. Wilson, Carlotta, Cal.

SEEDS, PLANTS AND TREES.

ALFALFA PLANTERS, fill your fall requirements now with Green-Gold seed; high quality because of personal field selection; low price because of direct dealing; send for samples and prices. Bomberger Seed Company, Desk A, Modesto, Cal.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

WE BUY WEED SEEDS—Mustard, rape, anise, bitter clover, etc.; send samples; write us stating quantity and price. Globe Mills, Los Angeles.

SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar sts., Oakland, Cal.

Daylight Route—

Lake Tahoe

Leave San Francisco (Key Route Ferry Depot) in the morning at 7:20—arrive at the Lake in the evening at 6:00—a most delightful and scenic ride direct to Lake Resorts.

O. A. & E. Ry. electric trains to Sacramento and Pierce-Arrow Auto Stage to Lake.

DESCRIPTIVE FOLDER FURNISHED ON REQUEST.

Oakland, Antioch & Eastern Railway

L. H. Rodebaugh, Traffic Manager, Oakland, Cal.

Four Routes East!

Sunset Route: Along the Mission Trail, and through the Dixieland of song and story. To New Orleans via Los Angeles, El Paso, Houston, and San Antonio. Southern Pacific Atlantic Steamship Line, sailings Wednesdays and Saturdays, New Orleans to New York.

Ogden Route: Across the Sierras and over the Great Salt Lake Cut-off. To Chicago via Ogden and Omaha; also to St. Louis via Ogden, Denver and Kansas City.

Shasta Route: Skirting majestic Mount Shasta and crossing the Siskiyous. To Portland, Tacoma and Seattle.

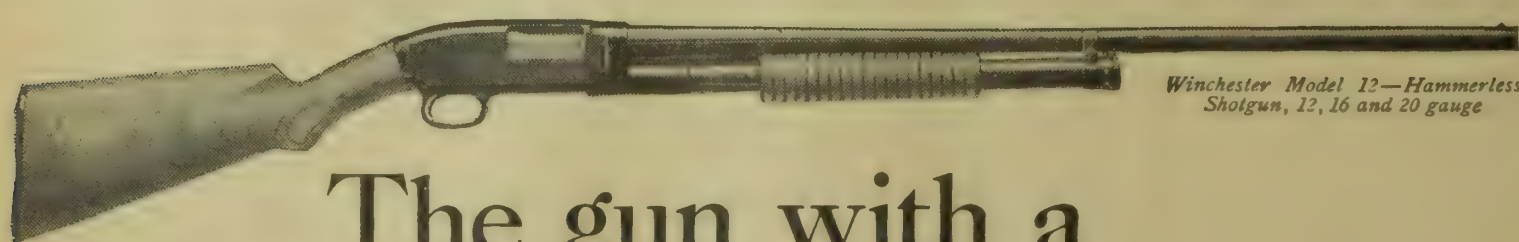
El Paso Route: The "Golden State Route" through the Southwest. To Chicago and St. Louis via Los Angeles, Tucson, El Paso, and Kansas City.

Oil Burning Locomotives
No Cinders, No Smudge, No Annoying Smoke
Unexcelled Dining Car Service

FOR FARES AND TRAIN SERVICE ASK ANY AGENT

SOUTHERN PACIFIC

Write for folder on the *Apache Trail of Arizona.*



Winchester Model 12—Hammerless Shotgun, 12, 16 and 20 gauge

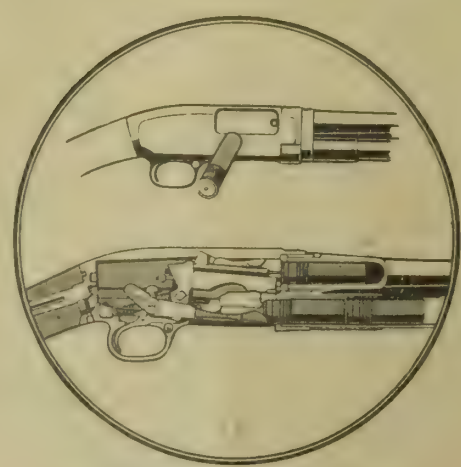
The gun with a dog's pointing instinct

A dog points by instinct. Its nose, body and tail come into line naturally—instantly. So with the hunter and his gun.

Armed with the right gun, he "points" it instinctively. If properly balanced, his gun comes up into line naturally, as easily as pointing a finger.

But if the gun is not right, if it has not been perfectly balanced in the shop, it won't work out well in practice, just as a dog, if not properly bred, will not work out well with its master in the field.

The Winchester Model 12 Repeater is a *thoroughbred* of shotguns. It has been classed by experts as "The Perfect Repeater."



Quick feeder, sure ejector. Throws empty shells to the side, out of your way

Its balance enables you to get onto fast flying birds instantly. Pointed right, it never fails to bring down the game.

Fifty years of the best gun making traditions have produced in the Winchester Model 12 a gun of almost human instincts.

The right amount of choke for different loads has been worked out after exhaustive experiment. Result: a pattern that spreads out evenly—neither too scattered nor too bunched—and lands with lots of steam behind it.

It is a triumph of guncraft. Nicely balanced, with its slim, graceful barrel, the Model 12 is a beautiful weapon, with a fascination about it that few sportsmen can resist.

WINCHESTER

World Standard Guns and Ammunition

Even spread, maximum penetration. Winchester shot pattern brings down the game.

The pattern that brings down the game

The remarkable game-getting pattern of the Winchester Model 12, shooting its own standard ammunition, is the result of infinite care taken in boring the barrel.

The barrel *is* the gun

Men who know guns realize that the accuracy and durability of a gun lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard quality of the barrels on the highest and lowest priced Winchester guns. With Winchester, the barrel *is* the gun, and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel. The same high quality of Winchester barrel is found on every gun made by Winchester. The great volume of guns sold makes this policy possible.

The Winchester barrel

The barrel of the Winchester Model 12 has been scientifically bored to micrometer measurements for the pattern it is meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until its pattern proves up to Winchester standard, the gun cannot leave the factory. The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that with proper care will last a lifetime. The Nickel Steel construction preserves the original accuracy forever.

What (PW) means

This mark on the barrel means *Viewed and Proved Winchester.* This stamp stands for Winchester's guarantee of quality, with fifty years of the best gun-making reputation behind it.

Every gun that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times with excess loads for strength, smooth action and accuracy.

At every stage of Winchester manufacture, machine production is supplemented by human craftsmanship. It is a *test and adjustment process.*

It is this care in manufacturing that has produced in the Model 12 a gun of unsurpassed game-getting qualities and whose grace, balance, beauty of lines, and never failing performances in the field have earned it the title of "thoroughbred of shotguns"—*the gun with a dog's pointing instinct.*

For those who prefer a hammer action gun, we have made the Model 97. It is built on exactly the same lines as the Model 12, but with hammer action.

Write for details of Winchester shotguns, rifles and ammunition

The Winchester catalog is an encyclopedia on shotguns, rifles and ammunition. Every hunter should have one. It gives detailed specifications of the Model 12 and describes at length the principles on which every one of the world famous Winchester shotguns and rifles is built. Write today. We will mail you a copy free, postpaid.

WINCHESTER REPEATING ARMS CO.
Dept. Y-1 New Haven, Conn.

Winchester Model 97 Hammer Shotgun

Take-down Repeating Shotgun. Made in 12 gauge, weight about 7¾ lbs.; in 16 gauge, weight about 7½ lbs. The favorite with shooters who prefer a slide forearm repeating gun with a hammer.

WINCHESTER

World Standard Guns and Ammunition

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

The Point Arena cheese factory is about to close for this season in another week. It reopens again next January.

The Alexander & Kellogg herd of Grisly Island will show a complete classification of the dairy shorthorns at the State Fair.

There is a scrap on between Seattle and Portland creameries for supplies of butterfat. As a result Seattle creameries have been paying 51c for butterfat.

George E. Platt of the Los Angeles Creamery and his partner are raising 200 heifers this year from their milking herds of 570 cows. The heifers are sired by purebred Ayrshire and Jersey bulls.

In the Oregon Cow-Testing Association the highest production by one cow during July was as follows for each of thirteen locals, given in pounds of butterfat: 56.6, 59.8, 64.94, 79.98, 78.84, 61.6, 60.9, 74.46, 79.39, 64.25, 64.07, 66.05, 59.25.

Arlington M. Smith of the A-1 Ranch opened what promises to be one of the largest tuberculin-test dairies in Tulare county on September 1. A special baby dairy which he will introduce will be the first of its kind in the San Joaquin Valley.

The annual meeting of the California Holstein-Friesian Association will be held on the State Fair grounds Tuesday afternoon, September 11th. Addresses will be made by J. M. Perry, Prof. Gordon H. True, Dr. Charles Keane, and Prof. H. H. Kildee of Minnesota.

Balfour, Guthrie & Co. sold 214 acres adjacent to the canal in the Brentwood irrigated district to Andrew M. and George A. Davis of Berkeley. The Davis brothers will raise hay for the next two years, meantime gradually placing dairy cattle on the property.

A mistake was made in the copy sent us last week in announcing the Hembree sale of Jerseys to be held on October 10. The copy stated that the sale would be held at Orleans, Cal., and should have read Orland, Cal. This sale of Jerseys will offer a fine opportunity of getting some foundation stock at your own price.

The report of the competitive milk contest in the Los Angeles district from April 1 to August 1 just closed. The pasteurized class, which represents probably 80 per cent of the milk consumed in Los Angeles, shows very little variation from the cool weather contest just preceding and a marked improvement over a year ago.

Swine and Swinemen.

School boys and girls of Los Angeles county have enrolled in the vocational department contests of the State Fair to be held at Sacramento. Particularly popular has been the pig-raising contest for which the reward will be cash prizes.

Three-quarters of all the swine that contract hog cholera die, where vaccination against it has not been practiced, it is claimed. Full information as to how to prevent the disease from getting into a herd and as to how to limit its spread can be obtained by writing to the University of California College of Agriculture.

Arrangements were made at Hanford in August for the fourth semi-annual sale by the Kings County Poland-China Breeders' Association, which is to be held October 17th. Col. Ben A. Rhoades was engaged as auctioneer for the sale. It was decided to appropriate something over $250 for giving this sale proper publicity.

H. I. Marsh of Modesto will show a fine herd of Polands on the fair circuit this fall. His herd now contains the best animals from the herds of A. M. Henry and W. A. Young, two of the best known show herds in the State. Mr. Marsh reports that I. B. A. Wonder, reserve grand champion at the P.-P. I. E., will show this year close to the 1,000-pound mark. Smooth Orphan, the young boar he secured from Henry, will show as a senior yearling.

Sheep.

Alfalfa bloated 100 sheep one morning for a prominent sheepman in Southern California.

It is said that the deficit in wool in the United States is 510,000,000 pounds and is gradually becoming greater.

Reports from Idaho and Montana are that livestock men are improving their methods for wintering of their sheep and that this will tend to increase the clip.

Jack Gardner, who has moved 1800 head of sheep from the mountains to a point eighteen miles northeast of Delano, marketed a carload in Fresno recently at $10 per head.

The heavy sale of spring lambs by growers throughout the range section of Oregon is due mainly to the poor ranges and high prices of hay. Almost all the ewe lambs sold will be kept for breeding purposes.

At the second annual ram sale under the auspices of the National Wool Growers' Association, held at Salt Lake City, a Hampshire ram sold for $1,600, said to be the highest price ever paid for a Hampshire sheep.

Plans to preclude the possibility of a serious decrease in wool by the slaughter of sheep in the United States, and to aid the Federal Government and the allies at war, were discussed at a meeting in Chicago recently by some of the leading representatives of the industry.

What is said to be the highest price ever paid in the United States for a ram sold at public auction was paid yesterday for a thoroughbred Rambouillet at the second annual ram sale conducted under the auspices of the National Wool Growers' Association at Salt Lake City. Four hundred and twenty-two sheep were sold during the day for a total value of $45,000. Six rams brought more than $500.

Beef Cattle.

In the Aberdeen-Angus class, the only entries at the State Fair are a bull and heifer, entered by Mrs. J. H. Ware of Live Oak.

Horses.

At the request of United States army officers, the California State Fair this year is offering special premiums for horses suitable for the use of the United States army.

Livestock Miscellaneous.

Labor and feed shortage will keep Charles Kimble of Hanford from showing at the State Fair this year.

Mr. Hoover has denied that there is any foundation for the statement that the food administration expects to fix prices of beef or pork products.

The trust left by the late J. Whitney was broken by the State Supreme Court and ordered distributed among the children and wife of the late millionaire cattleman.

DAIRYMEN—FARMERS WE ARE PREPARED

to supply your needs in

Dairy and Creamery Supplies

Milk and Cream Coolers
Milk Cans and Bottles
Cheese and Butter Salt
Minnetona Butter Churns
Gasoline Engines——Pumps
Boilers——Wash Sinks
Diabolo Separators

We carry a full line of Star Feed and Litter Carrier Equipment—Stanchions
Let us figure on your requirements.

Pacific Dairy Machinery Co.
58 CLAY ST. SAN FRANCISCO

FRESH REGISTERED JERSEY COWS

Practically every Jersey breeder of Stanislaus County, California, operates comparatively small acreage with consequent limited capacity for carrying a large number of cattle. That is why these breeders from time to time are in position to offer to the public some of the best females in their herds.

Also to the credit of Stanislaus County breeders is the fact that they are of one mind as to the soundness of the policy of selling as breeding animals only such individuals as they believe to possess the quality to please the purchaser and make good in other hands.

That policy is a governing factor in the FIRST CONSIGNMENT SALE BY STANISLAUS JERSEY BREEDERS, to be held at Modesto Fair Grounds, MODESTO, CALIFORNIA TUESDAY, SEPTEMBER 25, at 10 O'CLOCK A. M., when the offering will consist of

70 REGISTERED FEMALES
6 REGISTERED BULLS

There will be 12 Register of Merit Cows, 7 with records above 500 lbs. butter in one year; 10 Daughters of Register of Merit Cows; 2 Daughters of the Great Young Sire Altama Interest; 2 Daughters of Margery Golden's Fox; 5 Daughters of Golden Brutus, who is by a son of Imp. Golden Fern's Lad and out of a daughter of Golden Marquis; 2 Granddaughters of Interested Prince, brother to the world's record milk cow Passport; 5 Daughters of Primrose's King, brother to 9 Register of Merit Cows.

There will also be a few choice bulls for sale. In Daisy's Tokyo buyers needing a service bull will find a splendid individual, and twelve of his daughters in this sale are proof of his breeding qualities. They are of distinguished type, with great capacity and exceptionally good udders and teats.

In Foxy Exile Fern is found another splendid individual of breeding age. He is by a son of the $10,000 Sensational Fern, and his sire's dam has a Register of Merit record of 602.84 lbs butter and is a daughter of the great Eminent.

This sale marks a new high average for quality in registered Jerseys sold at auction in California. Most of the cows are young, and a very large number of them are fresh or coming fresh shortly after sale. They are an especially clean lot, of desirable type, the kind it is safe to buy and a pleasure to own.

Every animal over six months of age has been tuberculin tested and an individual certificate will be given with each animal. Further than that the buyer will be permitted to tuberculin retest each animal he buys and if any reactors are found the seller will receive them back at the full purchase price.

CONTRIBUTORS TO THE SALE

Guy H. Miller, Modesto — M. W. Brady, Modesto — W. J. Hackett, Ceres — O. J. Ames, Oakdale
Riverina Farms, Modesto — Fred B. Wulff, Modesto — Jno. A. Orr, Ceres

Bear in mind that when you buy in this sale you are buying the blood that Stanislaus County breeders are keeping in their own herds and that every official record they make will add to the value of the cattle in this sale. It pays to buy the blood that others are developing. A catalog of the sale will be mailed free of charge to those who request it. Address the sale managers.

SALE UNDER MANAGEMENT OF

California Breeders Sales and Pedigree Company Sacramento, California

Auctioneers: Col. Ben A. Rhoades, Col. Cy N. Clark — C. L. Hughes, Sale Mgr.

PRODUCING JERSEYS AT AUCTION.

For a State which is the home of so large a number of registered Jerseys, California occupies an unique position in respect to official records. It so happens that the destinies of the registered Jersey cow in this State are in the hands of leading breeders, who are working on the theory that official production should be made under ordinary dairy conditions, without any more special attention to the cow than should be given in any well-conducted dairy. Thus practically all California Jersey records have been made on alfalfa hay, with only a very small grain ration, four or five and even less pounds per day, and on two milkings per day. A box stall for a test cow is practically unknown on a California Jersey breeding farm, and of most records made in California the statement "made under ordinary dairy conditions" is literally true.

Yet under these same "ordinary dairy conditions" the State has many registered Jersey cows that have made official records above 500 pounds butter in one year, quite a large number between 600 and 700 pounds, and a limited number above 800 pounds. Jersey authorities from other localities who have seen some of the big California producers and the conditions under which their records have been made have been unanimous in declaring that we have a number of cows that would unquestionably have made above 1,000 pounds of butter in one year had they been handled according to the methods of the establishments that feed heavily, give the cows box stalls, and milk three times per day. "Under ordinary dairy conditions" particularly applies to the records made by the great group of Register of Merit cows and dams of Register of Merit daughters that will be sold at public auction at Modesto on Tuesday, September 25, by leading Jersey breeders of Stanislaus county. Several cows with records above 500 pounds butter in one year will be sold, and every one of them has been handled strictly as a dairy worker, even when the record was being made.

That means that the average dairyman who wants to buy one or a few good registered Jersey cows can go to this sale and buy cows that made their records under just such conditions as he has in his own herd at home, and under the same conditions he can expect to make equal records with the heifers that will be sold.

Another feature of this sale that will meet with the appreciation of buyers is that a very large number of the cows and heifers are fresh or heavy springers. Probably no such percentage of fresh cows was ever offered in a public sale in the State before.

Marsh's Big Type Poland-China Swine

THE AMERICAN HOG.

MODEL MAJOR

First, State Fair, 1916; First and Grand Champion at Modesto; First Grand Champion and Sweepstakes Gold Medal at Fresno.

I. B. A. WONDER

First and Reserve Champion, P.-P. I. E.

SMOOTH ORPHAN

An outstanding senior yearling.

These three great boars are at the head of my herd of prolific, easy-feeding, prize-winning sows.

Look for these on the California Fair Circuit.

H. I. MARSH

Modesto, - - - - Cal.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

Poland-Chinas.

EIGHT SPLENDID FALL BOARS ready for service. Twenty spring boar pigs for sale at private treaty. Twenty of grandest Poland China sows ever sold in California go in the breeder's sale held October 19, Hanford, from the "100 head sell." W. Bernstein, Hanford, Cal.

FIRST $100 takes my herd boar Sibberton No. 249471, farrowed July 29th, 1915. A grand young boar. Full particulars with pedigree on request. Also 5 month boar, good points, $20. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

SLATTERY MAMMOTH POLAND CHINAS. —Bred right, Fed right, Priced right. Pedigree and registration given with each animal. W. J. Slattery, Finley, Lake county, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend Sts., San Francisco.

A-1 BERKSHIRES.—Herd boars Winona Royal Champion and Charmers Star Masterpiece. Best blood lines. Immunized stock. Ayrshire cattle. Arlington Smith, Visalia.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

REGISTERED BERKSHIRES—Geo. M. York, Modesto, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 third. Prices $20 and up. Haden Smith, Woodland.

DUROC JERSEY BOARS.—For Sale.—Sons of Burk's Good-E-Nuff, Grand Champion Illinois State Fair, 1914. Out of Queen Is Rite, Grand Champion California State Fair, 1916. A. A. Trueblood, P. O. Box 582, Sacramento. See me at California State Fair, September 8 to 15.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC-JERSEY BOAR for sale; two years old; from Kansas; an excellent sire; registered; $50; cost $100; object, change blood. Jersey Queen Farm, San Jose, Cal.

RANCHO RUBIO DUROCS—Nothing to sell at present; a fine bunch of gilts and a few extra good service boars for this fall. Elmer Lamb, Ceres, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first-class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

WANTED — Unbred Holstein heifers not over 18 months old. State price. Box 740, Pacific Rural Press.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATtle—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

FOR 30 DAYS—JERSEYS—Pedigreed bull calves, not registered, $25; registered, $50. Service bulls, $100, from producers. Tested registered cows, $150, with yearly records. Horses. N. H. Locke, Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATtle—Duroc swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

FOR SALE—Young pure-bred Guernsey bull sired by the famous Raymond of the Preel. Box 750, Pacific Rural Press.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

VERAMONT STOCK FARM — Pure-bred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

BREEDERS OF REGISTERED SHORThorns—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORThorns, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM — Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder registered Herefords. Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

J. R. BLOOM—Breeder of Shropshires. Yearling rams for sale. J. R. Bloom, Dixon, Cal.

WANTED—75 to 100 high-grade Angora goats, not over three years old. J. A. Swall, Bishop, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

HORSES AND MULES.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal—the best California calf raiser. Geo. H. Croley Co., Inc., 8th and Townsend Sts., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FREE FEED FOR STOCK—Acorns for hogs, grass for cattle and sheep; get State and Government land; new booklet free. Joseph Clark, Sacramento.

Second Year Cow Testing Paid Better

[By Edwin C. Voorhies, University Farm, Davis.]

Proof as to the results of the work of cow-testing associations is often asked by many of our dairymen. These men usually want to see just where testing is going to benefit them. Many such dairymen admit that they would like to know just what every cow is doing; but they fail to see just how any improvement can take place, and are unwilling to lay out money unless improvement is brought about in a financial way in their own herds. The Bodega Cow-Testing Association has just completed its second successful year; and a complete summary of the records shows where improvement has been brought about and also points toward the need of further improvement. Due largely to the conscientious work of Matthew Resindes, as tester, this association, in one of the oldest dairy sections in California, has prospered. Following are summaries for two years' work. Records of six months' duration or over are included. All records under six months' duration are left out.

HIGH PRODUCERS MORE NUMEROUS THE SECOND YEAR.

Butterfat—lbs.	1st Year.	2d Year.
Less than 100	34	9
100—125	49	47
125—150	81	97
150—175	125	131
175—200	120	122
200—250	184	189
250—300	78	86
300—400	15	27
400—500	1	...
500—600	...	1

The second year shows a decided advantage over the first, especially in the number of cows falling under 100 pounds of fat. The first year of the work practically 5 per cent fell under the 100 pounds mark, while the second year reduced this number to a trifle over 1 per cent of the total. This itself is proof enough of the value of the work.

Taking 150 pounds of fat as the average for the State, we find that 23.9 per cent of the cows on test during the first year were below the average of those in the State. This percentage was reduced to 21.6 in the second year. These figures seem to mean but little; but if 2.3 per cent of all the cows in California, or over 11,000 animals, could be transferred from under the average to over the average, the expenses for cow-testing in this State would be paid for many years to come. Note in the above table the number of comparatively good producers, over 250 pounds of fat—94 the first year and 114 the second. The highest butterfat record the first year was 421.57 pounds; the second year the highest was 592 pounds.

Oftentimes dairymen are found who admit that it is a good thing to test for a year or so, but fail to see why it is necessary to continue the work. This summary for this last year should show the dairyman why he should continue. When fully a fifth of the cows in any herd do not produce 150 pounds of fat, there is the greatest need of testing. The dairyman will find that the higher his average production goes the more closely he will have to watch his records and the more consistently he will have to test. However climate might influence results, it affects practically all the cows the same way, and the good cows can be distinguished from the poor ones.

PRIZES GIVEN FOR PRODUCERS.

Banks and business houses are seeing the advantage to themselves of the greater prosperity of dairymen due to cow testing. One local bank donated $40 in five prizes; and another donated $60. A ton of alfalfa hay was also one of the prizes, won by the highest producer, a cow owned by J. D. Williams, which produced 592 pounds butterfat. Now, as never before, should dairymen pay attention to the kind of cows they keep. Every cow kept at a loss or on the border line should be replaced. Feed and pasture are worth too much to be wasted on cows producing less than the average for the State.

Those associations who have testers should keep them, if possible, as they are needed more than ever in their present capacities.

DO YOUR OWN TESTING.

Dairymen who are unfortunate enough to be outside the limits of a cow-testing association can do their own testing if they will spare the time once a month. Information will be gladly given and the necessary books furnished on application to the Animal Husbandry Division at the University Farm.

Finds Cream Percentage, But Not Fat

[Written for Pacific Rural Press.]

Whole-milk consumers do not generally know anything about the butterfat in milk; but they all occasionally let a bottle stand long enough for the cream to rise. When they can't see the cream, because it is not yellow enough, or when there is not enough of it, they try a new milkman. In buying cows for the whole milk trade, an Orange county dairyman finds first how much cream he can easily see on their milk after it has stood overnight. To do this accurately, he has ruled off a sheet of paper five inches high, twenty lines per inch. Enough glass tubes were obtained to test all the cows desired, and fastened to a board with the ruled paper back of the tubes, and the lowest rule at the bottom of the tubes. Fresh milk is poured into the tubes up to the top rule. When cream has raised overnight, the number of lines it covers tells its percentage of the whole milk. This may be unfair to the cow whose butterfat globules are so small that they do not all rise by that time, or so white, due to breed or feed, that it does not show up plainly, but it is the test by which the dairyman gets the consumer's money, which is what we are all after. The Babcock test doesn't count if the fat content is up to legal limits.

HIGHER MILK PRICES.

Santa Clara dairymen met recently in an effort to get a higher price for whole milk for city trade. It had been fourteen and fifteen cents per gallon generally, and they wanted twenty. The price seems to have been compromised, for one of the largest distributors of San Jose advises that his company is now paying seventeen and seventeen and a half cents to the producers, and the outlook is that it may go higher.

Public Auction

100 Head **Holsteins and Durhams** 100 Head

On the Dick Ranch on the Oakdale Road, 6½ miles northeast of Modesto and 1½ miles southwest of Riverbank, on

Thursday, September 13

we will sell the following livestock to the highest bidder for cash:

45 COWS
29 HEIFERS
25 YOUNG CALVES
1 HOLSTEIN BULL 2 YEARS OLD
4 BROOD SOWS
23 SHOATS
24 SMALL PIGS
2 COLTS
1 TOP BUGGY
2 MOWERS
1 RACK
35 HEAD OF FRESH COWS
9 HEAD OF SPRINGING HEIFERS

Can give test and weight of milk of each cow.

Dairymen, this is a fine bunch of cattle and excellent producers. Don't fail to attend this sale; come early as the sale will begin promptly at 11 o'clock. No by-bidding, no boosting, no fake bidding; everything absolutely sells; lease has expired on ranch is the reason for selling. Free lunch. Don't forget the date, Thursday, September 13th.

Hedegard & Blauvelt, Owners

COL. C. N. CLARK, Auctioneer. Office, Home Realty Co.

915 I STREET - - - - - - - - MODESTO, CAL.

Jerseys for Net Profits

You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull. Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 388 West 23rd Street, New York City

YOUNG BULL CALVES
Fine individuals, with Register of Merit backing.
T. B. PURVINE, Petaluma.

PEDIGREED BULL CALVES
with or without registration, and service bulls from cows with yearly record and by our herd bull. Priced right. Tuberculin tested.
N. H. LOCKE CO., Lockeford, Cal.

ACME HERD JERSEYS
Quality counts.
Stock for sale.
CHAS. M. McLOUTH, Orland, Cal.

LEONARD FARM JERSEYS
Bulls for sale from Register of Merit cows. Write for information.
W. J. HACKETT, Ceres, Cal.

Do you want long distance backing behind your coming herd sires?

If so then we have them

The first six cows that we tested for a year made the following records:

Winnie Korndyke Cornucopia De Kol	milk	31034.2	butter	1201.0
Hazel Aaggie of Oakwood Daughter	"	21208.5	"	860.9
Inka Tritomia Walker	"	21237.6	"	816.1
Princess Jetze	"	19981.8	"	786.9
Mary Acme of Oakwood	"	17977.3	"	702.9
Princess Niko Mechthilde	"	11773.9	"	620.4

An average of 20535.5 of milk and 831.2 of butter. This included one junior two-year-old, one senior two-year-old, and one junior three-year-old. Two of these being state records and one world's record for age.

Write for prices, or, better still, come and see our herd. Meet us at the State Fair.

THE J. S. GIBSON COMPANY
Box 97 Williams, California

RHOADES & RHOADES
Expert Livestock Auctioneers
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
GEO. P. ROBINSON CO.
426 J Street,
Travelers Hotel Building, Sacramento.
LIVESTOCK BROKERS.

Hoover Says Stock Values Will Continue

In his address in Chicago on August 25, Herbert C. Hoover, U. S. food administrator, said that though perhaps prices had reached the apex for the present and that though a slight decline may occur in the near future, the Government believes that it will be necessary next year and probably for several years to come to stimulate the production of meat of both hogs and cattle.

The slaughter of hogs for fat in Germany and of cattle in France and the Argentine for food during the war has been so great that at least five years of intensive cultivation in the United States will be required to make up the void. This means continued high prices for cattle and hogs.

The Government may extend the policy of the price-fixing to cattle and hogs on the farm and to packers' products in the cities next year. But it will not do so this year. It is possible the Government may even forbid or restrict the killing of hogs and the sale of veal in order that more cattle may be raised. Appeals will be made to farmers to raise more ewes, cows and hogs for breeding purposes. While it will be impossible to fix prices in advance for these animal products, as the President has already fixed the price of wheat for next year's crop under the food law, the Government will be able to assure the farmers handsome profits for all the hogs and steers and sheep they can raise. The effect of this upon agriculture can hardly be estimated.

Mr. Hoover said the conditions at present are not temporary in the sense that they will quickly change if the war should end in a few months. Whether the war goes on or not, Mr. Hoover believes that the shortage of food in Europe and the lack of shipping to bring food from the Argentine means unprecedented demands upon the United States for several years to come. In Germany especially the farms will have to be practically restocked with young animals after the war.

Dutchland Sir Pietertje Creamelle's

Ten First Daughters in Milk have average records of 20 lbs. as two-year olds or younger

Two of These are California Champion Two-Year Olds

PAULINE INKA DE KOL CREAMELLE
Senior yearling record: Milk 423.4, Butter 24.43 lbs., Test 4.62 per cent.

MARIE CLOTHILDE PONTIAC CREAMELLE
Junior 2-year-old record: Milk 391, Butter 22.52, Test 4.6 per cent.

This wonderful record is convincing proof that this young herd sire transmits his big production and high test breeding.

You Need Some of His Blood in Your Herd

To bring up your butter fat production and increase your profits.

I am offering a few young bulls sired by him, out of big producing dams, and just ready for service, at reasonable prices.

WRITE OR CALL AND SEE THEM.

F. STENZEL
SAN LORENZO, CALIFORNIA
Breeder of High-Test Holsteins

WHEN TO CUT SILAGE CORN.

One of the few cases where a man had better be too late than too early is in the time of filling the silo. By all means avoid cutting silage corn too early. Silage from immature corn turns sour, is less palatable than when properly made, and has lower feeding value. Best results are obtained by commencing to fill while the leaves of the upper part of the stalks are yet green, but not until the kernels are distinctly dented, in dent varieties, or considerably hardened in others.

When silage corn is so dry that the cut stalks and leaves do not feel moist when squeezed in the hand, water should be added at filling time. This can be accomplished by turning a running hose into the blower, or running it by hose into the silo. The amount of water to be used will depend on the rate of filling. Aim to make the cut fodder moist enough to pack down solidly. Farmers who are making their first use of silos this fall in order to save all they can of the short feed supply, will do well to give close attention to the matter of cutting the corn at the proper time. An error then may mean feed wasted instead of feed conserved. And feed conserved will help win the war.

SUDAN AND SLOW BUTTER.

"Sudan grass is great stuff to put on milk flow," said Mrs. J. A. Clark of Los Angeles county. "But my neighbor, H. E. Kincaid, and myself have had trouble two years in making butter while feeding sudan. Within two weeks from the time you start to feed sudan, it takes over two hours for the butter to come. As soon as the cows were changed back to alfalfa, no more difficulty was experienced. We will continue to raise and feed sudan, for we have found a remedy. One way is to add cold water to the cream before starting to churn.

The 100% Silo

is the silo that's built of California Redwood. Think up all the good points a silo material should have—you'll find *every one of them* in

California Redwood

Resists rot and fire

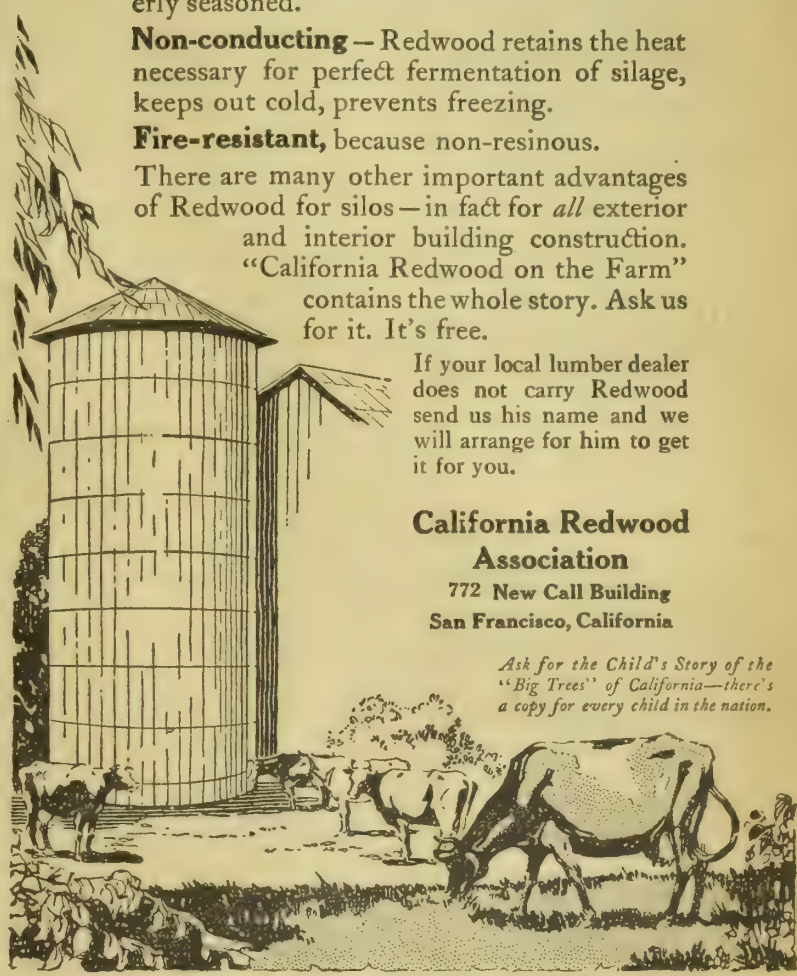
Permanent—contains a natural preservative that prevents decay. Not affected by sun, rain or violent changes of weather.

Will not shrink, warp or swell, when properly seasoned.

Non-conducting—Redwood retains the heat necessary for perfect fermentation of silage, keeps out cold, prevents freezing.

Fire-resistant, because non-resinous.

There are many other important advantages of Redwood for silos—in fact for *all* exterior and interior building construction. "California Redwood on the Farm" contains the whole story. Ask us for it. It's free.



If your local lumber dealer does not carry Redwood send us his name and we will arrange for him to get it for you.

California Redwood Association
772 New Call Building
San Francisco, California

Ask for the Child's Story of the "Big Trees" of California—there's a copy for every child in the nation.

SCOTCH SHORTHORNS

We have just purchased the entire herd of shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

CARRUTHERS FARMS, == MAYFIELD, CAL.
City Address: Hearst Building, San Francisco, Telephone Sutter 1311

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED.
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
Hauser Packing Co. Los Angeles

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

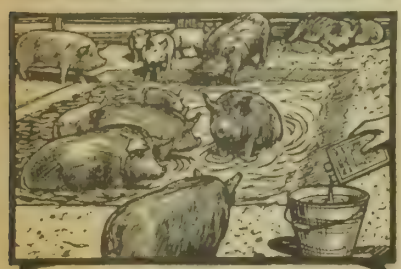
Veterinary Queries

[Answered by Dr. H. B. Wintringham.]

Hogs Losing Hair.

To the Editor: I am raising hogs and am keeping same in close quarters. They feel very much at home and are doing very well, but are losing their hair somewhat. What is the matter?—J. H. L., Kentfield.

Provide a wallow in which a 1 per cent solution of sheep dip is kept.



It's Natural for a Hog to Wallow

Here's a good thing to do: Provide a wallow close to the feeding grounds to which add Dr. Hess Dip and Disinfectant. As the hogs pass back and forth from the wallow to the feed trough, the **DIP** will kill the lice and cleanse the skin, while the **DRIP** will destroy the disease germs and the worms that pollute the ground. That will mean a clean, healthy skin, freedom from lice, a safeguard against disease and larger, better porkers.

Dr. HESS & CLARK
Ashland Ohio

DR. HESS DIP and DISINFECTANT

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop.

DAVIS, CALIFORNIA

Breeder and Importer of

SHROPSHIRES and MERINOS

Shropshires sired by rams imported by me from England.

The Famous Glide Merinos.

My purebred range-raised yearling Shropshire and Merino rams are now ready for inspection at my place.

FOR SALE IN INDIVIDUAL OR IN CARLOAD LOTS

A FEW SHORTHORN BULLS FOR SERVICE.

Stringy Milk.

To the Editor: Will you kindly inform me through the columns of the Rural Press what can be done for a cow that gives stringy cream? The milk is all right. After it is a day old the cream is so stringy that it will hardly pull apart. The cow is perfectly well, eats and drinks and is in good condition. I have been feeding good hay. She has been troubled this way for about three months. Have been milking for five months.—R. P. M., Morgan Hill.

Give one ounce formalin in one quart raw linseed oil.

Lame Colt.

To the Editor: I would like your valuable advice in the case of a lame colt I have. Its left front knee is swollen and it will barely stand its weight. It does not seem to hurt it by pressing with the fingers, but is evidently painful in walking.—J. H., Rio Linda.

Have your veterinary give a hypodermic injection of sodium cacodylate and paint the knee daily with tincture iodine.

Pigs Have Cough.

To the Editor: Can you tell what to give young pigs for a slight cough? They have had it since weaning time. They are about four months old.—C. F. S., Galt.

Give these pigs 5 drops of beechwood creosote each in the feed twice a day.

Sow Heavy With Pig.

To the Editor: I have a sow weak in the knees of the hind legs. She keeps stepping on one foot, then another. Sometimes the hind quarters drop down clear to the ground.—A. R., Willows.

This sow is probably heavy with pig, and will recover as soon as she farrows.

Horse with Fistula.

To the Editor: I have a horse that is now developing a fistula on his shoulder. Please give remedy to cure.—M. H., Riego.

Surgical interference is the only cure.

EWES ARE PRESENT AND PROSPECTIVE MONEY-MAKERS.

It is becoming plainer every week that no ewe lamb, fit to be a future breeder, should be sent to the butcher. Owing to the high price of meat, and the high price of feed and poor range conditions, there is the strongest temptation to part with young stock. Many of the ewe lambs which have been sold lately have fallen into the hands of speculators, and have been resold several times at profits ranging from 50c to $1.50 a head. Before reaching final purchasers for breeding purposes, many young ewes have sold as high as $18 to $20 a head. Officers of the National Sheep and Wool Bureau say that the deficit in wool is 510,000,000 pounds and that this deficit is becoming greater rather than smaller. We are also told that the lack of sheep necessary to supply the augmented demand caused by the war amounts to about 75,000,000 head. So we say again, conserve your ewe lamb supply if you care for quick and sure money. The shortage in sheep has come to stay for some time.

500 One and Two-Year-Old

SHROPSHIRE RAMS

By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:

C. E. BARNHART
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TAMWORTHS

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Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
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SEE US AT THE STATE FAIR

Gold Medal Shire Horses

FROM BLACKHAWK RANCH, DIABLO

(CONTRA COSTA COUNTY, CAL.)

The largest stable of registered Shire horses ever shown on the Pacific Coast will be at the State Fair, Sept. 8 to 15

with thirty-six head. This stable won the Gold Medal for the best exhibit of Shire horses at the Panama-Pacific International Exposition, 1915. At the State Fair in 1916 our horses won three championships, twenty-two first prizes, twelve second prizes and four third prizes.

If you are interested we invite you to visit Stable No. 1 during the State Fair, where you may see a number of stallions we have for sale at reasonable prices—all of them guaranteed to be satisfactory breeders.

E. LOVELL, Manager.

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WILL EXHIBIT OVER 50 HEAD AT THE CALIFORNIA STATE FAIR

We have the largest stock of horses and can sell you more genuine horse for your money.

If you need a good stallion in your locality let us know.

BASSETT'S POLAND CHINAS

GRAND CHAMPION SOW,
P.-P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.

Young stock, $30 Up.

M. BASSETT,
Box 1, Hanford, Cal.

ANDREW H. McINNES, Red Bluff, California, will Exhibit at the California State Fair, Sacramento, Cal., Sept. 8th to 15th, Inclusive,

66 Head of Pure Bred SHROPSHIRE RAMS

This Stock all Registered from Noted Herds and will be For Sale at Close of Fair.

For Sale 20 REGISTERED HAMPSHIRE YEARLING RAMS. Bred by Butterfield Livestock Co. from imported stock. See them at the State Fair.

Robt. F. Miller - - - Davis, Cal.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

INTRODUCE CHANGES GRADUALLY.

From information obtained in the short poultry course held here in Pomona, and which I gave much of in detail, it would seem to me that all those who can possibly do so, should arrange matters so that they can light up the hen houses in winter. It is not needed yet, but this is the time to be thinking about it and laying plans to be followed later by installing some kind of a light. The University found it was a very profitable thing and since then I have been busy getting more information on the subject that will be given later. But this will set you to thinking about it; we all want to make what profits we can out of our poultry, and if a dime spent for light will give three dimes in return, it's everybody's right to spend the dime, because it is a proven investment.

All kinds of farming and stock-raising is being given more thought than ever; men with brains are really trying to help the farmer to take up better methods. Sometimes their plans are not quite practical, but the farmer will try his own way of working them in and gradually benefit by them. This is the same with poultry; it is never wise to make any radical changes on a big scale, but no one ought to be hide-bound about trying things out in a small way just to satisfy themselves and do justice to those who give the information.

In making changes with feed it should always be done gradually, even if we know the new feed is better than the one they are accustomed to; the fowls have tastes that must be consulted and they do not take kindly to changes of feed. If you have been feeding oats or sprouted oats and then switch to barley, the hens don't like it and the eggs will drop off, but if you mix and feed half barley and half oats they will accept the change gradually and you will never notice the difference in eggs.

SOFT-SHELL EGGS AND OTHER TROUBLES.

To the Editor: My young pullets lay many soft eggs. I give them some fine shell in their mash, and they got lots of shell standing around the yard. How many pounds of mash and scratch feed should be fed to 100 chickens? What is the best treatment for common roundworms? —P. S., Oakley.

Soft Shell Eggs.—The pullets are too fat; give them a dose of Epsom salts in the drinking water every day for a week—½ ounce of salts to gallon of water.

Quantity to Feed.—There is no hard and fast rule. What is enough for some flocks is short for others. Study your fowls and feed accordingly. It would appear as if you had either fed too much or that the ration was too fattening; hence feed a little less until your hens are normal.

Worms.—There were full instructions for ridding fowls of the round worm given in the Press a few weeks ago; look it up.

One pound of tobacco stems cut fine and steeped in water sufficient to mix mash for 100 hens. Give another mash two hours later, with eleven ounces of Epsom salts dissolved in the water. Clean up yards and burn increment.

TURKEY TROUBLES.

To the Editor: Last fall I bought a 23-pound gobbler and mated him to 8 hens. After mating season was over I was going to sell him. I weighed him and he only weighed 16 pounds. Just a few days after, he went blind and died. Now, I have my young turkeys about half grown. They get sick, droopy, and go blind. Nothing looks wrong with their eyes—no skum nor any water runs out of them. They have stubble fields to run in. I feed Gip corn once a day and give sour milk. Have plenty fresh water. Can you tell me what to do for them?—J. T. Thomas, Yuba City.

Your gobbler did not eat well during breeding season, so naturally fell off in flesh. Most likely he was troubled with lice, too. Young turkeys sometimes pick up things that are poisonous, and it makes them blind. You do not give sufficient data for me to tell you fully, but it may be that in your range there is some poisonous weed, and if you would go over the ground you would find it.

BLACK ROT.

To the Editor: Have a flock of one-year-old hens and two roosters of the white Leghorn type. Their wattles and combs are turning black. About a half dozen are all black, and now some of this year's pullets' combs are turning. Have been feeding bran, barley and scratch feed, and have lost several hens with no visible cause. Can you please tell me what ails them, and are they fit to eat?—Mrs. Forest B. Adams, Caruthers.

Paint the combs twice a day with the following lotion: Water, two ounces; glycerine, one-half ounce, and carbolic acid (crystals), two grains. Get the birds out in the sunshine and feed all the green feed, such as clover, alfalfa and dandelion greens, they will eat. The real trouble is in the liver, and they are unfit for human food. Put half a teaspoonful of muriate of ammonia to each pint of drinking water and keep all animal food away for a time. You have fed something that has caused congestion of the liver.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

ARE YOU GOING TO STAY IN THE GAME?

Within the next few weeks it is up to the poultryman to determine whether he will remain in the business or try something else. Quite a few have already "thrown up the sponge"; others are thinking about it. Very few have increased their flocks, on account of the bugaboo "high feed."

Wonder how many have stopped to figure? Those who have say the past year, figuring from September to September, has been a prosperous one. Those who purchased their feed right, or, in other words, the poultrymen who bought in quantities and watched the market, are satisfied with their profits. To make a success in any line of business these days one must be up and coming.

We may be mistaken, but we think now is the time to purchase grain. The Government placed no limit on the prices and the speculators are taking advantage of the fact and are buying up all the grain in the country. There should be some steps taken to protect the poultrymen in the way of prices. Poultry prices now are cheaper than any other food product. Eggs may seem high to city housewife, but taking the cost of feed into consideration, eggs must go up. The markets are now drawing upon the storage supply, which is but little in excess of last year. The East is drawing upon this coast for eggs. Canada is also short, having fewer hens this year and restrictions are placed upon feed. We must produce more eggs or there will be a famine in "hen fruit." California can produce eggs cheaper than any other State. Our climate is very favorable to the production of green feed. Kale, mangels and alfalfa can be made from one-third to one-half of the ration. Sprouted oats and fine tender corn shoots are relished by all poultry. Feed more green stuff. It keeps the flock in condition. This is absolutely necessary to high egg production. To feed any kind of grain, no matter what kind or quality, to fowls out of condition is a waste of money.

Summing up the situation, we would say stay in the game. But do not neglect planting of green and laying in your grain supply as soon as possible.

ARE YOU FEEDING WHEAT?

Very few poultrymen are feeding this grain, which is now on a par with gold dust. The Government has practically guaranteed the farmer $2 per bushel for next year's wheat crop. Wheat will not go down in price this season, which means that we will have to do without it for another year at least. All the wheat has been bought up by the grain dealers. Very little remains on the farms.

Most poultrymen now are using barley and oats. In some cases dry grain is fed, while some sprout it until the tender roots appear. The fowls relish all sprouted grains. We generally sprout barley until the main stem breaks through the kernel. If left longer a lot of feed value is lost. There is, however, an advantage in letting it stand longer if one is short of green feed. Better provide the fowls with kale, alfalfa and mangels and do not allow the sprouts to become too long; in other words, feed the oats or barley before the "shoots" turn green.

FALL-HATCHED CHICKS.

[Written for Pacific Rural Press.]

Fall-hatched chicks are much better if hatched between mid-September and mid-October, according to C. H. Hosford of Riverside county, for they ought to have feathers when cold weather arrives.

Some of their chicks hatched in the first week of October have laid in February and were laying big eggs through the next fall and winter. Most anything lays eggs in the spring. Mr. Hosford, Jr., bringing in the eggs one night last fall, said the pen of fall-hatched chickens were laying as much as three or four of the other pens.

Fall-hatched chicks are more expensive to get and keep, however. Eggs at that season are not so plentiful nor so fertile.

SAN FRANCISCO POULTRY SHOW.

The San Francisco Poultry Association has waived its annual meeting this year to exhibit in conjunction with the California Land Show to be held here October 13 to 28. The decision was made by the executive committee of the poultry association at a recent meeting and the reason ascribed was a desire for complete co-operation in the big land exposition. Reservations will be made through Robert V. Moore, secretary of the poultry association, who will make his headquarters at the California Land Show, 510 Mills building, San Francisco.

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

S. C. RHODE ISLAND REDS—220-egg record, bred from big show winners; breeding pens, cockerels and pullets. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; fall chicks; eggs; cockerels. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

BRONZE TURKEYS — Albert M. Hart, Clements, Cal.

Science Says Buttermilk

Bulletin 162, just issued by the Department of Agriculture, states that Buttermilk is the only preventative of White Diarrhoea. It has been proven that many birds apparently in perfect health have these germs in their system and that they are transmittable to their progeny. Science has discovered that the Lactic Acid Bacilli of Buttermilk kills these poison germs. Write to Berkeley for this important bulletin, free.

The Dry Buttermilk in GLOBE A-1 BUTTERMILK MASH contains 10,000 live Lactic Acid Bacteria to the cubic centimeter.

Globe A-1 Buttermilk Mash is a high protein feed, free from any filler.

Globe A-1 Buttermilk Mash will prevent bowel troubles, keep your flock in glowing health, produce more eggs to market, better eggs to hatch.

Costs no more than non-buttermilk mash.

Satisfaction or Money Back.

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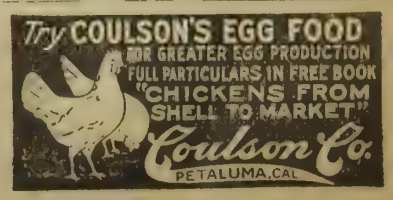
Write at once for valuable feeding information and sample, free.

Buttermilk GLOBE A-1 Dry Mash



Mrs. Best's Letter.

ARE YOU INTERESTED IN RED CROSS WORK?

My Dear Friends:

I wonder if all of you women are as interested in the Red Cross work as the women who live in or near cities where it is so easy to keep in touch with what is being done. It is almost the sole topic of conversation among the thinking women—that and the best way to conserve food supplies and set a nourishing table at not too great an expense. Many so-called society women are interesting themselves in either working at home on garments or giving their time in the routine of the work. When it comes down to a real crisis, we are all "sisters under the skin" and can usually be counted on to help.

GARMENTS IN REQUEST.

For garments the Red Cross perhaps asks for pajamas more than any other one thing. If you have leisure at home you can take this work out and do it there. I know one woman who does all the stitching, and being very rapid at that, does not want to take time for buttonholes and the like; so her less skillful friends do that and, working together, they accomplish a good deal. There is a special demand now for the trench sets, which consist of five articles—a sleeveless sweater, a helmet, two pairs of socks, mittens and scarf. The prospects of another winter in the trenches make these articles very necessary. They are made of a heavy yarn, either olive drab or gray, and the material costs nearly $5.00. One can offer to make the entire set, or if not skillful at knitting, can make such articles as are possible, leaving the more difficult articles for more clever workers. There is a fund being established to furnish the yarn to people who would be glad to knit, but have not the funds to purchase the necessary supplies.

KNITTING WORK.

Knitting machines have been installed in some of the headquarters, but they are expensive and need skilled labor to manipulate them, so for the time being, at least, the hand work seems to be necessary. When the machines are perfected and the work turned out wholly satisfactory, it would seem the way to supply the demand, for so much more can be accomplished in a short time.

Knitting classes are being established in factories and in large schools and at nearly all social functions women carry their work and make their fingers fly.

FRUIT AND FOOD SUPPLIES.

All thinking housewives are utilizing the fruit and food supplies that we have so generously in the summer, and we can all feel that by so doing we are serving to our best ability. ROSABELLA BEST.

CONCERNING BLANKETS.

It takes both care and thought to buy blankets to get good value for the money expended. It is poor economy to buy cheap ones, for good ones wear so much longer and better, as well as being a joy to possess. Blankets to be satisfactory should be light as well as warm.

THE HOME CIRCLE

Most blankets have decorative borders of pink, blue or yellow, and are many times bound in silk to match. If to be used on the foot of the bed, they are chosen to fit the color scheme of the room.

Marking may be done in many artistic ways. Initials or monograms may be done in the color of the design or in any dainty color if the blanket is white. If padding is desired, one could use the papier mache letters that are so commonly used on linen, and embroider over them with a fairly heavy silk. Or the monogram could be embroidered on a diamond or oval of silk which is then applied to the blanket with a fancy stitch. Blankets adorned like this would have to be dry cleaned instead of washed when soiled.

If blankets are to be washed, tepid water and a good wool soap should be used and a bright, sunny day be chosen, that the blankets may dry quickly.

STRING BEANS FOR WINTER USE

To the Editor: Saw inquiry for canning string beans in Press Home Page. This is good: String and cut beans in ½-inch bias slices across bean, pack in glass jars, shake and press in tight, fill with cold water, put on rubbers and covers, not tight, though. Put in boiler of cold water up to neck of jar, boil five hours steady. Tighten covers and cool in water. Wrap in brown paper and set in cool place. Be sure your jars are air tight before starting.—C. F. S., Galt.

SCALLOPED CABBAGE.

Cut ½ head of boiled cabbage in small pieces; sprinkle with ½ teaspoon salt, ¼ teaspoon pepper and 1 finely chopped pimento; pour over it 1¼ cups of thin white sauce mixed with 1-3 cup of grated cheese. Mix well and turn into buttered baking dish, cover with buttered and seasoned cracker crumbs, place in the oven, and bake until crumbs are brown.

CARE OF CEREALS AND FLOUR.

Neither cereals nor flour will keep indefinitely, especially if kept in a warm room. Both cereals and flour should be kept for storage in a cool, dry place, where the air can circulate. Glass jars, tin receptacles or paper bags are not as good for storing flour as the ordinary flour sack, as they prevent aeration, which is necessary for proper maturing.

SCALLOPED RICE WITH CHEESE.

Two cups of cooked rice, ¼ pound grated cheese, 1 cup cracker crumbs, white sauce. Make white sauce by melting 1 tablespoon butter in frying pan, add 1 tablespoon flour, a little salt, and 1 cup of milk. Cook until consistency of gravy. Put rice in baking dish, pour over white sauce, put grated cheese and cracker crumbs on top and brown in oven.

HULLED CORN.

Editor Home Circle: Please inform me how to dry corn for winter use. Also how to make hulled corn.—Mrs. D. C. S., Carson City.

In the Press of August 11, you will find a recipe for hulled corn. Will some one of our readers furnish the recipe for drying corn?

WHAT WOULD YOU TAKE?

What would you take for that soft little head
Pressed close to your face at time for bed;
For that white, dimpled hand in your own held tight,
And the dear little eyelids kissed down for the night?
What would you take?

What would you take for that smile in the morn,
Those bright, dancing eyes and the face they adorn;
For the sweet little voice that you hear all day
Laughing and cooing—yet nothing to say?
What would you take?

What would you take for those pink little feet,
Those chubby round cheeks, and that mouth so sweet;
For the wee tiny fingers and little soft toes,
The wrinky little neck and that funny little nose?
Now, what would you take?
—Good Housekeeping.

HOMINY GRITS.

If meats stay at present prices, Americans will have to learn to use meats as the Italians do, largely for flavor. Then something cheap to put the gravy on becomes a necessity, and hominy grits answers that need.

In the South, hominy grits is used at any meal, either with bacon or hash or with butter or gravy.

Those who wish to try out hominy are advised not to serve it as a breakfast food with milk and sugar, as it is too starchy to be satisfactory; it needs the flavor of meat or egg.

To cook hominy grits, wash thoroughly, allowing 3 cups of water to 1 cup of hominy. Salt water to taste. Cook until it begins to thicken, then set on back of stove and cook slowly until done, which is usually about an hour. It is much improved by beating in ½ cup of milk before serving. If hot hominy is poured into a deep dish, it can be turned out when cold, sliced and fried like mush, and makes a good breakfast dish.

Baked hominy grits is made by taking 1 cup of cooked hominy, while hot stir in 1 well-beaten egg and enough milk to make a very thick batter, and a little bacon fat. Bake in a deep dish until firmly set and serve from the dish as a dinner vegetable.

WISE WORDS FOR ALL.

A contributor to an issue of Farm and Fireside tells as follows how to avoid law suits:

"Talk about no one.

"Make friends with people who hate you.

"Give no one cause to hate you.

"Do not injure trespassing stock.

"If the line fence needs mending, get together; and get it done at any cost, and don't quarrel over a foot or two of land.

"Help any living thing in need, especially a sick or poor neighbor.

"Don't sign any papers unless you are sure of their contents.

"Don't brag about your bank account.

"Don't go on any person's note, even to save his home; for, while your sympathy may be all right, doing so may send your own wife to the poorhouse.

"Don't make threats, harbor rough cases or go in debt."

THE MOTHER'S DUTY.

Good health is a mother's greatest responsibility. No greater service can the country ask of its mothers this year than a sane and sensible regulation of family life so that everyone may be well and strong to meet the nation's demands. The mother who keeps her family well has taken the first big step in national service.

"For peace," observed the gunner, as he sent the thousand-pound shell on its benevolent mission.

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Most comprehensive and illuminative description of this beautiful and artistic furniture. More than 200 different articles for the home.

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Just off the press. Photo-engravings of newest styles baby buggies, nursery articles, go-carts, toy autos, doll carriages and children's furniture.

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No Ice Required

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Specialists in Specimen Stock for Landscape Work.
Hardy Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.
WRITE FOR PRICES
COTTAGE GARDENS NURSERIES, INC.
EUREKA, CALIFORNIA

Good Health.

[By H. E. Pastor, M. D.]

Substitutes for Alcoholic Beverages.

Now that prohibition is spreading over the country like a tidal wave, a word as to the incidental effects of the prohibition of alcoholic beverages may interest the curious. It has been noted by thoughtful observers that the craving for some form of artificial stimulus to body and mind is world-wide and has characterized peoples in all times. It has been observed where abstinence from the use of alcoholics has become the settled practice of a nation for any considerable length of time, as in Mohammedan countries, where abstinence is made part of the national religion, the people are prone to become addicted largely to drug habits. In our own country, where prohibitory laws have been enforced, the use of tea, coffee, cocoa and other mild stimulants have largely increased; and coffee and tea places where men or women can conveniently meet for social intercourse are becoming fixed institutions. Another peculiar effect of the suppression of alcoholics is the increased sale of sweetmeats, which seem in some measure to serve as a substitute. Artificial excitation of the nervous system should not be a necessity under any circumstances, but if the human craving for stimulants must be gratified, these milder substitutes apparently in favor in our own country are the least of two evils.

Since writing the above, we ran across a statement from the London Daily Express declaring that since the use of alcoholic liquor came to the vanishing point in London men have acquired the habit of inviting one another to take potations of tea and drink this seemingly innocent beverage so copiously that they become quite feverish as a result of the indulgence. "The other afternoon," the Express goes on to relate, "an actor confessed that he had consumed nine cups of tea since breakfast time. The tea had certainly changed his condition. He was restless, his eyes had an unnatural glitter, his talk was rapid and foolish, his temperature high, his temper uncertain, his pulse irregular and his hands twitched nervously. These are the signs and tokens of a sort of tea drunkenness."

A New Medical Property Claimed for the Orange.

This writer is somewhat of a crank on the hygienic value of the orange and other citrus fruits, so is prone to put into print any virtue they may possess as discovered by experimenters from time to time. We have just run across the following and reproduce it for its hint as to a new use of this queen of fruits. The item is taken from the Medical Summary: "Anise tea taken by the mother prevents colic in nursing babies, and increases the flow of milk. Fennel seed tea does the same. Oranges, eaten freely, increase the secretion and flow of milk."

Baby's Indifference to Dirt.

Mothers should prevent their babies as much as possible from eating dirty, discarded or tainted foods, sucking their fists after handling objects of questionable cleanliness and doing other unsanitary things which budding babyhood seems so possessed to do. The mother should be ever on the alert. Before the child is able to creep some clean covering should be placed on the floor or the ground on which the baby is deposited. When he is able to crawl around he should be confined or closely watched. These are the only means of safeguarding a baby from the dangers of dirt and dust.

Glycerine vs. Olive Oil.

In conversation with a San Francisco practitioner the other day on the merits and demerits of olive oil as a food and medicine, he made this rejoinder to a rather laudatory estimate of the oil by the writer: "There is one use to which olive oil is put that I think is overdone. I do not think the practice of continually injecting olive oil into the ear passages of children is a good one. The continuous use of olive oil for this purpose has a tendency to thicken and harden the eardrum of the child. This is a characteristic of all vegetable oils when applied to human membranes. I prefer glycerine for this purpose."

A BIRD TANGLE.

It boasts no grandeur, this wild place of ours;
It was not made for palaces or kings;
It has no jewels but the wayside flowers;
Nor gold, save that which every sunset brings.

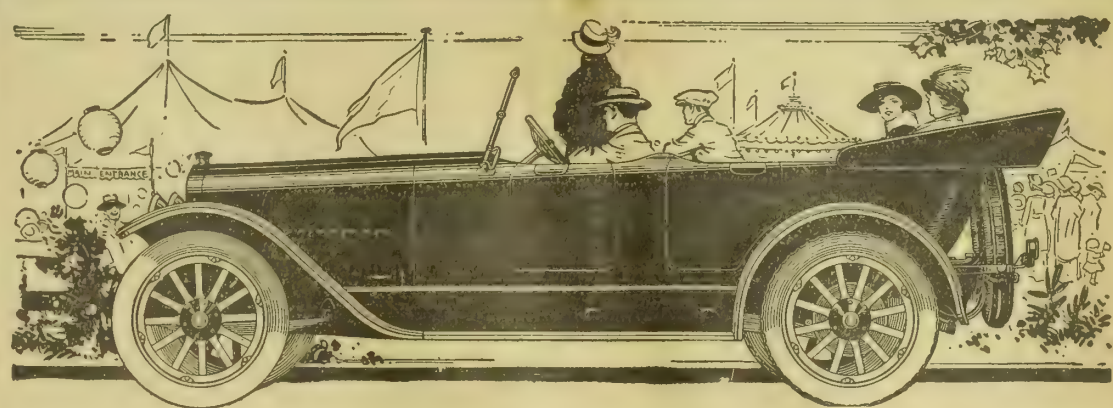
A myrtle carpet spreads beneath our feet,
And from that sumach-bush among the trees
There comes a song. O robin, were the sweet
Wild strains of Pan half so divine as these?

Among the clovers bending down before
Our steps, a mother bird chants joyously.
A tiny nest, three speckled eggs, what more
Is needed to complete her melody?

A little corner of this world of ours,
Where we may be away from other things;
Be boon companions of the summer flowers,
And learn to love our little friends with wings.

—Mary B. Boynton.

It's possible for a man to go forth in the morning ambitious and eager, and come home at night tired and happy. Ever try it?



What Double Strength

Has Done for Mitchell Sixes—Both Sizes

Three years ago we decided to double our margins of safety. That is, to give all vital parts 100 per cent over-strength. Up to that time most engineers considered 50 per cent extreme. But our 11 years' experience on American roads proved that cars could not be too strong.

Since then, the Mitchell demand has multiplied. The more men see of their endurance the more these cars are wanted. In the first six months of this fiscal year our sales increased 160 per cent.

Mitchell Over-Strength

Not one rear spring built under this standard has ever yet been broken.

Two Mitchell cars that we know of have already run over 200,000 miles each. That is 40 years of ordinary service.

Our export demand has enormously increased to countries with difficult roads.

And a long list of engineers of nation-wide fame have chosen the Mitchell for their personal car.

Mitchell SIXES

TWO SIZES

Mitchell—a roomy 7-passenger Six, with 127-inch wheelbase and a highly developed 48-horsepower motor.

$1525

Four-Passenger Roadster, $1560. Sedan, $2240. Cabriolet, $1960. Coupe, $2060.
Also Town Car and Limousine

Mitchell Junior—a 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor. ¼-inch smaller bore.

$1250

All Prices f. o b. Racine

Still An Under-Price

Note how the Mitchell, with all this over-strength, undersells like-class cars.

You find in addition 31 features which nearly all cars omit. You find vast added luxury, excelling most cars by 25 per cent. Our latest models combine all the attractions we found in 257 show models.

Factory Efficiency

How does the Mitchell afford so much extra value?

It is all due to factory efficiency. We built the whole car—chassis and body—under Bate efficiency methods. In a mammoth plant which was built and equipped to produce this one type economically.

These factory methods, introduced by John W. Bate, save us millions of dollars per year. And that saving pays for these extras.

See what these things mean to you. They are vital points in a car you buy to keep. If you do not know our nearest dealer, ask us for his name.

MITCHELL MOTORS COMPANY, Inc., Racine, Wis., U. S. A.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, September 5, 1917.

WHEAT.

There are still no quotations on the board at the exchange and no transactions on which to base any. The dearth of business in all branches of the grain market can hardly be realized by those not actually on the spot.

Sonora wheat .....No quotations
Northern Club .....No quotations
California Club .....No quotations
Northern Bluestem .....No quotations
Northern Red .....No quotations
Russian Red .....None offering

BARLEY.

Brewing and shipping show stronger quotations, but there is little doing. Yesterday a single transaction was the only feature of the call board session. Spot feed is weaker, but some inquiry has developed which may have the effect of advancing prices.

Shipping, per ctl.....$2.37½@2.40
Brewing ..... 2.37½@2.40
Choice feed, per ctl..... 2.30 @2.35

OATS.

White feed has advanced, due to more interest being displayed in that line. Red seed is lower, and this condition is caused by the poor quality of stocks offering, much of it being foul and in no way up to standard. Good clean seed oats will command higher quotations.

White Feed, per ctl.....$2.75@2.80
Red Feed, per ctl..... 2.90@3.00
Red Seed, per ctl..... 3.00@3.25

BEANS.

Small whites and blackeyes recovered a trifle after last week's decline. While the market is quiet, it shows a firmer feeling, due, perhaps, to the announcement that there will be no Government regulation of bean prices unless they should go up beyond the bounds of reason. H. Clay Miller has returned from his conference with the Food Control Board, having received an appointment as a member of a committee of four representing the bean growers and dealers of the United States. This committee is an adjunct to the National Food Control Board.

Bayos, per ctl.....$ 8.00@ 8.25
Blackeyes ..... 7.00@ 7.50
Cranberry beans ..... 8.50@ 9.50
Horse beans ..... 3.50@ 4.00
Small whites (south) ..... 12.00@12.50
Large whites ..... 10.00@11.00
Limas (south, recleaned)..... 10.00@11.00
Pinks ..... 8.00@ 8.25
Red kidney ..... 9.00@10.00
Mexican reds ..... 8.00@ 8.25
Tepary beans .....None offered
Garbanzos ..... 4.50@ 5.25

CORN.

There has been a cessation of Eastern importations and no Eastern Yellow is offering. California corn has declined because of flagging interest. Altogether this market is dull and listless.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk...None offering
California, sacked .....$4.00@4.25
Milo Maize ..... 4.00@4.25
Egyptian .....None offered

HAY.

Receipts of hay during the week were 3,467 tons heavier than those of the previous week. About half of these receipts were by water, and the other half by rail. Evidently the railroads were impelled to action, realizing that a large portion of the crop is liable to be damaged by early rains. They have been furnishing a number of gondola cars, which, so long as the weather remains dry, will bring in considerable hay. Shippers are taking advantage of this and rushing hay to market while the weather remains good. The Government, no doubt, will require much hay. In spite of the heavier receipts, they have moved off without difficulty and prices have been well maintained. Stock hay is still very scarce and high. Export trade is light and local trade is dull. Demand for alfalfa is good, with small receipts.

Wheat, No. 1 .....$19.00@21.00
No. 2 ..... 16.00@18.00
Tame oats ..... 19.00@21.00
Wild oats ..... 16.00@19.00
Barley ..... 16.00@19.00
Alfalfa, new, first cut..... 16.00@19.00
Stock hay, new ..... 14.00@16.50
Straw, per bale ..... 50@60c

FEEDSTUFFS.

There has been more inquiry of late, which has had a strengthening effect on values. Bran, cracked corn and middlings all show advances, with fairly good movement. Receipts, however, are by no means heavy, though apparently sufficient for the market's needs.

(Per ton, San Francisco.)

Beet Pulp, per ton .....$38.00@40.00
Alfalfa meal, per ton..... 27.00@30.00
Bran, per ton ..... 41.00@42.00
Oilcake ..... 50.00@55.00
Coconut cake or meal..... 40.00@41.00
Cracked corn ..... 84.00@85.00
Middlings ..... 52.00@53.00
Rolled barley ..... 53.00@54.00
Tankage .....None offered
Rolled oats .....$56.00@58.00
Rice middlings .....None offered
Rice bran .....$30.00@33.00
Shorts ..... 43.00@45.00

POTATOES, ONIONS, ETC.

String and wax beans have been coming in this week so plentifully that the market is overstocked and prices have weakened. Cucumbers are somewhat higher, but tomatoes show considerable weakness because of heavy arrivals. Salinas potatoes, because of the small stocks in the market, have not dropped below last week's quotations, but rivers have declined very sharply and are weak at the reduced quotations. The shipping trade has fallen off, as Oregon and Colorado stocks have displaced our product at several points. One car of Idaho potatoes has arrived, but is no factor in the market.

Asparagus .....None
Peas, per lb.....4@4½c
String beans, per lb.....2@4c
Wax beans, per lb.....2@4c
Hubbard squash, per sack.....None
Summer squash, per box.....35@50c
Cucumbers, per box.....25@50c
Celery, per lug.....Nominal
Tomatoes, per lug box.....50@75c
Potatoes, Salinas .....$2.75@3.00
Oregon .....None
New, Rivers, per ctl.....$1.75@2.25
Sweets, per lb.....4@4½c
Onions, yellow, per sack.....$1.00@1.25
Reds .....85c@$1.10
Garlic, per lb.....3½@4c

POULTRY.

All lines remain unchanged in price and the general situation is good. Arrivals move off well and local needs manage to absorb receipts without effort. Belgian hares are not in such good supply just now and the trade could handle slightly larger stocks. No Eastern poultry has arrived this week and market conditions are very satisfactory.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb.....20@22c
do, dressed, large, per lb.....None
Broilers, 1½ to 2 lbs.....27@28c
do, 1¼ lbs.....27@28c
do, under 1 lb.....27@28c
Fryers .....27@28c
Hens, extra, per lb., colored.....20c
Small leghorn .....15@16c
Smooth young roosters, per lb. (3 lbs. and over) 28c
Old roosters, per lb.....12@13c
Geese, per lb.....18c
Squabs, per doz.....$2.50@3.00
Ducks .....15@18c
Old 12½c
Belgian hares (live) .....14@16c
do (dressed) .....16@18c

BUTTER.

The market broke suddenly on Tuesday, due to the holiday preventing shipments. Two days' receipts on the following day was more than the market could stand and prices dropped 1½c on extras. On Wednesday, however, there was a quick revival to almost the former plane. The Eastern shipping of former weeks has dropped off, which makes it somewhat harder to maintain prices.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	42	42½	42	..	40½	41½
Prime 1sts....	41½	41½	41½	..	40	40

EGGS.

Values of extras raised a cent on Wednesday. Seasonal conditions, from now on, may be expected to influence the market more consistently than for some time past. Receipts are getting lighter and fine fresh eggs are becoming scarcer.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43½	43½	43	..	44	45
Extra 1sts ...	42½	42½	42½	..	42½	44
Extra pullets..	41	41	40	..	41½	42½
Extra 1st pul.	40½	40½	39½	..	40½	42

CHEESE.

California flats are a ½c lower than last week's market, possibly due to the fact of some Oregon cheese coming in. Values are firmly held, as the local market absorbs the somewhat declining receipts.

Y. A.'s 24½c
Fancy California Flats, per lb.....21½c
Monterey cheese .....8@18c

FRESH FRUITS.

Black figs are scarcer and their place is being taken by Calimyrnas, which arrive in good quantity and are cheaper. There has been a heavy supply of cantaloupes and they have declined in consequence. On all other lines the market is quite firm, notwithstanding heavy arrivals.

Apples, Gravenstein, per box....$1.50@2.00
Pears, per box.....75c@$1.50
Cantaloupes, per crate .....75c@$1.25
Apricots, per box .....None
Peaches, per box.....50c@$1.00
Figs, per box .....40@75c
Plums, crates .....50c@$1.00
Watermelons, per doz.....$1.25@3.00
Grapes, Malaga .....75c@$1.00
do, Seedless .....75c@$1.00

CITRUS FRUITS.

Oranges and lemons are moving slowly in this market, the weather not being provocative of their use. Heavy shipments East have been maintaining values on a high basis for some time, but Eastern demand is slacking off now and we may look for sharp declines soon.

Oranges:
Valencias, fancy $3.50
Valencias, choice .....$3.00@3.25
Lemons:
Fancy, per box $8.00
Choice 7.00
Standard 5.00
Lemonettes 5.50
Grapefruit, fancy ..... 3.50@3.75

DRIED FRUITS.

Large Government purchases and a 20 per cent apple crop have had a stiffening effect on values of several lines. The Government has bought heavily of apples and peaches, while of prunes the Government has taken amounts totaling 10,000,000 to 12,000,000 pounds in all. Packers have been requested not to bill purchases as they will be notified later of the prices the Government is willing to pay. It is quite possible that this uncertainty may cause some instability in prices and possibly some declines.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop.....10½@11½c
Apricots, per lb.....13 @16½c
Figs, black, 1917 ..... 5½@ 6 c
do, white, 1917 ..... 6½@ 7 c
Calimyrna, 1917 .....11 @12 c
Prunes, 4-size basis, 1917.....6 @ 6½c
Prunes, 1916, basis .....None
Pears .....6@8c
Peaches, 1917 .....8@9c

BERRIES.

Blackberries advanced a little on Wednesday, but raspberries fell off under pressure of a temporary oversupply. Strawberries continue to arrive in quantities sufficient for local needs, but there are signs that the berry season is drawing to a close.

Strawberries, Banners, chest....$5.00@5.50
Longworths .....None
Blackberries, per chest .....$4.00@4.50
Raspberries, per chest .....$7.00@10.00
Gooseberries .....None

HOPS.

The hop market is extremely quiet, pending harvest, and prices remain unchanged. Futures are still quoted at 29 to 33 cents.

Baled, per lb.....8@20c

WOOL.

The general demand for wool grows more and more urgent, and the tendency of prices is still upward, and it is predicted that a high price range will be maintained until the arrival of the next wool clip, which we are assured will be a good one. Locally there is little doing in this, the off season, and prices are quotably lower than they would be were there an active market.

Humboldt and Mendocino.....53@62½c
Sacramento Valley .....50@55 c
Southern .....40@45 c

HIDES.

The hide market is in a decidedly unsatisfactory condition. Holders of hides are asking more than tanners are willing to give or can give at the selling price of finished leather, high as that may seem. The market is therefore inactive. Meanwhile hides are piling up at killing points and in seaboard markets, where quantities of foreign hides are received.

San Francisco prices:
Dry cattle, per lb., 16 lbs. and over.33@35c
Dry salt hides 30c
Murrains .....30@32c
Bulls and stags.....27@28c
Kip 40c
Veal .....42@45c
Calf 48c
Pickled 34c
No. 2 stock .....5@15c
Wet salted hides—per lb.:
Steers and cows, all weights.....19@20c
Bulls and stags.....15@16c
Kip .....22@24c
Veal and calf .....24@25c
Damaged .....6@12c
Horse, dried and skinned to hoof, each:
No. 1, large.....$2.50@4.00
Medium ..... 1.50@2.50
do, small .....50c@$1.00
do, Colts .....25@50c
Wet salted, skinned to hoof:
Extra large prime.....$4.00@5.00
do, medium ..... 3.00@4.00
Small ..... 2.00@3.00
Colts .....50c@$1.00

LOS ANGELES.

Los Angeles, Sept. 4, 1917.

BUTTER.

Receipts of week ending Sept. 4, 300,300.
Receipts of same week last year, 384,200.

There was less life and a weaker tone to the market the past week than for some time. The receipts were not heavy yet ample for the demand, which was largely local. The high prices caused many consumers to turn to oleomargarine and this competition is being felt keenly. While the receipts were lighter than the same week last year, yet 23,026 pounds were taken into cold storage, against 322 pounds the week before. The cold storage holdings here in Los Angeles are now 244,758 pounds against 435,505 pounds this time last year. Tuesday the receipts were only moderate. The market was held steady and that in the face of a decline of 1½c in San Francisco.

We quote:

California extra creamery.....41c
California prime first 40c
California first 39c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	42	42	41	41	41	41
1916—						
Extra	31	31	31	30	30	30

EGGS.

Receipts (railroads) for week ending Sept. 4, 1917, 747 cases.

Receipts (railroads) for week ending Sept. 4, 1916, 1696 cases.

While the receipts the past week were light, yet the market worked lower both on case count and pullets. The scarcity of fresh ranch eggs causing many to turn to cold storage stock at the difference in price. There was withdrawn from cold storage the past week 4308 cases against 2451 cases the week before. The increase in the cold storage holdings over those of a year ago have been reduced to 13,628 cases. While case count and pullets were lower up to Monday, extras have held firm, as the New York market is such as to warrant the shipping of select eggs there at a profit, thus furnishing an outlet for fresh extras. Tuesday the receipts were light and the demand better.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	43	43½	43½	43½	43½	44½
Case count ...	40	40	38	38	38	42
Pullets	37	37	36½	36½	36½	36½
1916—						
Case count ...	32	32	32	32	32	32

POULTRY.

There was quite a dropping off in the receipts the past week, while the demand held up very well. There was a better movement in broilers, fryers and hens and all are higher. Ducks and turkeys dull and geese not wanted.

We quote from growers:

Broilers, 1¼ to 2 lbs. .....24@25c
Fryers, 2½ to 3 lbs.....22c
Hens over 4 lbs.....22c
Hens under 4 lbs.....16@17c
Ducks 15c
Geese 12c
Roosters, 3 lbs. up (soft bone).....22c
Turkeys, heavy, 12 lbs. and up.....29@30c
Turkeys, light .....24@25c
Squabs, live, per doz.....$3.00@4.00
Dressed ..... 3.50@4.50

FRUITS.

While there was no snap to the market the past week, all choice fruit met with a fair demand and peaches and pears are a little higher. Figs coming in more freely and are lower. Plums are of slow sale. Offerings light and best a little higher, while the poorer lots were very hard to move. Grapes coming in more freely and market weaker, but demand fair. Pears are getting scarcer and the market is higher and demand fair for good stock. Apples steady but slow sale.

We quote from growers:

Apples, Gravenstein, per 4-tier box...$1.40
Bellefleur, 4-tier 1.05
do, 3½ tier 1.10
do, 4½ tier..... .90
Peaches—
Freestone, local, per lug.....35@65c
Clings, Tustin, per lug.....35@65c
Northern, per lb. .....2@2½c
Figs—Black, 2-layer .....85c@$1.00
Figs—White Smyrna, 2-layer.....60@75c
Figs—White Pacific, 2-layer.....$1.00@1.10
Grapes—
Malaga, per lb. .....2@2½c
Muscat, per lug. .....75@80c
Black Hamburg, per lug.....70@75c
Plums—
Burbank, per lug.....20@30c
German prunes, per lug.....90c@$1.00
Satsuma, per lug.....50@60c
Pears, per lb.....3@3½c
French prunes, per lug.....50@60c
Quinces, per lug .....40@50c
Damsons, per lug .....60@70c
Nectarines, per lug.....75@90c
Apples, green, per lug.....25@30c

VEGETABLES.

Market well supplied and sales generally slow. Potatoes are coming in more freely

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, September 4, 1917.

Under very heavy offerings during the past week and due also to the fact that late varieties of fruit have been arriving, in a great many instances, in a ripe condition, all markets have ruled easier.

Complaints are prevalent as to the quality and size of Malagas from several districts in the San Joaquin Valley and the shipments have been very heavy. This, coupled with the poor quality, has forced low sales.

What few Tokays have been shipped arrived in fairly good condition, though somewhat off color. The light supply and active demand, however, have kept the market fairly stiff.

California Bartletts, with the exception of those shipped from the mountain districts, have arrived ripe and coming in competition with the Northwestern pears have caused a depressing market. However, prices have ruled generally fair, but good stock selling remarkably well.

The heavy peach movement from California is practically over and though there was a slight depression early in the week, due to Eastern competition, there seems to be a firmer tone at present, indicating that the stock in the East is small and of inferior quality and as California stock is carrying well we look for the balance of the peaches to clean up at good prices.

There has been a very heavy movement of plums, and the demand hardly in keeping with the supply.

As a whole, during the past week, considering the very heavy offerings and the inferior quality of a large proportion of the stock, the situation has been at least normal. Averages for the past week were as follows:

New York: Bartlett pears, $2.45@2.90; Tokay grapes, $1.57@2.63; Thompson seedless, 84c@$1.17; Malaga, $1.07@1.80; Elberta peaches, 49@75c; Orange Cling, $1.26; Crawford, 50@75c; McDevitt, $1.20@1.30; Albright, $1.50@1.62; Giant plums, 80c@$1.10; Gross, 95c@$1.44; Hungarian, $1.02@1.05; Grand Duke, $1.17@1.45; Kelsey, $1.91.

Chicago: Tokay grapes, $1.03@2.74; Thompson seedless, 76c@$1.00; Malaga, $1.00@1.67; Bartlett pears, $2.34@2.57; Elberta peaches, 70@98c; Crawford, 71@88c; Lovell, 66@90c; Grand Duke plums, $1.24@1.59; Gross, 93c@$1.32; Diamond, $1.15@1.35; Hungarian, 95c@$1.28.

Boston: Bartlett pears, $2.85@3.25; Gross plums, $1.00@1.20; Giant, 80@95c; Grand Duke, 90c@$1.25; Diamond, 80c@$1.05; Egg, 70c@$1.05; Kelsey, $2.35@2.80; Elberta peaches, 70@80c; Crawford, 75@95c; Lovell, 60@95c; Thompson seedless, 80@95c; Malaga, $1.05@1.95.

CALIFORNIA PEACH GROWERS ANNOUNCE PRICES.

The California Peach Growers have issued the following:

Packers' Circular No. 27.

Fresno, August 30, 1917.

Gentlemen: Until further advised, we will accept orders for a limited quantity of Peeled Peaches, either for assortments or straight car lots. We will also accept orders for Recleaned, for small lots only, to be included in assorted cars. The above at prices and in accordance with terms and conditions of our price list No. 12, of July 28.

Yours truly,

CALIFORNIA PEACH GROWERS.

J. F. Niswander, Vice-President and General Manager.

The prices referred to follow:

	Yellows.	Muirs.
Standard unpeeled peaches	8⅛c	8⅛c
Choice unpeeled peaches	8⅜c	8⅜c
Fancy unpeeled peaches	8⅞c	....
Slabs unpeeled peaches	9⅛c	....
Slabs unpeeled peaches	....	7¼c

For recleaned peaches, add ⅝c to above prices. Blue Ribbon peaches (practically peeled), 11⅝c.

and are lower. Good receipts of northern potatoes are forcing prices of both local and northern off. Demand fair at the decline, but mainly of a local character. Sweet potatoes as well as white are lower and slow sale. String beans are off again and of slow sale. Lima beans steady and firm. Celery slow sale and weak. Onions dull but unchanged. Other things much the same as the week before.

Potatoes, Northern, per cwt.....$2.50@2.60
do, local ..... 2.00@2.25
Peas, Northern, per lb. .....7@7½c
Onions, Yellow Danvers, per cwt..$1.35@1.40
do, Australian Browns.....$1.25@1.35
do, White Globe, per cwt..... 1.40@1.50
String beans, wax , per lb.....1@2c
do, Kentucky Wonders, per lb...2½@3c
Tomatoes, No. 1, local, per lug.....20@25c
do, No. 2.....15c
Summer squash, per lug.....10@15c
Cucumbers, per box of 2½ to 3 dozen .....15@25c
Green corn, per lug .....45@50c
Cabbage, per 100 lbs.....40@50c
Lima beans, per lb.....2@3c
Okra, per lb.....5@6c
Bell peppers, per lb.....1½@2c
Chile peppers, per lb.....1c
Celery, per crate.....$2.25@2.50
Egg plant, per lb.....2@2½c
Sweet potatoes, per cwt.....$3.00

MELONS.

While there was a fair movement in all choice melons the past week, the market as a whole was weaker. The market was well supplied with all kinds of melons. Casabas were in big supply and sold a little lower. There was also a superabundance of Honey Dew melons in and they too sold lower. Many of the receipts now coming in are over ripe, owing to the lateness of the season. Watermelons continue steady, but demand only fair.

We quote from growers:

Cantaloupes—
Local, Pineapple and Tiptop, jumbo crate .....75c@$1.00
Pineapple and Tiptop, pony crate .....50@60c
Columbia, jumbo crate .....75c@$1.00
Paul Rose, standard crate.....60@65c
Watermelons, per cwt.....75@80c
Casabas, per jumbo crate.....90c@$1.00
Honeydew melons, per box of 9-10, 75@85c

BEANS.

There is no change to note in this market from a week ago. Prices are not quotably lower but weak. New crop beans are now being offered and buyers are holding back and buying sparingly, claiming that in the face of the crop outlook that prices are too high.

Limas, per cwt.....$10.00
Large white, old, per cwt..... 12.50
Small white, old, per cwt..... 12.50
Large white, new, per cwt..... 10.00
Small white, new, per cwt..... 10.00
Pinks, per cwt..... 9.50
Blackeyes, per cwt..... 8.00

Special Citrus Market Report

Los Angeles, September 4, 1917.

Shipments of citrus fruits from Southern California from November 1 to August 30, 37,200 cars, and lemons 7,327 cars. Same time last year: Oranges, 29,212 cars, and lemons 6,366 cars. Considering the heavy shipments, which are 7,988 cars heavier than last year, the market holds up very well. Then, too, there is all kind of deciduous fruits and melons on the market to attract buyers. At the East the market showed fair life and prices of Valencias showed little change from a week ago. Lemons continue steady, but sales slow. Locally there is no market. Only one house trying to do business. He quotes oranges at 1@1½c per pound in the grove picked. Grapefruit, 1½@2c per pound in the grove picked. Lemons slow sale at 2@3c per pound in the grove picked. Poor lots have to be sold for what they will bring.

AUCTION SALES.

New York, August 30.—Market is doing better on Valencias, sizes 176s to 324s; lower in spots on 96s to 150s. Market is steady on best stock lemons, very dull and lower on balance. Thirteen cars of oranges and two cars of lemons sold. Valencias averaged $2.50@5.40. Lemons averaged $3.45@4.90.

Boston, August 30.—Four cars Valencias and two cars lemons sold. Market unchanged on Valencias and lemons. Valencias averaged $1.75@4.75.

Philadelphia, August 30.—Four cars sold. Market strong on Valencias, sizes 250s to 324s. Unchanged on lemons. Valencias averaged $1.10@3.60. Lemons averaged $2.70.

HAY.

There was a very fair movement the past week in all good hay. Receipts continue moderate for the want of cars and buyers are inclined to look ahead and are taking hold more willingly. Alfalfa is higher and grain hay is firm at quotations. Receipts 165 cars.

F. O. B. Los Angeles:

Barley hay, ton .....$21.00@22.00
Oat hay, ton ..... 21.00@22.50
Alfalfa, northern, per ton..... 19.00@20.00
Alfalfa, local, ton..... 21.00@22.00
Straw, ton ..... 9.00@10.00

HONEY AND BEESWAX.

There was a little more doing in this market the past week and the tone of the market is firm. The crop is turning out to be shorter than estimated a month ago. The East is buying a little, but only such lots as needed to supply the immediate trade. Orange water white honey is out of the market. Beeswax in good demand and higher.

We quote from growers:

Comb, per case.....$3.00@3.25
White sage .....12@12½c
Light amber sage .....10@10½c
Light amber alfalfa.....10¼c
Beeswax 32½c

Special Livestock Market Report

San Francisco, Sept. 5, 1917.

CATTLE.—The growing scarcity of beef cattle in California has forced a slight advance in prices. Buyers find increasing difficulty in finding supplies sufficient for the local demand, and such stock as is picked up is mostly in poor condition.

Grass Steers:
No. 1, weighing 900 to 1200 lbs..8¾@9 c
No. 1, weighing 1200 to 1400 lbs..8¾@ 9c
Second quality .....8 @8½c
Thin, undesirable.....6½@7½c
Grass Cows and Heifers:
No. 1 .....7 @7¼c
Second quality .....6¼@6½c
Common to thin.....4 @5½c
Undesirable .....4 @5½c
Hay-fed Cattle, ½@¾c higher.
Bulls and Stags:
Good .....5¾@6 c
Fair .....5 @5½c
Thin .....4 @4¾c
Calves:
Lightweight .....9¼@9½c
Medium .....8¼@8½c
Heavy .....7¼@7½c

SHEEP.—The sheep situation has not changed materially, and such change as there is indicates a rising rather than a falling price market. Our figures are those at which trading is actually done, though higher prices are asked by holders. Lambs are selling at unprecedented prices. There appears to be a decided shortage in the western lamb crop.

Lambs—
Yearling .....11½@12 c
Milk .....11½@12½c
Sheep—
Unshorn wethers .....10 @10½c
Unshorn ewes .....8 @8½c

HOGS.—While hogs have ruled a little easier through the week quotations remain unchanged. As we stated last week, the local situation was but slightly affected by the excitement in the Chicago market, where the 20c mark was reached—the highest known, by the way. The market has since weakened.

Hard, grain-fed, 100 to 150.....14c
do, 150 to 300.....15c
do, 300 to 400.....14½c

DRESSED MEATS.

Steers—
No. 1 .....14c
Second quality 15½c
Cows and heifers.....12@12½c
Calves, as to size, etc.....13@16c
Lambs—Suckling 20c
do. Yearling 19c
Sheep—Wethers 18c
do. Ewes 17c
Hogs 22c

Los Angeles, September 4, 1917.

CATTLE—A steady but rather quiet market was had the past week. While choice fully "ripe" steers were scarce, plenty of medium and fair fleshed cattle were to be had both from California and Arizona, that continue to furnish the supply. Killers, while all in the market and wanted a few cattle, both steers and cows, bought in a limited way, as the beef market continues dull.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1,000 to 1,100 lbs....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers..... 6.50@7.00
Calves, per cwt..... 8.00@9.00

HOGS—In sympathy with the high markets East and the light receipts, the market the past week held firm. California and Arizona both gave us a few hogs, but they were mostly half grown and half fat and for such killers paid old prices. But few really fat hogs in and they found ready sale and brought a premium over quotations.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs..$12.00@13.00
Mixed, 200@250 lbs..... 13.00@14.00
Light, 175@200 lbs..... 13.00@14.00

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—This market continues firm. Killers, while only wanting a moderate supply at the prices, yet are finding it difficult to supply their wants. Flockmasters are still reluctant to sell, owing to the high price of wool. California and Arizona furnished what few coming in.

Per cwt. f. o. b. Los Angeles:

Prime wethers .....$ 9.00@10.50
Prime ewes ..... 9.50@10.00
Yearlings ..... 10.50@11.00
Lambs ..... 13.00@14.00

Hay Shortage Not Wholly Due to Car Shortage.

It is reported that hay brokers have made extensive contracts outside the State, reaching to Mexico and across the Pacific, for the disposal of the California hay crop. It is also rumored that brokerage interests are striving to bear the local hay market to enable dealers to fill these contracts with maximum profits, though the liberal prices offered for the new crop hardly bear out this charge. In any event, it is worth while to remind holders of hay stocks that within the past year growers sold hay for $15 to $16 a ton, thinking they got a fancy price, and a little later had to buy much of it back at about double the price it sold for. This may be legitimate business, but it is poor financiering. It is well, too, not to forget that pasturage conditions this year are below the average; and (we give this bit of information for what it's worth) S. V. Rehart, the long-range weather prophet of Lakeview, Ore., predicts an extremely dry fall extending into December. It is also believed that the forage requirements of the United States cavalry units stationed on this coast will be heavy. In view of these things dairy and livestock men, and others, may not be disposed to succumb to the allurements of supposedly high prices for forage stock and sell themselves short.

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An unequalled combination of power, comfort and economy, it has naturally been an unmatched success.

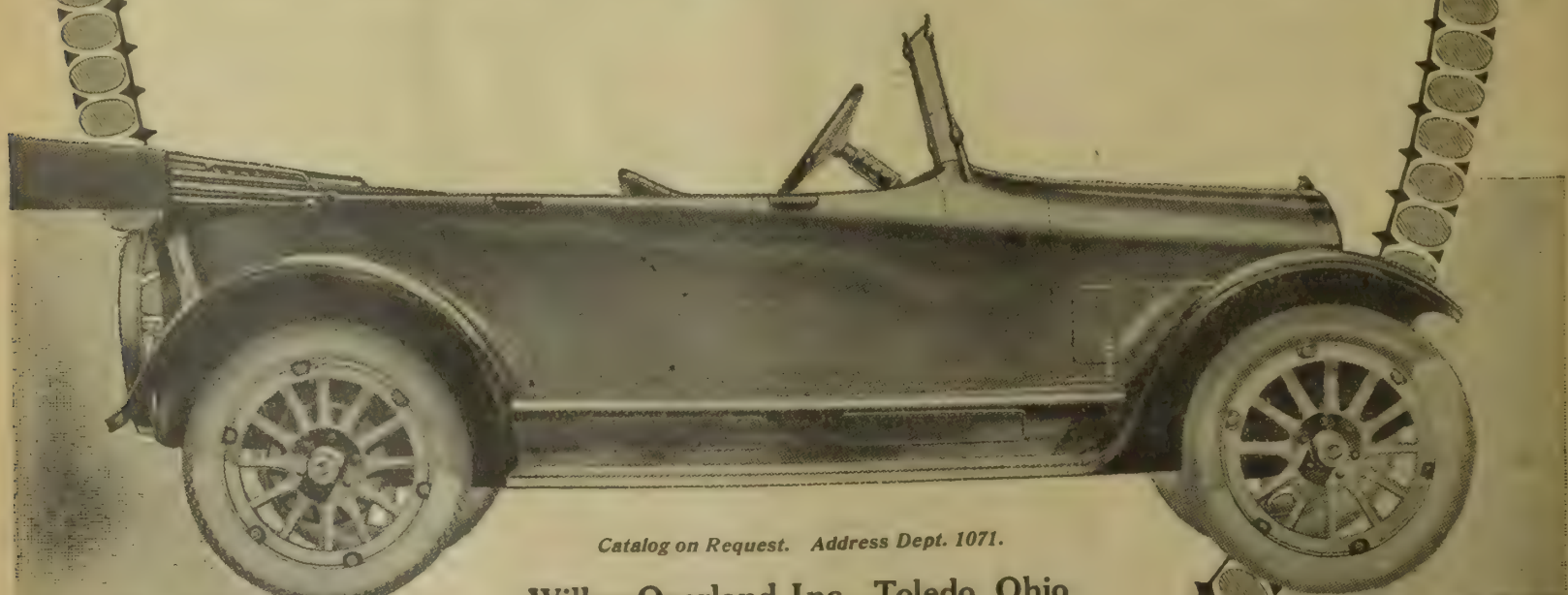
The thirty-five horsepower motor is not only unusually powerful—it is unusually economical.

The wheelbase is 112 inches—unusually long—permitting unusual roominess.

Thirty five horsepower! —112 inch wheelbase!! —$895!!!

Also unusual at the price—cantilever rear springs that ease the car over rough spots—permit speed with comfort on poor roads.

No car of such comfortable size has ever approached its success, because none has ever combined such power, comfort and economy.



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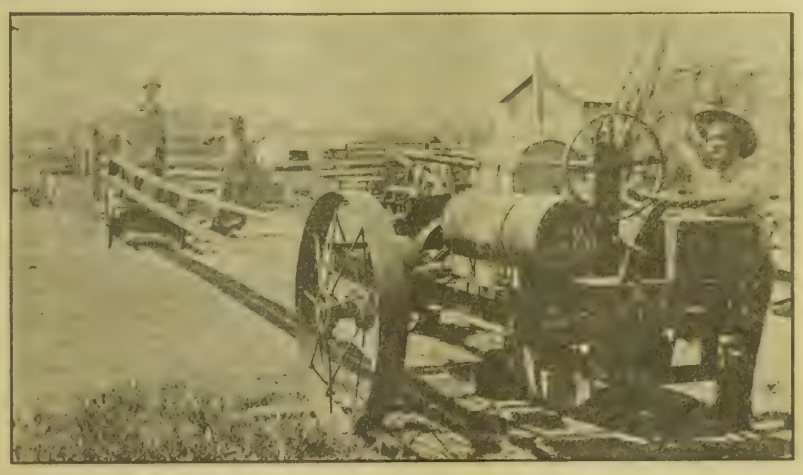
Vol. XCIV—No. 11 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO SEPTEMBER 15, 1917 LOS ANGELES

Labor Saved and Bigger Crops Made by Tractor

[Written for Pacific Rural Press.]

IN A MONTH or two the hills and valleys will resound with the coughing and sputtering of a multitude of strange creeping and rolling beings behind whom the earth will have changed color and turned topsyturvy. Yet these beings are not strange, at least in external appearance, to most of our western tillers of the soil, for their tribe had its commercial origin several years ago. Most of us have seen them working and have been told by their operators that they are the most satisfactory animals ever used, if some common sense is back of the monkey wrenches that sometimes monkey with their inwards; and if all of their joints are properly lubricated.



Pumping water is only one of the multitude of special jobs a tractor can go to and do from its belt wheel. This is a home-made tractor.

Timely Farming and Labor Saving

The special value of tractors in our arid grain regions, perhaps, lies in the great desirability for turning over large tracts of land either before it is softened by the first fall rains or within a short time thereafter. In our orchards, especially where cover crops of weeds, grain, or legumes are grown for the cheapest fertilizer, the necessity of allowing the cover crops to grow as late in the spring as possible makes fast plowing, possible with tractors, well-nigh a necessity. In the flooded bean lands of the Sacramento Valley, it is imperative to plow as soon after the water goes down as it can be done, in order to get the beans planted in time to mature. On our dairies and hog ranches, where feed crops are increasingly grown, the tractor to plow for them, to haul the manure, to cut the corn and chop the silage, to grind the feed, to run the pumps to irrigate the crops, to haul batteries of mowers in hay cutting, and to chop that hay for greater economy in feeding, or even to pull the calf that refuses to be led, the tractor in these days of scarce workstock and scarcer hired help is becoming more and more an urgent necessity without which a man may struggle along; but with which he may overcome his handicaps and get automobile salesmen after him and surround himself with modern comforts.

Plowing with 16 bottoms enables grain farmers to get the soil prepared in time to work it down and get a good stand and crop.

When one man with a tractor can plow as much as several men with big teams, it behooves the man with plowing to do, but with no help to do it, to get the machine that will get the plowing done without his chasing over the country to find extra men. The labor shortage and the short time during which many of our western farming operations can be done properly, combined with the character of most of our soils which absolutely require working it in a certain condition which does not last long, are the greatest arguments for the use of dependable mechanical power on the farm.

The Handiest Hired Man.

The multitude of additional uses we have found tractors serving on western farms has been intimated. Hundreds and perhaps thousands of orchards are mostly cultivated by tractors. We have found many where no horse cultivation has been practiced for years. Tractors pull heavily loaded wagons from the soft soil to hard roads where four tons is no heavy load for two horses. Tractors make irrigation furrows, finishing a tree row at a time. In sugarbeet fields, potatoes, and other field vegetables, the four-wheeled or two-tracked types do the cultivating and harvesting. In grain, a tractor is occasionally seen harrowing a strip 80 feet wide at a sweep, 140 to 150 acres in a day, or plowing and harrowing at one operation, or harrowing and seeding 75 acres in ten hours and plowing 40 acres during the night, and later pulling a machine that harvests and threshes 40 acres per day. In beans, tractors pull the harvesters that pick up the vines from the ground, thresh, and sack them at one operation. In house moving, road grading, scraping or plowing fire guards, stump pulling, wood sawing, mowing tules with batteries of mowers on reclamation projects or plowing and raking sage brush and greasewood at one operation in the desert, or the hundred jobs to be done easier by belt power than by hand, a tractor is the handiest hired man because it runs to the job with its own willing power and then exerts twice as much power on the pulley as it does on plows, harvesters, etc., and doesn't get tired if properly groomed and gassed.

The tractor does not object to running night and day so long as all nuts are kept tight and all bearings lubricated. All it wants at the end of the job is a cleaning, tightening, and greasing, and a dry stall where it will rest without further attention or expense until the next job is ready. It does not ask a rest at the end of the row on a hot day; and the driver may sit in the shade without being accused of inhumanity to his horses.

Continued on page 258.)

Planting eight rows of beans at once. This is a tractor-sized job.

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EDITORIALS

ARE WE CAUGHT IN A LIE?

HAVE we deceived our readers? If so, we sprinkle ashes on the shuck-less editorial nut in penitence and we make such reparation as is possible by publishing the following from the Key System News of Oakland:

"When it costs your grocer and butcher and baker and other tradesmen more for the things they sell you, they immediately add the extra cost to your bill (plus, perhaps, an added profit) and you stand the increase.

"When it costs your coal dealer more to obtain coal he, at once, adds the extra cost (plus an added profit) to your bill and you stand for it.

"It works that way with virtually every producer and distributor, in every channel of trade—except one:

"That one is ourselves! The difference between the other fellows and ourselves is that they can set the price that they charge for their commodities, while we cannot."

The foregoing relates to the nickel charge for street car rides. To the writer of the statement we have to say you are not the only producer who does not fix the selling price of his produce. To the farmer we have to say the same; and that is where we get caught in the promulgation of a lie. We have frequently claimed that the farmer is the only producer whose cost of production does not enter into the establishment of a public price for the commodity produced, and that everybody else but he serves his own interest in making such a price. From the quoted statement it appears that farmers and railway magnates are brothers in economic misery. If they should take hold co-operatively, each for the other, could they not make the public squeal? Perhaps it would be wise on the part of the public to assume a fairer attitude toward both and keep them from getting together.

HOW SHALL THE PRICE BE FIXED?

THE action of the government in fixing food prices as a war measure is one of the most beneficent contributions the government has ever made in promotion of fairness to producers. It will endure as a government practice only so long as the war shall last, but it will continue as a demonstration of a true principle for all time. The difference between a producer of transportation and a producer of food supplies is simply this: The government has established its right to fix prices for transportation in perpetuity; it has asserted its right to fix food prices temporarily. The transportation-producer is therefore permanently assured in his right to have the price of his commodity fairly fixed by the government and if he is not satisfied he has the right of appeal to the government for a change and this is what the ferry transportation companies are now doing and have a right to do. The food-producer has no prospect that the government will undertake to do the same for him. In fact, he is clearly told that when the war is over he must go back to his old crater-pitted terrain and do his farming under the cross-fire of speculating price-cutters and price-boosters who will fix selling prices for him and buying prices for consumers always on the basis of what there is in it for them and never according to what the producer should fairly receive and what the consumer should fairly pay. Therefore the transportation-producers are not in the same economic misery as the food-producers are. The former has the government to insure fairness for his operations; the latter has no assurance of fairness unless he makes it for himself—either by co-operative price-control or by securing permanent government protection by legislation. In either case, what he gets depends upon what he does for himself and how well he uses the demonstration which the war legislation of 1917 is making for him.

WHAT SHOULD BE DONE AT ONCE.

THE food-producers of this country should proceed at once to get the range of the camps of food manipulators and speculators and shell them incessantly with all the left-over munitions which the national food administration provided for its own drive on these same camps, which was successful as a war measure. The farmers, the legitimate wholesale and retail traders and the consumers should organize for a drive which shall make it impossible for illegitimate manipulators to rally again when peace shall come. There is a bill introduced by Congressman D. V. Stephens of Nebraska, which has been before the Interstate Commerce Committee of the House of Representatives for several years and upon which extensive hearings have been held before that committee. It is called the "Price Maintenance" bill. The principle which this bill is designed to enforce is stated by the author, Mr. Stephens, in a recent speech before Congress in this way:

"A basic price should be fixed and there is only one factor upon which a basic price can be made and that is the cost of the product. There is only one person therefore who can fix a basic price and that person is the producer himself. But the courts have held that he cannot enter into a contract with a wholesaler and a retailer, fixing the price at which his product is to be sold to the consumer. The correctness of this line of argument has been questioned by a great majority of the businessmen who are vitally interested in having open and free competition in the field of distribution. They have felt that in order that there might be some stability to prices that the producer must control his own product and say at what price it is to be sold to the consumer. By this method wasteful and extravagant methods of distribution can be eliminated."

Thus it appears that the principle for the enactment of which food producers should contend has been before Congress for some years and has been awakened to new life by the government's bombardment of the food speculators. Will the food producers allow it to fall asleep again?

A LESSON FROM THE ISLAND CONTINENT.

QUITE apropos to the agitation for an efficient affiliation of the host of farmers' societies of California come reports of what such organizations are doing in Australia. Surely "my own United States" has something to learn from the great island continent of the Southern Hemisphere. Reporting to the State Department, Consul-General J. I. Brittain of New South Wales gives this note:

"The twenty-fourth annual session of the New South Wales Farmers' and Settlers' Association was held at Sydney the second week in July. There are at present 424 branches of the organization distributed throughout New South Wales, and 321 delegates were present at the session. The object of the organization is to promote the interests of farmers and settlers in all possible ways. Complaints were made that the membership of the organization was too small, as there are about 40,000 farmers in the state, all of whom should benefit by the organization. The subjects discussed included the financial situation, industrial unrest, the wheat pool, bulk handling of grain, cutting out the middleman's profits in marketing farm products, and the organization and establishment of co-operative societies among farmers."

Here then is an Australian state with a population but little more than one-half that of California, and with a farming population and product-valuation less than ours, which has sustained an organization in constantly growing condition for more than 24 years and now gathers delegates from 321 branches of it to joint action in matters of pressing importance to producers. Is not that a thing for us to learn? We have had in California several organizations for the general agricultural welfare during the last third of a century. Some of them died long ago and those which still survive have now but a fraction of the membership and influence which they formerly possessed and exerted. We have gained greatly in special organizations and they have done wonderfully good and successful things in their several lines, but they do not act together nor do they attack general and fundamental propositions. Each studies its own particular field through its own knot-hole and when one tries to get a general view of what California farmers believe the whole industry needs in the public affairs of the state or the nation, he gets his eye full of special-interest fences and sees no up-standing, broad- shouldered man who can shout: "What I say goes for all of them." It is for this reason that we are constantly crying out: "Get together; affiliate; delegate your power to one who can get what you need, because the public can see in him one who speaks for all!" Until California farmers do this, their needs will be misrepresented and misunderstood and their most fundamental claims will be disregarded!

AND IT WOULD BE SO EASY TO LEARN.

THE farmers of New South Wales complain that they cannot get more of their forty thousand farming people into their organization. They never can and they never will get as many as they ought to get into any single association of individual memberships. Men are made that way. They will not all go to Congress nor to heaven by the same road—but they will all take a number of steps together toward these two abodes of the blessed, far apart though they be. And it is in the taking of these few steps together which will place the whole farming industries in different relations to various interests which are now oppressing them and making their business outlook cloudy and uncertain. It is no more necessary to get all the farmers into one association than it is to get all the people into one church. Both things may be done some day, but the way is not to start a new association or a new church and try to hale everybody into it. The way is to affiliate all the forces which are now moving in the same direction and then let them move by aeroplane, automobile or submarine as they severally choose. The main point is to get there.

Our notion is that California farmers ought to attack their problems energetically and influentially, as the Australians are doing. Read again the list which we have given above, of subjects discussed by that delegated assembly of Australians with force enough to attract the attention of a United States Consul-General. They represent directly or by suggestion exactly what California farming also needs. Little or nothing is said or done with them by our numerous farmers' organizations, because each of these is so busy with its particular details of production and distribution, and yet these fundamentals underlie all the problems of successful specialty operation. We are getting a lot of fruits and flowers from our organization plants, but are paying little attention to the roots upon which permanent prosperity must depend. It would be very easy for us to apply the lessons which the Australian effort conveys. We have simply to affiliate all the special organizations which we now have and authorize those delegated by them to a representative assembly to attack the fundamental requirements which are basic and common to all their special activities and which must be forced upon public attention to secure the permanent prosperity of all. And certainly great things can be reasonably expected, because the affiliating organizations are all so efficient in their particular specialties.

LESS VEAL MAKES NO MORE BEEF.

WE have been contending, almost to the weariness of our readers, we fear, that practical farmers should have more to do with details of food administration, if such an agricultural contribution to the safety of democracy as the public is always talking about is really to be made. If, however, we must have the same old text possibly the illustrations may be

different—but even that is not certain. For we remember that several years ago, when meat prices began to sky-rocket, there was a meeting of hotel stewards in Atlanta, at which it was solemnly resolved that veal should be cut from their menus so that calves might grow up and make more beef! It took some weeks of hard writing on the part of those who knew, to convince the public at that time that the veal supply came chiefly from the dairy herds and not from the beef herds and to convince the nature-lovers that a steer did not like being killed any more than a calf did; that it is not part of a dairyman's business to grow beef; that the offspring of his cows makes better veal than beef, and that he would be obliged to shorten rather than lengthen the life of a calf if he was to be prevented from selling it profitably as veal. The fact seemed to dawn upon the public ignorance that it was the public demand for milk, cream and butter which produced the veal supply and that it was the public service of the cow which robbed the calf of his birthright. In spite of this cloture which fell upon the hotel men's proposition at that time, the same foolish embargo on veal has recently arisen again and this time it is claimed to be a prompting of patriotism to secure more food to win the war with. And now it is coupled with another fallacy that to exclude lamb from the menu will force the growing of lambs into sheep—which would, of course, increase the meat supply! The proposition in its new form is worse than before. If it were possible to carry it out it would yield nothing but disappointment and net loss. In the case of calves it would make dairy products less in amount and higher in price—for in the narrow margin which now prevails in dairy production the better price for the veal by-product may save the business for many. They are not outfitted to grow beef and the result must therefore be less veal and no more beef. In the case of sheep, the prohibition of lamb, for which there is good demand, would ruin a distinctive line of production and strangely enough would undoubtedly, in the long run, make less mutton for which the public has no such keen appreciation. It is passing strange that the public ear should be drawn out a yard or so to listen to a prescription for industry which is based upon no technical knowledge whatever, and that a policy for food administration may be suggested on a public conception that whatever comes by birth must grow up to its advantage, when the hard industrial fact is that if the regular business of production and sale is interferred with, the animal's life may be made shorter or may not come at all. Proscription and prescription in the business of food production through the animal industry are very dangerous. They are likely to unsettle and reduce production which they vainly and ignorantly intend to advance. Therefore, for the saving of his own business and for the patriotic service of the industry to which he belongs, the farmer must have some agency through which he can authoritatively make known the facts and insist upon consideration of his point of view.

A MEETING FOR CONFEDERATION.

THE meeting which we commended last week for confederation of California co-operative marketing associations, under the auspices of Col. Weinstock, State Market Director, will be held in his offices, 525 Market street, San Francisco, on Monday, September 24, at 10 a. m. All marketing associations are invited to send delegates to the conference.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Sires for Perambulating Patriotism.

To the Editor: Now that everything alive is being called to patriotic service, why not call out the bulls, boars and rams? People are paying taxes to keep them to show at fairs. After the fairs why should they not be loaded on motor trucks and sent around to scatter their progeny and make the people and the state much richer? They could be taken to one farm and then to another. Put a ram with a flock of sheep one night in proper season and he will give the flock a stock of good blood, as they are very prolific. In Illinois the climate is cold and they keep the rams away from the ewes. One night one buck broke into a flock and the result was 140 lambs. I think the Governor should send all of the males out and let them do defense work. It would tell on the stock. If it were left to a vote the people would send them out. I hope to have your opinion.—D. W. Little, Biggs.

We fear you have rather an exaggerated idea of the capacity of an animal for patriotic service. What your Illinois ram did in a night is about twice what could be expected from one of good capacity in a whole season. He must have been some patriot. But that, of course, is only a matter of statistics and does not affect the principle of your suggestion, which is well worth thinking of. It is a common thing in Europe for communes and governments to own sires and travel them in the public service and the improvement of the stock of whole districts is notable. We see no reason why our state and county governments should not pay attention to such enterprise.

Peaches or Almonds.

To the Editor: Peaches and almonds will both do well on my land, but I cannot decide which to plant. Peaches are not as long lived as almonds, are they? I thought, probably, I would plant almonds 32 by 32 feet and interplant peaches 16 by 16 feet. Would they both do well? This is rich ground. How do almonds pay per acre, and how long before they are in full bearing? Peaches around here bear from eight to 12 tons per acre and I can contract for 10 years at $25 per ton. Will almonds do as well? If I plant almonds 32 by 32 feet—this will be about 41 trees to acre. Is not that too far apart?—M. H. D., Elk Grove.

You must decide what to plant. Who is running your ranch, any way? Do you expect us to do it and let you do all the managing, take all the profit from a good strike and give us all the blame for a bad one? We cannot do that kind of business for a dollar a year. However, you make us mad enough to give you some good advice. Do not plant any trees at 16-foot distances. Do not mix up peaches and almonds. They begin to bear about alike and there is not any great difference in the profitable life of them. Almonds will probably give you more firewood at the end of 20 years, if you grow them in the common fashion, but for profitable life we would as soon take our chances with a well cared for orchard of peaches as with almonds. If you can be sure that you will get the crop and price you mention for peaches you need not waste any affection on almonds. Thirty-two feet is rather more land than an almond needs even when grown without pruning after the third year. But we are becoming convinced that the almond need not be given more room than a peach and that it should be regularly cut back for new wood as a peach is. Leonard Coates is making a pretty conclusive demonstration that such treatment of almonds will make bearing more regular and many times as abundant. This being true, we see no reason for planting either tree at more than 24 or 28 feet intervals even on strong land. Proper pruning will make that quite room enough.

Home Handling of Sudan Seed.

To the Editor: I have Sudan grass from which I desire to get the seed for my own use. I cannot get to a grain thresher unless I should cut and sack the ripe heads and haul them ten miles. I can get the use of a cleaner. Is there any old-fashioned way to get the seed? The husk does not rub off easily and I imagine the seed is too fine to flail. I can strip the heads by hand pretty quickly, but there may be some easier way that you can suggest.—R. D. K., Richfield.

You probably know that the crop can be cut when most of the heads are ripe with a self-binder or even with a header or a mower, and handled like grain or hay, and put through a grain thresher with a little less wind from the fan and less speed on the cylinder. Lacking such appliances, you can get the heads any way you can, cure them sufficiently and flail lightly on a tight floor or on a canvas sheet—rake off the coarse rubbish and sweep up the seed. We see no reason for cleaning it for your own use if you follow your plan of hand-cutting the heads, for you will not get weed seed enough to bother about. The hulls do not need to be removed. We would not advise you to hand-strip much of it unless you were born with gloves on.

Fall and Winter Feed for Hogs.

To the Editor: What do you consider the best crop to sow for winter pasture for hogs in California? On our ranch at Princeton, Colusa county, we were thinking of planting dwarf Essex rape, but we notice in your issue of September 1, you say that after 10 or 15 years of planting rape in California, it is not popular. We have in mind to either irrigate or plant after the first rains. Do you think much would be gained by irrigating and planting before the first rains come?—E. H., San Jose.

We are not condemning rape altogether. Under some conditions it probably serves a good purpose and yet the fact is that it is not widely grown in California. In your case we should sow oats and vetch on good land, and rye and vetch on land which is thinner and more apt to get dry. Wherever water is available it is generally a great advantage to wet down well and start the growth while autumn heat is ready to push the plants. In this way you will get much more growth and get it earlier. If rains come late you will probably have to wait until February before there is heat enough to push growth. In the early start you will get much green feed while the wild feed is loafing on the job. A late start makes your sowing act just as the wild feed too often does.

A Pan-Piercing Green Manure Crop.

To the Editor: What would you advise as the best green manure crop from an economical standpoint for land of a silt loam character, containing very little organic matter and underlaid with a plow pan? The land is under the ditch so that water is available early in the spring. The plow pan in question softens with the winter rains, but is little affected by irrigation after it dries in the summer.—W. C. S., Orland.

If we had no desire to grow green feed but simply to get a legume which would get through the pan and make top-growth to plow under we should wet the land now and sow 25 pounds of "yellow sweet clover" (Melilotus Indica) per acre as soon as we could plow the land. The seed is cheap because it is cleaned out of grain in your valley, and it is small, so that it gives many plants per pound. It should be started early as possible, so it will be better not to wait for rain unless you have to.

Fern Problems.

To the Editor: What causes rust on ferns, and how can I prevent it? Also, how can I keep a wild mountain fern growing the whole year round? I am told they die down in the fall and come again in the spring.—M. C. S., Minden, Nevada.

We never saw any rust on ferns. Is it not the brownish powdery stuff on the under sides of the leaves? If so, it is probably the "spores" or minute bodies by which the plant reproduces itself. The way to escape it is to keep cutting off old leaves and growing new ones—unless you can learn to enjoy it as one of the natural wonders of the plant. Your ferns will not die down if you keep them warm and moist. In California they are evergreen except in the mountains or on dry lands.

Carrying Morning Glory.

To the Editor: Will feeding my cow alfalfa containing morning glory, then turning her into my field to browse, cause the morning glory to start from her manure?—L. E. D., Watsonville.

Yes; if she swallows any ripe seeds.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., September 11, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.02	.45	72	50
Red Bluff	...	...	.13	88	56
Sacramento	...	...	.08	88	54
San Francisco	...	...	.01	72	56
San Jose	...	...	.09	84	48
Fresno	...	...	...	94	58
San Luis Obispo	...	...	.05	96	50
Los Angeles	...	...	...	90	58
San Diego	...	...	...	84	60

Slower But Better Grape-Packing

[Written for Pacific Rural Press.]

While the system of grape-packing used by J. N. Furry of San Joaquin county is a little too slow to compete with commercial packing in these days of scarce labor, from the quality standpoint and for more accurate weights of fruit per crate it is in several ways considerably superior. Mr. Furry has letters from an Eastern distributor saying that in his thirty years' experience he has never seen grapes open in better shape on the market after their ten to twelve days' trip across the continent. He had bought twenty-two crates October 19 in Boston. Five of these were kept "fairly cool," and on November 2 were as good as when bought. Mr. Furry has about fifteen acres of Tokays which he has packed this way several years. He himself packs twenty-five to thirty crates per day and would not return to the other pack.

The fruit is picked by four packers, and is never disturbed after being laid immediately into the crate, which rests on a light three-legged shallow box set beside the vine. Mr. Furry puts in twenty-eight pounds net, and no more, except one-half pound to allow for shrinkage. Each crate is weighed, and small bunches added or taken away without disturbing the face. With only the one handling, the bloom is not brushed off and berries are not loosened. With the exact net weight, there are no crushed berries, and the buyers of his "Field Pack, J. N. Furry" brand know just what to expect and pay for. In the commercial pack, the weights vary because they cannot be adjusted without disturbing the face.

PACKS IN FORMS.

The system consists in using forms in which to pack the grapes face side down. When packed, the forms are replaced by regular baskets. Mr. Furry started with 125 forms, made by Angelo & Son. For each form four baskets whose bottoms were cut out and the cut edges tinned were placed in just the position regular baskets occupy in a crate, but upside down. They are soldered by pieces of tin, to a lath across the center and projecting an inch or two. The usual tinned top edges of the baskets are also soldered together. Mr. Furry expects to get non-corrosive metal forms which will not break so easily.

To use a form, lay it in a crate whose cover is already nailed on. The crate is four inches deep with a three-quarter inch cleat additional, so the form hangs clear of its cover, by resting on the ends of the lath. When the face bunches are put in, they bulge the top enough to make a good full looking pack.

One of the smaller Avery tractors double disking an orchard satisfactorily.

The Best Cover Crop of Melilotus

[Written for Pacific Rural Press.]

The best melilotus cover crop we saw in the Ontario-Upland district early last February was that of A. Wershing. Some of it was three feet tall, the stalks one-half to one-third thicker than a lead pencil, and the leaves one and a quarter inches wide and one-half inch longer. Three of them came from each joint about three inches apart, and many of the plants were sending out several new shoots from near the surface of the ground. It was a dense stand of melilotus, with no weeds to mar its appearance.

Last July, when we saw Mr. Wershing, he said that the main thing is to plant in September. Twenty pounds are recommended, but he finds 175 pounds enough for ten acres. Put the seed in dry shortly before the September irrigation, after spike-harrowing once, not very deep, and making shallow furrows for strictly surface irrigation. You want to keep the water close to the surface, because that is where the seed is. Be prepared to irrigate twice per month, for much of the melilotus would dry out with monthly irrigations. Only half as much water each run is required. In about five days after the first irrigation, the plants will be up an inch, and in eight or ten days should be irrigated. The plants must make good roots before they begin to make much tops. Run only a small, slow stream through the furrows to avoid washing them too deep. This will harden the surface so it will not wash easily in later irrigations.

First-grade seed is necessary, regardless of cost, to get such melilotus crops as Mr. Wershing grows. Second-class seed are light and full of weeds. He sows by hand to throw it where he wishes, as there is no use and perhaps some injury by putting it under the trees. In mornings, when the wind is not blowing, it is easiest to get an even and satisfactory distribution.

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Stumps 24 pages, 23 illustrations. Explains and shows the most effective methods of blasting. Tells you how to get out stumps of any size cleaner, easier and cheaper by using either of the Giant Farm Powders—Eureka Stumping Powder for dry work and Giant Stumping Powder for wet work.

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

TURNING RAISINS ON PAPER TRAYS.

H. W. Wilson of Fresno county learned last season how to avoid waste in turning paper trays. Two wooden trays were obtained and two men did the turning as usual. A paper tray full of raisins was picked up, being careful not to tear the corners, and laid on a wooden tray. An empty paper tray was laid on top of the raisins and a wooden tray upside down on that. Then they were turned as usual. The free wooden tray was laid down ready for the next paper tray of raisins; the ones just turned were slipped off on the other side, the paper on top of them (the one on which the raisins had been drying) was laid onto the wooden tray, onto which they had been turned and from which they had been slipped off. The next raisins to be turned were lifted onto the other tray as before, and the one with the paper turned upside down on top of them, ready for the turning. After the first few trays, the men proceeded like clockwork without a waste motion.

PRUNES AND APRICOTS STRONG.

"The market on apricots has been advanced a half cent the past week. We are not taking any more orders now," said Manager H. G. Coykendall of the California Prune and Apricot Growers, Incorporated, August 30. "We have already shipped several cars of apricots. The association is meeting a hearty reception in the East. Prunes remain about the same, and we have sold all we want to at present. New members are joining every day."

THRIPS PREFER VETCH.

Thrips like vetch better than pear blossoms, says E. A. Gammon of Sacramento county. Walking through the cover crop, his trousers would get discolored with the insects, but there were none in the trees and he did not spray for them. Deputy State Horticultural Commissioner George P. Weldon believes this must have been another species than the regular pear thrips, which are thought to feed on fruit blossoms and embryo fruit only.

RED SPIDER ON COVER CROPS.

To the Editor: Does red spider work on cover crops? We had more red or brown spiders on our peaches this season than ever before.—G. H. C., Brighton.

The real red spider gets on beans, but is not known on winter cover crops according to George P. Weldon. The brown mite, which comes earlier in the season, works plentifully on alfalfa, clovers, and peas, as well as most common tree fruits.

OILED ROAD TO KEEP DUST FROM FRUIT.

Road dust from automobiles and teams made J. L. Nagle's shipping fruit so dirty on the trees that much of it was very unattractive for market without cleaning. So Mr. Nagle applied crude oil to the public highway for nearly a mile along his orchard at his own expense. Now the only dust is a little from the orchard drives, and the fruit is clean.

The Bean Tractor, steering by its single track, makes short turns for orchard cultivation.

NURSERY STOCK SHORT.

A good demand is already developing for nursery stock at prices to be named later, according to Wm. T. Kirkman, Jr., of Fresno; but nursery stock will be very short. Apricots will hold out longest. There was a great scarcity of labor for the summer budding this year.

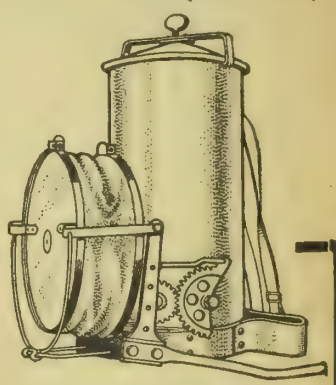
PEACH ROOTS ROTTED.

"We need myrobalan roots here because peach roots rot off in the heavy subsoil," says E. G. Cutter of Sacramento county, whose heavy alfalfa land has been covered by alternate layers of pure sand and mud as deep as six feet in places, and is now producing fruit.

FASTER RAISIN DRYING.

Raisins "dry a week quicker" for a Fresno county grower, because with a "V" he slopes the dirt his trays rest on so they face the south and get sun directly. If it rains the slopes drain more quickly on his ashy land.

AMERICAN BEAUTY DUST SPRAYERS



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The Great Exhibition Tent

is 100 feet by 250 feet—filled with the very latest and most necessary improvements in Automobiles, Auto Trucks, Accessories, Spraying Outfits, Gas Engines, Pumping Plants for all purposes, Portable Houses, Belting, Lubricants, Fuel Oil, Lighting Plants for Homes, etc., also Household Comforts, Necessities, Appliances, etc. Come—bring your entire family—your neighbors and friends. This demonstration will interest every one of you. Splendid meals served on the grounds. Rest rooms for the ladies and children. Nothing left undone for your convenience.

VAIL RANCH – How to Get There

Vail Ranch is on Telegraph Road, 2 miles from end of Stephenson Avenue, Los Angeles city car lines. Auto busses direct to grounds. You cannot miss it. Demonstration starts Tuesday, Sept. 18, continues 5 full days. Plan to be with us every day, and come early.

Traction Engine and Implement Dealers' Association of So. California

Killefer Heavy Duty type of Orchard Cultivator on Ranch of C. C. Reynolds, San Fernando, Cal.

Labor Saved and Bigger Crops Made by Tractor

(Continued from first page.)

GENERAL MISTAKES IN TRACTOR BUYING.

A few mistakes are made in buying tractors. The most common one is to think that the tractor is to do the same work that a big team has been doing. Few men have had small tractors very long except for special purposes, until they have sighed for a larger size to do more work in the same time. A tractor should not replace a team where there is a chance for it to replace several teams using the same man power. The plowing will be done deeper with a tractor, more harrowing may be done at once. Another common mistake is to get a three-wheel or two-track-and-one-wheel tractor where field crops are to be cultivated in rows about three feet apart. The front wheel must then run on a row, so the tractor is deprived of a job. Wheel type vs. track type depends on upkeep expense and whether there are marshy spots or soft sand to run through when the soil must be worked. Upkeep expense would be very uneconomically saved if time is lost thereby in a rush season by being stalled on rough ground. Another mistake is to invest in a tractor and let it lie idle much of the year. There is so much it can do if we provide the additional machinery for the operations indicated above.

OBJECTIONS.

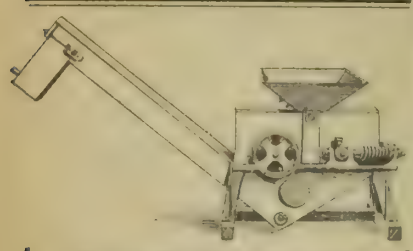
An objection frequently made is that the weight of tractors may pack the ground. As a matter of fact, very few tractors exert as much pressure per square inch as a horse. They do, however, exert pressure over more square inches, for they make a continuous track on plowed ground. This is no disadvantage for those who attach little cultivators behind the wheels or tracks.

Once in a while someone remarks that tractors are still in the experimental stage. Such people either have not kept well-informed, or the newer less-tried tractors seen at demonstrations have impressed them to the exclusion of the 12 or 15 that have proved themselves entirely trustworthy by years of service on farms. The newer makes have advantage of the others' experience, and generally need only a sufficient trial of their new features. Among the standard makes there is hardly any choice as to reliability; the only choice is in regard to size and type most suitable for one's own conditions.

To make this choice by going the rounds of all tractor manufacturers or dealers, or even by getting literature from all of them is satisfactory only in the absence of a better way. That better way is to visit the tractor men when they are all together and have their machines all together. Such an opportunity has just passed at the State Fair. Less extensive opportunities will be provided at the county fairs.

BIG TRACTOR DEMONSTRATION.

But the chief opportunity of the year is to come September 18 to 22 inclusive on the Vail Ranch at Los Angeles, where some 650 acres will be plowed and cultivated by at least twenty different makes of tractors and as many additional different sizes, showing also the suitability of various tractor-drawn tools. Afternoons will be devoted to public demonstrations by all tractors together. The rest of the time will be given to independent demonstrations of various uses by which tractors reduce hired labor, do rush work on time, and do it better because they can be worked as horses could not be in cases of emergency.



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Field and Garden Suggestions

[Written for Pacific Rural Press.]

NO WIREWORMS AFTER FALL PLOWING.

The worst trouble for beans in Sutter Basin is wireworms, as told us by Austin Kramer, a veteran bean grower along the river. They begin to work on the beans as soon as they are planted, two or three worms being found in one bean sometimes. They seem to disappear when weather gets hot after the first cultivation. Mr. Kramer's sons planted garbanzos about April 15, 1917, and lost the crop by this pest. There was still time to plant whites. As a rule the ground is not plowed over four or five inches deep, but in the fall of 1915 Mr. Kramer plowed a foot deep and in 1916 had no wireworms.

LIME ON WHEAT LAND.

By raising the yield of wheat more than four bushels to the acre from a two-ton application, lime this year proved one of the cheapest materials used in raising crop yields at the Ohio Agricultural Experiment Station. The cost of liming was more than returned in the greater wheat crop. Other crops in a five-year rotation of corn, oats, wheat, clover, and timothy were also increased in yield, and their increase would remain as clear gain.

CHEAP VENTILATORS FOR INDIAN CORN.

Indian corn in the crib needs ventilation. C. B. Smith, one of the leading corn growers near Stockton, puts a ventilator crosswise of the crib every five feet and between layers of corn not over three feet thick. They are made of two 1 x 4's eight feet long fastened an inch apart along the upper edges by four strips, and four inches apart on the bottom.

TRANSPLANTING RHUBARB.

Winter-growing rhubarb is about as near dormant now as it ever gets and can be moved with the least shock. Prepare the ground deeply, mixing it with cow manure if available. Plow the dirt away from old plants, cut off the eyes with a sharp spade, and leave the old crowns to produce new eyes, is the method of F. Williams of Alameda county.

KALE FOR WINTER GREENS.

Kale may be planted now for late fall and early winter greens, where water is plentiful. Work plenty of manure into the soil before transplanting. Make the holes wet just before putting the plants into them. Do not put them into dry dirt for an hour or two before watering, for it will set them back.

SQUIRRELS LIKE POISONED ORANGES.

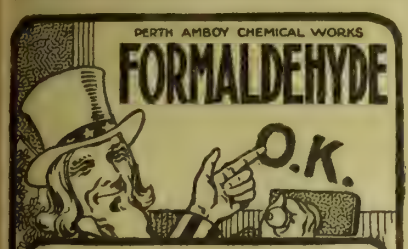
Ground squirrels like strychnined oranges in July, August and September, but poisoned grain then is less effective because they are full of it and have laid up much of their stores, say Frank Oliver and W. B. Davis of Tulare county.

FORKED POTATOES ROTTED.

A large potato grower had a lot of potatoes dug before he discovered that wherever the spading fork had punctured a potato, it developed a watery rot within a few days. He then began plowing them out.

DRILLED GRAIN SUREST.

Drilled grain generally makes a better stand and crop with less seed because it gets the seed covered more evenly and in contact with moist soil. Buy or arrange to borrow a drill.



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SOUTHERN CALIFORNIA TRACTOR DEMONSTRATION.

[Written for Pacific Rural Press.]

The farmers, orchardists and growers of the Pacific Coast, and Arizona and Nevada, have never been given an opportunity of seeing a really complete showing, in a working demonstration, of tractors and farm implements. Those whose homes are east of the Rockies have several chances such as this, culminating in the triumphant tractor demonstration recently held at Fremont, Nebraska.

The Traction Engine and Implement Dealers Association of Southern California gave an affair of this kind at Puente last year, and the success of that demonstration determined the association to make it a yearly event, so they are now announcing their second annual demonstration to be held from September 18th to September 22nd. Six hundred and fifty acres of the Vail Ranch have been secured for demonstration purposes, and it is expected that the grounds will be crowded with interested spectators.

Every afternoon from two to four o'clock there will be public demonstrations in which all tractors and implements will participate. Individual firms will give private demonstrations of their products at any other time to suit the convenience of those who are interested enough to want a more exhaustive illustration of the relative qualities of the tractors and farm machinery.

The coming demonstration will enable every rancher and grower to see all reliable makes of tractors and implements under the most critical working conditions, and he can thus decide, by comparison, which machines are best suited to his particular needs.

All railroads are offering summer rates of a fare and one-third for the round trip from all points in California, Nevada and Arizona. A fully equipped restaurant on the grounds will add materially to the comfort and convenience of visitors, as will also rest rooms for women and children.

PLOWING TIME

Time to use a Yuba Tractor is when ground is hard and dry, and a lot of power is necessary.

That bull-dog strength gets a hold and pulls the plows deep, turning up 8 to 12 inches of soil for the air to disintegrate and the winter rains to reduce to a mulch.

Yuba Plowing is efficiency scientifically applied.

Write for the catalog. Dept. A1.

YUBA MANUFACTURING CO.
433 California Street
San Francisco

PUMPING QUESTIONS.

To the Editor: (1.) I have a 1½ H. P. gasoline engine, a 4-inch double action Douglas pump; wish to raise water 50 feet through 600 feet of 3-inch iron pipe—no curves—pump located just below ditch. How many miners' inches or gallons per minute should this outfit deliver?

(2.) Using the same outfit with a more powerful engine, what h. p. should it be for capacity of 3-in. pipe?

(3.) Would a centrifugal pump be best? and if so, what size pump and h. p. engine should I use to get the greatest amount of water through the 3-in. pipe?

[Answered by Prof. J. B. Davidson, University Farm, Davis.]

(1.) The catalog rating of a 4-inch by 4½-inch double acting pump at 40 strokes per minute is 19.2 gallons per minute. The theoretical horsepower required to lift 20 gallons per minute against a head of 50 feet is only 0.25 horsepower, so it is evident that a 1½ horsepower gasoline engine is adequate. Your friction loss equals less than one-foot head.

(2.) It would be impractical to try to speed this pump up so as to use a larger engine.

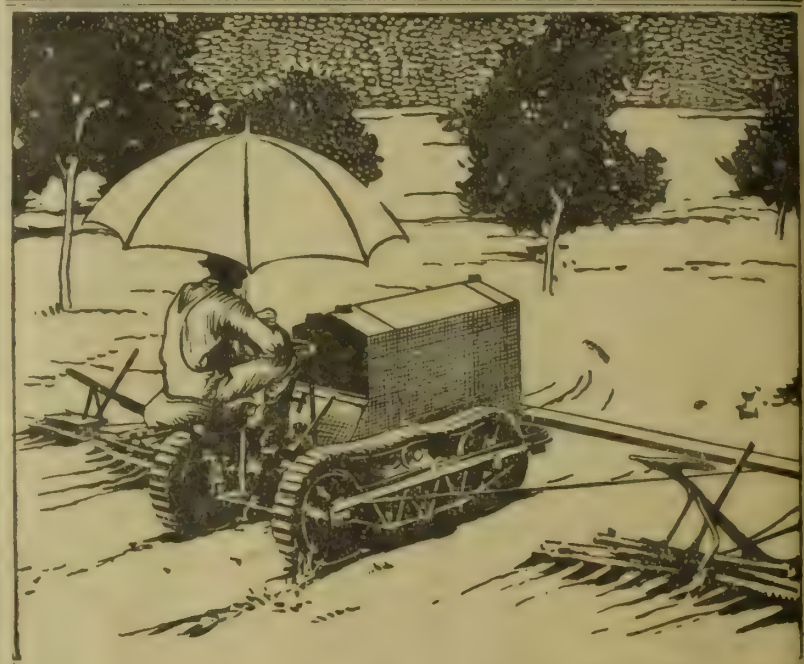
(3.) With a centrifugal pump it would be practical to pump 100 gallons per minute through a three-inch pipe. The loss of head in friction would amount to 3.5 feet per hundred feet of pipe or 21 feet altogether. This, added to the 50 feet of lift, would make a total head of 71 feet. To pump 100 gallons under these conditions would require a theoretical horsepower of 1.8 or 4 horsepower actual. The normal capacity of a 2-inch centrifugal pump as given by one manufacturer is 120 gallons per minute. The minimum capacity is 90 gallons. It is evident that a 2-inch pump would be adequate.

AUTO-TRACTOR CULTIVATES AND HAULS FRUIT.

[Written for Pacific Rural Press.]

Riding his automobile merrily around the orange orchard, skipping two centers at the turn, and doing a good job of cultivation, was the experience of S. Bartholomew of Tulare county. He had a tractor attachment for his Ford, which cost $150, and could be put on or off in fifteen minutes. He uses the car on the road as much as in the orchard. As a tractor it is geared down to 2½ miles per hour and makes 23 to 24 miles per day with the five-foot cultivator. He charges two dollars per day against the machine while in use to cover depreciation and interest, as well as repairs and oil. It uses a gallon of distillate per hour and a quart of lubricating oil per day of nine hours, and pulls all that three horses would. No horses are used in the orchard. The outfit has been used for plowing with a disk plow, but the orchard will be disked next year instead of plowing. It pulls a 10-wheel disk all right, but "has to dig" when the 24 x 7 smoocher is used. Fruit was hauled to market, 4½ tons per load, with no band on the grousered wheels, but on the last load this was stopped, and he will have to use bands over the grousers hereafter.

The attachment had been running since last October, using distillate entirely, except to prime the engine. On July 10, it had burned 122 gallons in the past fifty days, and had never been cleaned out. The cylinders were getting dirty, however. If cleaned out every six months, Mr. Bartholomew figured that he would save $100 per year on fuel and not



"I Harrow 60 to 75 Acres a Day."—H. O. Sebring

H. O. Sebring owns a large orange grove in Sebring, Florida.

For years, he searched for a tractor that he could use for cultivating. He declared himself unable to find a machine adaptable to harrowing through the sand in the dry spring months. Nor could he find one that would turn from one row into the next without injuring the trees.

But—

Mr. Sebring recently bought a Cleveland Tractor. It is a crawler type machine—small and light, yet with tremendous hauling capacity.

After trying it out on his grove, he found that it not only does his work well—but quicker, better and at much less expense.

Mr. Sebring attaches a 17-foot pole to the front of the machine and then hitches a six-foot harrow to each end of the pole.

"We can easily harrow from 60 to 75 acres in 10 hours," he writes.

Think of such speed. "We can turn right around the next to the last tree in the row and then come back the next row," he continues.

"At present we are using the Cleveland in a grove that needed plowing, going up one side of the trees and down the other. We have already plowed 25 acres a day of tree rows.

"We figure that this work would cost $17.50 a day with one-horse plows. I estimate that my Cleveland Tractor can be run for about $8.50 to $9 a day, figuring repairs and depreciation much higher than they will run."

In other words—it cuts the cost in two!

What the Cleveland is doing for Mr. Sebring it will do for anyone.

It crawls on its own tracks. So it can go anywhere—through sand, wet, marshy ground, up hill and even over ditches.

It is only 50 inches wide and 52 inches high—small enough to go under and between small fruit trees. **Yet it develops 20 horsepower at the pulley and 12 at the drawbar.**

The Cleveland is built by Rollin H. White, one of the country's best known motor truck engineers. He uses only the finest motor truck parts and gears. All gears are enclosed in dirtproof, dustproof cases. It is just the tractor you need—speedy, light and economical. Above all, it is dependable.

Agriculturists in all sections of the country are flooding us with orders for Cleveland Tractors. Our big factory is unable to keep pace with the demand.

We advise ordering now for delivery in the spring. Do not delay. Every day lost now means time lost when you need it most.

Write to us now for full information and the name of the nearest Cleveland dealer.

CLEVELAND TRACTOR CO., Cleveland, Ohio

$1185

f. o. b. factory

Cleveland Tractor
Geared to the Ground

Cleveland Tractor Company
Dept. BG Cleveland, Ohio

Please send me full information about the Cleveland Tractor.

Name .....
City ..... County .....
State .....

TEST SPECIAL BELTING

Write our Service Department about your belt troubles—there will be no charge for solving your problems.

New York Belting & Packing Co.

520 Mission St. San Francisco, Cal.

Fill Out This Coupon—Mail It TODAY

New York Belting and Packing Co.,
519 Mission St., San Francisco. Dept. D-8.

Send me samples of Belting that you will guarantee to give satisfactory service on my work and quote prices delivered at

..... Station.

Horse Power	Diameter in Inches
Elec. Motor.....	Driving Pulley....
Steam Engine.....	Driven Pulley.....
Gas Engine.....	

Kind of Drive

Cross .....

Straight .....

Perpendicular .....

Width of Belt..... Ply.....

Distance between centers of Pulleys.....

Rev. per minute of Driving Pulley.....

Kind of Machinery Driven.....

My dealer's name.....

My name .....

Address .....

A pocket memo. booklet giving speed and power tables will be sent FREE to all who mail this coupon.

No Pit

is required with the

KROGH
DEEP
WELL
TURBINE
PUMPS

For bored or drilled wells from 10-inch inside diameter up; and for capacities of 250 gallons per minute up to 3000 gallons per minute. Built for pumping from any depth to and including 250 feet. They are absolutely water balanced and are self-aligning. More water can be obtained from such wells than with any other type. Built in belted or direct motor driven types. If interested, write for Bulletin.

AWARDED PANAMA PACIFIC INTERNATIONAL EXPOSITION GOLD MEDAL HIGHEST AWARD GIVEN

Krogh Manufacturing Company

SAN FRANCISCO, CAL.
Branch at
LOS ANGELES. CALIFORNIA

WITTE

"Kero-Oil" Engines

Immediate Shipment—All Styles—2 to 22 H-P.—No Waiting—Big Factory—Big Output—Prices most favorable. Write for my terms and prices—Cash, Payments or No Money Down.—ED. H. WITTE, Pres.

WITTE ENGINE WORKS
2860 Oakland Ave., Kansas City, Mo.
2860 Empire Bldg., Pittsburg, Pa.

I Save You $15 to $200

injure the engine. The drive gears had done eighty days' work and were half worn out. No oil is used on them and the dirt drops out with very slight wear. The corner-brace to the gear receives extreme vibration, and should be of good material and heavy. Mr. Bartholomew had broken one, which cost $1.45 to replace. As we rode around with him at a steady pace with the cultivator, it was suggested that it was no heavy load, and he opened up the throttle. The car jumped like a mettlesome horse touched with a whip.

NO HORSES IN ORCHARD FOR THREE YEARS.

[Written for Pacific Rural Press.]

"I haven't had a horse on my fruit ranch in three years," said J. E. Adamson of Los Angeles county last summer. "I built a tractor myself that does all the work. I don't worry about hard ground in spring, and I let the cover crops grow until late March, where they used to have to be plowed under in February. I plow six inches deep and never see a sign of plowsole. Summer crops of beans are planted in rows so the tractor can cultivate them. It has four wheels five feet four inches apart. Furrows for irrigation are made the same distance so the tractor runs in them. The wheels are followed by cultivator teeth to prevent packing. In using a wagon for hauling fruit, etc., in the orchard during winter, it also runs down the furrows and does not cut up the cover crop. The furrows are made with goose-necked shovels fastened to a beam hitched to both sides behind the tractor close to the ground, to avoid swinging. Furrows are made under the trees as well as in the middle, fixing a whole center for irrigation at one trip.

FARM RECLAIMED BY TRACTOR.

[Written for Pacific Rural Press.]

When H. C. Powell moved onto his place in Tulare county two years ago last June, he found one piece of thirty-five acres which had been alfalfa, but had been pastured about ten years, according to H. C. Powell, Jr., and had salt grass a foot deep over it. Six months later the Powells bought a 13-horse-pull tractor and plowed it ten inches deep and thirty-four inches wide per trip, according to F. S. Powell, another son who has learned to appreciate tractors by his experience with this one. Double disking by tractor and some other cultivation worked the ground fine and killed the alfalfa. That land has this summer produced one of the best crops of corn and sugar beets in the neighborhood. About one hundred acres have already been reclaimed from salt grass. The tractor was used this fall to haul beets to the sugar factory.

PROTECT CARBURETORS FROM DUST.

[Written for Pacific Rural Press.]

There is no excuse for allowing the carburetor to clog with dust now-a-days. Half a dozen contrivances are on the market to remove dust from the air before it gets into the carburetor. Some of them remove it by centrifugal force. Several draw all air through water, which takes the dust out. We saw a centrifugal one recently used on a tractor, cultivating moist soil after an irrigation. At 3 p. m. it was emptied of a tablespoonful of moist dirt, prevented from going into the carburetor that day.

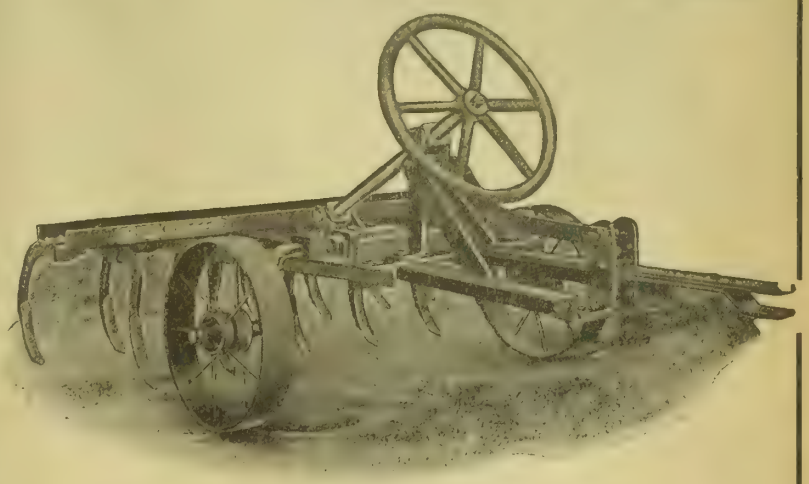
(Continued on page 264.)

KILLEFER QUALITY

HEAVY DUTY

Orchard Cultivator No. 3

KILLEFER EFFICIENCY



Our Tractor Tools are not an experiment. They are the result of following the Tractor game from its start. Built in the necessary sizes, for all makes of Tractors, and made from the best quality of material obtainable for the purpose.

These Tools will be shown and demonstrated at the Tractor Demonstration—VAIL RANCH, Sept. 18-22.

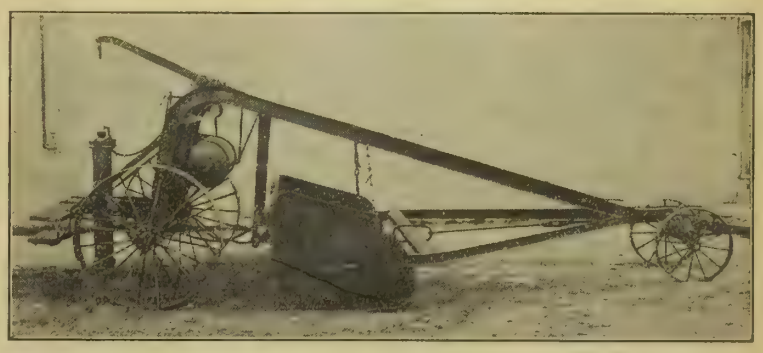
The Killefer Manufacturing Co.

2209-21 SANTA FE AVE. BOX 156 ARCADE P. O. LOS ANGELES, CAL.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler of the "Giant" Type

Will Work Wonders on Your Farm



Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL

So extremely simple, a child could operate one as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

Send today for full information and our latest catalog of earth moving machines.

Schmeiser Manufacturing Company

12 Mechanic Street - - Davis, Cal.

Manufacturers of
Sure Pop Almond Huller and Separator, 3 sizes; McGarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clevises; Martin Farm Ditcher and Road Grader, and Schmeiser Portable Automatic Hay Derricks.

General Agricultural Review

Field Crops.

Orange county will harvest 2,500 acres of Chile peppers this year.

Wild ducks are plentiful in the vicinity of the rice fields this season.

Beans on irrigated ground are averaging 12 to 15 sacks to the acre around Hemet.

The bean crop of Sutter county this year will total $5,000,000. This doubles all previous records.

The harvest of 40,000 tons of sugar beets for the Sacramento Valley Sugar Company has started.

The National Food Administration Board will not fix bean prices unless there is an effort to corner the market.

Prof. Carl R. Shaw, College of Agriculture, Berkeley, says the government expects California to increase its acreage 90,000 acres.

While the hop growers of Mendocino county set a price of $1 per hundred pounds for picking, it is said that some have had to pay $1.25.

Tulare county is to have a big bean crop this year. Reports from Porterville say that the damage by squirrels and rabbits has been exaggerated.

The new sugar price, agreed upon by refiners and Food Controller Hoover, $7.25 per cental seaboard basis, means much reduced profits for California beet sugar men, it is reported.

Frank Shipley of Santa Paula, formerly manager of the California Lima Bean Growers' Association, contracted last week Samuel Henderson's 1917 lima bean crop at $10.25 per cwt.

Yuba City, Sutter county, advices report figuring that Lady Washington beans of this season's growth will command 10 cents a pound and Mexican beans will bring at least 8 cents a pound.

It is announced from Ventura that the Mound thresher has completed work on the Ventura side of the river with 8.000 sacks of small beans, where last year there were comparatively few raised.

The tomato crop of Southern California is not turning out as well as expected early in the season. Packers are now offering $15 per ton for the best tomatoes, which is $5 a ton more than they brought this time last year.

Bean harvesting is well under way in the large bean-producing counties of Santa Barbara, Ventura and Orange. Some blackeye growers contracted their crops at a selling price of 4½ cents, while those who waited have now sold for double that price.

The milo maize crop of the Imperial valley is now made and harvest has commenced. Reports indicate that the crop will be large. There was an increased acreage planted and the yield is estimated at 500,000 bags, which is about 150,000 bags more than last year's crop.

The bean acreage of Santa Barbara county this year is put at 88,715 cars, and the crop is said to be 15 per cent above normal. There are 6900 acres of limas, 27,000 acres of small whites, 2,225 acres of large whites, 180 acres of blackeyes, 6,100 acres of pinks, 1,200 acres of Henderson bush, 45,000 acres blue pods, 10 acres Tepary and 1,000 acres of stringless.

To avoid abnormal fluctuations of prices that might be caused by conditions created by the war, the board of managers of the New York Cotton Exchange has announced a new regulation, effective August 27, which limits fluctuations in future prices in any one day to 3 cents a pound above or below the closing of the previous day. Three cents a pound is equivalent to $15 a bale or 300 points in market terms.

Reports from Oxnard indicate that the lima bean crop there is running a little short of last year's. Robert L. Beardsley, who has threshed and gotten his limas into the warehouse, says his crop will run about 3,000 hundred-pound sacks against 3,500 eighty-pound sacks last year. Thos. McCormick, who has a big acreage near Camarillo, says his crop will run about 15 per cent short of last year's. Martin Flynn claims his limas will run 20 per cent short. Thos. Richardson, on the Schiappa-Pietra ranch, says his crop will be larger than last year. Jas. McLaughlin's crop is little less than last years.

Deciduous Fruits and Nuts.

The 1917 California almond crop is estimated at about 3,300 tons.

There is a large output of almonds reported in Western Yolo district.

The Peach Growers announce that this year they will pay the growers 5 cents a pound on delivery.

There has been about 100,000 boxes of apples shipped from the Sebastopol section this season.

One carload of Bartletts sold at auction in Cleveland for $1,650 gross, netting the shipper over $1,200.

Prune growers who started gathering their crop prematurely have stopped.

Prune drying in the Orangevale section of the Sacramento valley gives a prospect of thousands of tons of the dried fruit.

The deciduous fruit crop of California totals $30,000,000. Fruit shipments to points outside the state will reach 20,000 cars.

The shortage in fruit boxes is state and nation wide. Box shook mills cannot fill orders and pronounce the situation extremely grave.

With little hope of any importations of consequence, either from Europe or the Orient, indications are that almond prices will be high this fall.

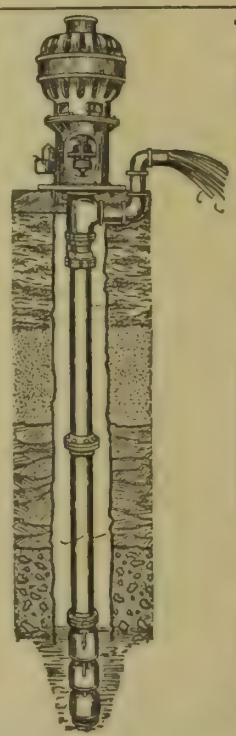
Samson Tractor, specially fitted for orchard cultivation.

WILL YOU BE THERE?

If you are you will see the result of years of experience in Tractor Construction. You will see a Tractor that does not cost a fortune to keep in repair; a Tractor that is only 53 inches wide, 45 inches high and 96 inches long; one that will turn in its own length pulling its entire load; a tractor that will absolutely adjust itself to any ground, no matter how uneven, without strain on the machinery; a tractor that is dust proof, all parts running in oil: The pulliest tractor for its size of anything yet constructed. You will find all these vital points embodied in the NEW LAMBERT CHAIN TREAD.

Wm. Gregory & Sons.

602 N. MAIN ST. LOS ANGELES, CAL.

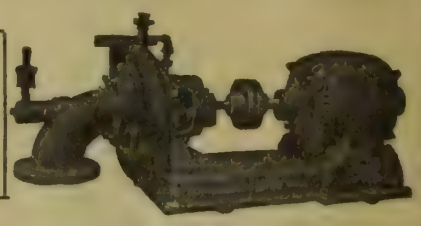


DEEP WELL TURBINES

No valves to pack or plunger to get out of order. For use in any well ten inches in diameter or over.

A complete line of irrigating pumps of all descriptions, horizontal, and vertical for belt drive or direct connection to electric motor.

Prices as low as are consistent with good quality and workmanship.



WRITE FOR CATALOGUE NO. 47.

BYRON JACKSON IRON WORKS, Inc.

SAN FRANCISCO.

LOS ANGELES, STOCKTON, VISALIA

PLOWS

Disc Plows—Heavy Duty for Horse Work
Disc Plows for Small Tractors
Disc Plows in Sets for Large Tractors

"Ground Hog"—HEAVY DUTY TRACTOR DISC PLOW.
Australian King—General purpose Small Tractor Plow. (Set, and Stump-Jump.)
Reversible Hop and Vineyard Disc Plow—For Small Tractors.
Cunningham Land Roller and Pulverizer—ALL SIZES.
(SPECIAL TRACTOR SIZES.)

We Can Save You Money on Plows — Write Us

Spalding-Robbins Disc Plow Co.

MANUFACTURERS

625 MARKET ST. SAN FRANCISCO

Sandusky Tractor, Model E, 15-35, working on the Wm. H. Carter ranch, Neenach, Cal.

Some young orchards in the cool district of El Dorado county are looking exceptionally good, due, for the most part, to the efforts of a hard-studying orchardist of that community, E. P. Rose.

A special dispatch to the San Francisco Chronicle says that the California Prune and Apricot Growers' Association is being outbid by the independent packers who have not affiliated with the Growers' Association. The Association's selling price to the dealers in the East is on a 6 cent basis. The big packers are offering 6½ cents to the producers in the Santa Clara valley.

Have You Enlisted

in the fight to overcome the great world food shortage?

Do you want to "Do Your Bit" by making every acre of your land produce its utmost? If so you must feed your soil, i. e., increase the available supply of the elements required by your crops.

GOLD BEAR FERTILIZERS

are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

LET OUR FERTILIZER DEPARTMENT HELP YOU SOLVE THE PROBLEM OF BIGGER AND BETTER CROPS.

WESTERN MEAT CO.

SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR TRADE MARK FERTILIZERS

FOR CALIFORNIA SOILS

The harvest of the walnut crop has commenced in Orange county. Horticultural Commissioner R. K. Bishop says in orchards where walnuts are being gathered the yield of first class walnuts will run about 40 per cent normal. The seconds will be a larger proportion of the crop than last year, while taking the meats from culls of greater importance. In all, the crop will be a valuable one.

Citrus and Semi-Tropical.

Late official reports from Butte county are that the orange crop of that district will not be more than 25 per cent of normal.

Estimates at the present time place the probable Tulare county output of oranges at least 65 per cent of a full crop.

In his annual statement last week Frank Ford, manager of the Claremont Citrus Association, says that the total returns shipped by the association the past season reached $435,567, an increase of nearly $200,000 over last year's. The shipments were 542 cars of navels, 32 cars of valencias and 15 cars miscellaneous.; total 590 cars. The average price of navels was 84 cents per loose box.

Grapes.

Buyers in the field for Eastern men are offering $12 per ton for second crop muscats.

The grape movement is now on and the reports from all counties indicate a very heavy crop of table grapes.

Grape picking has begun in Kings county. Thompson seedless will be the first to be picked, followed by muscats.

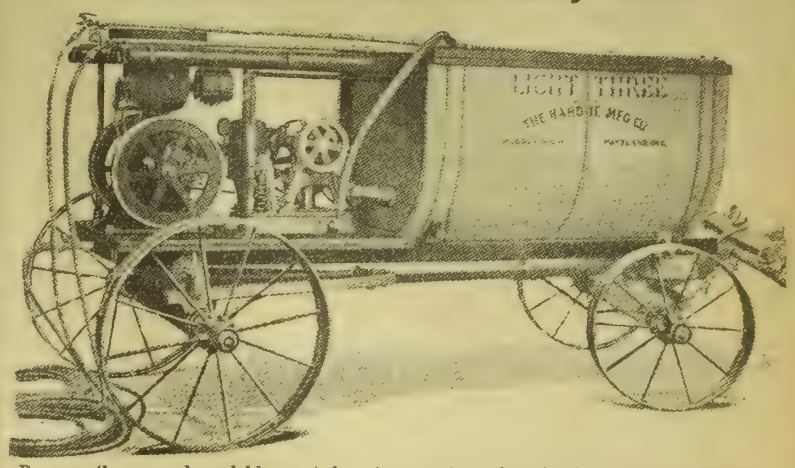
The C. F. C. A. Cannery at Hanford will can grapes for the first time this season. It will mean the extension of the season until September 25. Muscats will be the variety canned.

MONTHLY CROP REPORT.

The monthly crop report of the State Commission of Horticulture, dated September 8, shows no variation in almond estimates from the report for August, in the principal producing sections. Apple prospects are the same except a 10 per cent improvement in Sonoma, where harvesting shows a 90 per cent crop. The Fresno fig crop has been reduced to 90 per cent, but Merced and Tulare still report full crops. The lemon prospects seem to be improving, as Los Angeles reports 60 per cent; Orange, 80 per cent; Riverside, 30 per cent; San Bernardino, 10 per cent; San Diego, 60 per cent; Ventura, 10 per cent; Santa Barbara, 75 per cent; Fresno, 90 per cent; Tulare, 80 per cent; Sacramento, 100 per cent, and Santa Cruz, 75 per cent. Olives in Butte seem a little better, the same in Los Angeles, but not so good in Riverside and Tehama as at last report. Los Angeles orange prospects seem considerably improved. There is a little improvement in Riverside also. No reduction in peach estimates except a slight one in Tulare.

The HARDIE SPRAYER

Has Stood the Test for Many Years



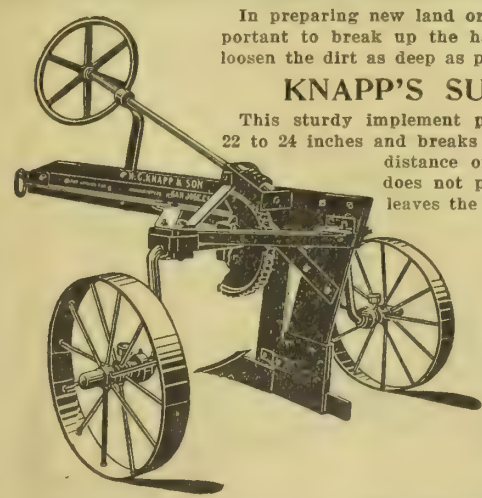
Because they are dependable, cost less to operate and maintain, Hardie Sprayers are most economical. They last longer and give more continuous uninterrupted service. This has been proven by the thousands of Hardie Sprayers in orchards all over the country, where they are saving time and labor and are helping to produce highest grade fruit.

If you buy a Sprayer you want the best that money can buy, and from a company that is reliable and dependable. WRITE FOR 1918 HARDIE SPRAY BOOK TODAY, it will tell of this modern, dependable sprayer. With the new modern spray gun that will interest every fruit grower this will be demonstrated at the Tractor Show, Los Angeles.

Hardie Manufacturing Co.

Portland, Ore. — and — Los Angeles, Cal.

Breaks Up the Plow-Pan



In preparing new land or cultivating old land it is important to break up the hard-pan and plow-pan, and to loosen the dirt as deep as possible. This you can do with

KNAPP'S SUB-SOIL PLOW

This sturdy implement penetrates to a depth of from 22 to 24 inches and breaks up the dirt for a considerable distance on each side of the point. It does not pack the sides of the cut, but leaves the soil free and loose.

For CULTIVATING ORCHARDS

Knapp's Subsoil Plow is invaluable in the orchard. A subsoil cut between the rows enables the water to reach the roots of the trees. Only a small percentage of water can penetrate the plow-pan that results from ordinary plowing.

CAN BE ATTACHED TO ANY TRACTOR

We are now offering an extra heavy type for use with the more powerful engines. Equipped with Ditcher Attachments, the Knapp Subsoil Plow makes digging of ditches a simple matter. Equipped with Gopher Attachment, it leaves a 6-inch drainage opening 2 feet below the surface.

WRITE FOR OUR PLOW CIRCULAR.

H. G. KNAPP & SON, *Plow Manufacturers*

1036 So. 1st St. SAN JOSE, CAL.

PIPE

For Every Purpose NEW Threads & Couplings Hot Asphaltum Dipped

Second Hand and NEW

Fittings and Screw Casings Valves Guaranteed for Pressure

Pacific Pipe Co.

MAIN AND HOWARD STREET, SAN FRANCISCO, CAL.

LIME FOR LAND

HYDRATED LIME OR GROUND LIME ROCK

Free Booklet and Prices on Application.

PACIFIC LIME and PLASTER CO.

330 HOLBROOK BLDG., Manufacturers, SAN FRANCISCO

Power on the Farm

(Continued from page 261.)

TRACTOR CULTIVATES LEMONS.

[Written for Pacific Rural Press.]

A little track type tractor pulled a double disk set at an angle of 170 degrees down a row of lemon trees in adobe soil on the Leffingwell ranch in Los Angeles county last spring and turned into the next row with no difficulty, keeping the disks next to the trees. The trees are 24 feet apart. The ground was hard and dry on top, but the disks were turning up moist earth. They cut only two or three inches deep, and did not turn the ground over much, but the 30-14 tractor could as well have pulled the disks weighted heavy enough to cut deep. In the soft or loamy spots, it left the ground in fine shape, but rolled over the harder spots.

CLEARS TRASH OUT OF CULTIVATOR FROM TRACTOR SEAT.

In cultivating their orange orchard in Orange county, Anderson and Walker use a small tractor and goose-neck cultivator. The side of the goose-neck running next to the trees often gets filled with sticks, leaves, etc. It would take valuable time to stop the tractor every time and get off to take the brush out. So they have put a six-foot handle sloping backward and upward from its back edge. A rope from the top end of the handle to the tractor may be pulled any time by the operator, pivoting the goose-neck on its front side and allowing the trash to drop off without stopping the tractor.

This International Harvester Co. tractor is pulling 15-plow bottoms with no side draft. The big wide wheels do not injuriously pack the soil.

EXHAUST KILLS SQUIRRELS.

Squirrel killing by automobile is successful, according to the experience of Jess Epperson of Fresno county, who burned coal oil in his Ford and put a hose on the exhaust which led the gas into squirrel holes. He had men to cover all holes where smoke came out.

OIL ENGINE TEST.

Merely pumping water from the sump, where the load is light, is not sufficient demonstration to allow the power user to intelligently judge the merits of an engine. To show an engine under various loads, and at the same time prove its rated H. P. and fuel consumption, the Victory Motor Co. of Niles, have arranged to run one of their Victory Oil Motors under an actual brake test. Such demonstrations are good. They increase our knowledge of modern machinery.

OVERHAUL TRACTORS NOW.

[Written for Pacific Rural Press.]

Though tractors should be overhauled when put away for the idle season, many are not. A rush season is just ahead now, when a break will cost prodigiously in time lost and perhaps crops lost by lateness of preparation. Now, before that rush season, twenty dollars worth of time spent overhauling the tractor may, and in many cases will, save hundreds of dollars that otherwise would be lost later on.

USE GASOLINE AND DISTILLATE DISCREETLY.

[Written for Pacific Rural Press.]

"If you use too much gasoline in priming a tractor, you wash out the cylinder oil and can't start so easy as if you had used no gasoline at all," said the engineer on T. T. Miller's Imperial county ranch. "Washing valves with distillate is bad because it leaves a white sediment after the oil evaporates. Kerosene cleans off the carbon and leaves the valves in fine shape."

LABOR SAVED BY AUTO TRUCK.

[Written for Pacific Rural Press.]

It was on the road to Sacramento that we saw a huge auto truck carrying 200 large lug boxes full of peaches to the canneny and hauling a four-wheel trailer containing 148 lug boxes. It was making better speed than horses, with less bumping of the fruit and less dust raised, and the number of drivers required to haul that crop was cut at least in half.

"Common people" means a great block, upon which some men stand to reach persimmons.

The WATERLOO BOY Tractor

GATHERS DOLLARS FOR THE OWNER

Because—

It is Made Right
Stays Right, Works Right
Priced Right, Is Right
Does the Work
of Eight Big Horses

on 15 gallons of Distillate and 2 quarts Cylinder Oil per day. Has 24 H. P. on belt pulley. 10 year old boy in Imperial County earns $25.00 per day with a Waterloo Boy. Lowest upkeep costs—greatest efficiency. See Los Angeles Demonstration, September 18--22, or send for Catalogue.

W. L. Cleveland Co.

207 North Los Angeles Street
Los Angeles, Cal.

THE SANDUSKY TRACTOR

"THE LITTLE FELLOW WITH THE BIG PULL"

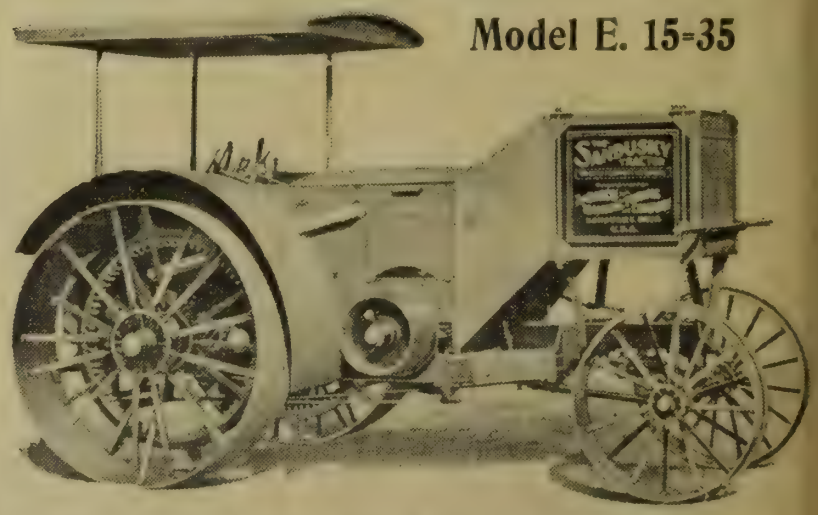
We Will Exhibit

and demonstrate Model E and J, Sandusky Tractors, at the Tractor and Farm Machinery Demonstration starting September 18th and continuing for five days, at VAIL RANCH.

Watch Closely

the work of these sturdy built, efficient tractors. Compare them with every other tractor on the field. At this demonstration, you will have the opportunity of judging for yourself, the tractor best adapted to your needs, and we wish to urge you in good faith, to make your selection of a tractor wisely. Use good business judgment—try to look five or ten years ahead, and see what the chances are for this transaction having proved a source of real satisfaction and profit. Don't fail to attend this demonstration, the greatest of its kind ever held on this coast.

Model E. 15-35



The Dauch Manufacturing Company

216 N. Los Angeles St., LOS ANGELES CAL.

Why Milk Prices Advanced

[Written for Pacific Rural Press.]

Dairy feeds have increased 50 to 100 per cent in price and many of them are hard to get at that. It is little wonder that the well-organized city-milk producers of the San Francisco bay district found it necessary to get more for their milk or to go out of business. Some of them are going out even after getting a contract for increased price September 1, 1917. They asked 30 cents per gallon, whereas they had been getting 18¼ cents. The contract was made for September, October, and November at 25 cents. The Associated Milk Producers, Inc., according to Secretary F. X. McGuire, contracted for a period of two years to furnish to the Milk Dealers' Association of San Francisco a stated minimum amount of milk the year around, and all additional that they may want on fourteen days' notice, the price to be fixed every three months by a committee of three representatives of each organization, who, if they wish, may choose a seventh member from one of several public bodies, such as the University, State Dairy Bureau, Health Department officials, etc.

As to the price fixed September 1, both sides were agreeable, but neither is satisfied. The dealers had to pay enough more to seem to justify an increase in consumers' prices and thus shift the increase, while the dairymen got a substantial increase. Both sides are unanimous in desiring a thorough personal investigation and appraisement of dairymen's investment and costs of production by the U. S. Department of Agriculture, probably through the Food Survey Bureau.

PRICE JUSTIFIED BY VALUE.

The dairymen and dealers alike are confident that they will be enabled to get better prices when the facts are found by an impartial investigation and presented to consumers. That the present increase to 12 cents per quart delivered to the consumer ready to use is not out of proportion to the relative value of milk as compared with some other foods is indicated by University figures. According to Professor Agnes Fay Morgan of the Household Science Department of the University of California, the energy and growth value of a quart of milk equals that in 13 ounces of round steak costing about 20 cents; ten ounces of white bread, three and one-fifth ounces of butter, eleven eggs, 17½ ounces of fresh salmon, six ounces of cheese, seven ounces of beans, six ounces of sugar or oatmeal. Listen to what the Professor adds, "As a building material for growth of children, and to maintain the repairs of the mature human body, milk is superior to practically all other foods in protein or flesh-forming materials and in mineral content. Sixty per cent of milk protein is actually used, as against 20 to 25 per cent of that in wheat, corn, or oats." Prof. M. E. Jaffa of the University of California says: "As protein of animal origin (meat, milk, eggs, and cheese) is found to be more valuable for growth than protein of vegetable origin (peas, beans, wheat, corn, rice), this group is doubly important, especially to children." When these facts have been impressed on consumers from Government authority, they will be more willing to pay prices for milk which will enable dairymen to stay in business.

INVESTIGATED COST OF PRODUCTION.

The producers base their confidence in favorable findings by such an investigation on their own investigations completed in mid-August. They sent a three or four-page list of questions covering every phase of the cost of milk production to about 30 representative dairymen, who seemed to be keeping financial records. Of the answers to these, a dozen were selected from dairymen in Alameda, Marin, San Mateo, Santa Clara, Solano, and San Joaquin counties, the detailed figures, especially on estimated values, are very conservative. These have not yet been entirely summarized, but the average cost of production, figuring last year's feeds, stock, etc., at prices prevailing August 1, 1917, including pay for all labor, water, depreciation on buildings, mature stock, implements, etc., interest on investment, insurance, feed, etc., was shown to be 30.44 cents per gallon, but varying from 22.99, where valuations were given particularly low on a well-equipped Santa Clara dairy where all feed is raised, to 38.22 cents on a San Joaquin dairy where all feed is also raised. The average production on the eight dairies already summarized was about 6,000 gallons per cow per year.

THE ASSOCIATION BUSINESS.

The Producers Association includes 180 members producing milk around the bay who have agreed to furnish a given amount per day throughout the year to the Association at a stipulated price. The Association sells the milk to the best advantage, and after deducting three-fourths of a cent per gallon for its own operating expenses in handling surpluses, disposing of products, office force, etc., and whatever losses may occur, and after paying 5 per cent dividends on the $85,000 stock required to equip their plant and finance the business, whatever surplus remains is distributed to the producers, who are themselves the principal stockholders. The Association takes all the milk produced by its members; and whatever surplus is found from day to day is churned and the grower paid at butterfat rates. The Association can do this to much better advantage than individual producers or dealers. When the surplus becomes great enough, their cheese factories in San Francisco, Santa Clara, or San Joaquin counties are fully prepared to use it.

King Pontiac Netherland Segis

By King of the Pontiacs and out of a great daughter of King Segis Pontiac

TOGETHER WITH SIXTEEN OF HIS DAUGHTERS

will be only one of the star attractions at the Southern California Holstein Breeders' Sale at McClure Farm

Santa Ana, California
October 16th-17th, 1917

Among the other stars will be a great 28-pound cow and three of her daughters; cows with both official and semi-official records; a granddaughter of Rag Apple Korndyke 8th; a granddaughter of Tilly Alcartra; richly bred cows and heifers bred to some of the greatest bred bulls in the south, making up an offering of

150 Head Registered Holstein Cows, Heifers and Bulls

This sale embraces the absolute dispersal of the herds of Ernest Otto McClure, Santa Ana; A. Satterberg, San Jacinto; and P. H. Jarrett, Lancaster; and choice consignments will be made by McAlister & Sons, Chino; Santa Anita Rancho, Santa Anita; Aro Herd, Buena Park; and R. Nadeau, Saugus.

Individual tuberculin test certificate with every animal over six months of age.

The Highest Record Bull ever Sold at Auction in California

will be in this sale, and he is a son of the 36-pound junior 3-year-old Miss Valley Mead De Kol Walker, daughter of Prince Gelsche Walker.

Watch future announcements for other bulls in this sale that are bred fit to top good herds.

CATALOG IN PREPARATION. WRITE FOR ONE.

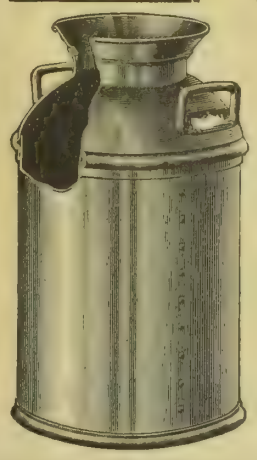
Sale under management of

California Breeders Sales and Pedigree Company
C. L. HUGHES, Sales Manager

Auctioneers—Col. Ben A. Rhoades
Harold B. Rhoades

SACRAMENTO, CAL.

DAIRYMEN—FARMERS WE ARE PREPARED



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Dairy and Creamery Supplies
Milk and Cream Coolers
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Gasoline Engines——Pumps
Boilers——Wash Sinks
Diabolo Separators

We carry a full line of Star Feed and Litter Carrier Equipment—Stanchions
Let us figure on your requirements.

Pacific Dairy Machinery Co.
58 CLAY ST. SAN FRANCISCO

Do you want long distance backing behind your coming herd sires?
If so then we have them

The first six cows that we tested for a year made the following records:

Winnie Korndyke Cornucopia De Kol	milk	31034.2	butter	1201.0
Hazel Aaggie of Oakwood Daughter	"	21208.5	"	860.9
Inka Tritomia Walker	"	21237.6	"	816.1
Princess Jetze	"	19981.8	"	786.9
Mary Acme of Oakwood	"	17977.3	"	702.9
Princess Niko Mechthilde	"	11773.9	"	620.4

An average of 20535.5 of milk and 831.2 of butter. This included one junior two-year-old, one senior two-year-old, and one junior three-year-old. Two of these being state records and one world's record for age.

Write for prices, or, better still, come and see our herd. Meet us at the State Fair.

THE J. S. GIBSON COMPANY
Box 97 Williams, California

150 REGISTERED HOLSTEINS AT PUBLIC SALE

STATE FAIR GROUNDS, SACRAMENTO, CAL.
October 30-31
Watch future announcements of this great offering

CALIFORNIA BREEDERS SALES AND PEDIGREE COMPANY
C. L. HUGHES, Sales Manager SACRAMENTO, CALIFORNIA

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

Dairy.

The Sanitary Dairy and Morris Milk Concern has purchased land for a dairy plant at Modesto.

The Halberk Stock Farm reports having sold a fine young bull to W. E. Green of Tulare.

The San Joaquin Valley Milk Producers' Association is being organized along co-operative lines.

The Associated Milk Producers, Inc., of San Francisco, are discussing the advisability of paying a man with an automobile to keep books accurately on 25 or 30 of its members' dairies.

East Newton Nellie, Imp., an Ayrshire cow owned by L. A. Reymann Estate, Wheeling, West Virginia, has just completed a yearly advanced registry record, producing 18,156 pounds milk, 774.70 pounds butterfat.

Beef Cattle.

Mr. Hawkins of the Pacheco Cattle Co., Hollister, reports inquiries for every Shorthorn bull he has on exhibit at the State Fair. Never before was the interest in bulls so pronounced.

A record price for steers was made on the livestock market in Kansas City September 4, when a carload of 17 Hereford steers sold for $16.75.

The Interstate Commerce Commission has ordered 2,500 stock cars to southwestern railroads to move thousands of head of starving cattle from the parched Texas ranges.

At Chicago last week prime longfed steers sold for $17 per hundred, a new record price, being $5.50 higher than the previous September price record of a year ago.

The 1918 harvest program for England and Wales contemplates two million acres less grass and 2,600,000 more grain, according to an official statement received here today by the Food Administration, which indicates that cattle are to be sacrificed for grain in the present emergency as a part of the governmental policy.

Bishop Bros. of San Ramon recently purchased between 7,000 and 8,000 acres of range land in Monterey county, on which they will pasture cattle that are now on their ranch near Goleta. Bishop Bros. also own a big ranch in Contra Costa county, where they keep their world record flock of Shropshire sheep.

The food administration is directing its efforts toward decreasing meat consumption, that a larger surplus of meat may be available for export. The Agricultural Department is concerned particularly with increased production and is working on a plan for shifting large numbers of livestock from the West to regions where there is more rough feed.

How the university fed and raised the steer which won the grand championship at the last international livestock show in Chicago, how calves may be raised with only a small amount of milk, and that only in the beginning; how calves may be protected against "scours," one of the chief causes of failure in raising calves in California, by proper sanitation and care in feeding—such are some of the practical things to be shown to the farmers who enroll for the short courses at the University Farm, from September 24 to November 2.

Sheep.

One thousand sheep perished recently in a forest fire which cut them off in the mountains at the head of Rock Creek, Mont.

A Stockton company is to send sheep to Corcoran, east of Visalia, where they will be fed on sugarbeet pulp from the Pengrave Sugar Works. The company will buy old sheep as well as lambs, and will operate mainly in the San Joaquin valley.

F. P. Wray of Davis has recently purchased 30 registered yearling ewes and a yearling ram from the Walnut Hall Stock Farm at Donerail, Ken. This should form the nucleus of one of the best Hampshire flocks in the West. The Walnut Hall Farms are noted for having the largest and best stud flocks of Hampshire sheep in the United States. Mr. Wray will run these sheep on his farm near Davis, and Hampshire breeders will be interested to see them. They are all from imported stock.

Horses and Mules.

Two carloads of mules were shipped from Stockton last week to Imperial valley for the Tamarac Ranch—an immense holding near the Mexican border, which is being brought under cultivation. As many mules as can be procured will be shipped south. Nothing has been found to equal them in pulling the Fresno scraper.

Miscellaneous.

The Janss Investment Company of Los Angeles, owners of the 5,000-acre Canejo ranch in Ventura county, shipped to the State Fair for exhibition last week a car of purebred Hampshire and Duroc-Jersey hogs.

The second annual Livestock Show and Exposition of Stanislaus county, to be held soon, has secured Prof. O. E. Reed of Manhattan, Kan., to judge dairy cattle, and R. M. Miller of Davis is expected to be the judge of swine and sheep.

California buyers at the late ram sale at Salt Lake City were as follows: Chas. Cook of Hayward, Hampshires and Rambouillet; University of California, Davis, Hampshire ram; Salz & McInnes, Red Bluff, Hampshire and Lincolns; R. C. Turritier, Constantia, Rambouillet and Cotswold; H. A. Christensen, Rio Vista, Rambouillet; F. P. Wray, Davis, Hampshires; Bullard Bros., Woodland, Rambouillet; C. K. Swingle, Davis, Shropshire; J. W. Marshall, Dixon, Shropshire.

Waterloo Boy Tractor, furnishing power for Bean Thresher in Orange county.

Western Electric
Labor Saving
Farm Light and Power Plant

Electricity on the farm brings more than safe, bright lights; it brings a farm hand that never sulks or grumbles, one that will work 24 hours a day, every day in the year—a hired man that will never quit.

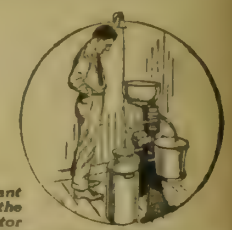
You talk about the scarcity of good farm labor. Consider this: electricity will turn the grindstone, the cream separator and the churn, without a pause for dinner or a stop for sleep. It will clean the house, wash and iron the clothes, wash the dishes, cool the home, and do a score of other irksome household tasks. *It's better than the best hired help you ever had!*

And you can get electricity easily. You can buy a Western Electric plant and use your own gas engine to run it. It's as easy to take care of as the Western Electric farm telephone in your home. Back of it is 40 years of electrical experience, a national distributing organization with stocks in 35 cities, and an agent in your territory.

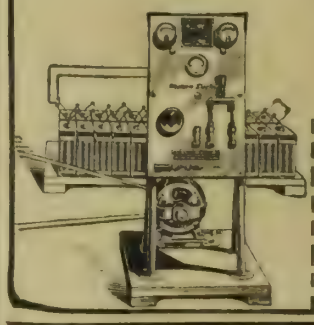
When you buy a Western Electric Plant you can get Western Electric lamps, motors, pump, cream separator, iron, washing machine, vacuum cleaner—in fact, almost every kind of electrical appliance built especially for this service. Have your whole electrical outfit a Western Electric.

Just mail the coupon for a copy of "Brightening Up the Farm"

Running water upstairs and downstairs with an electrically driven pump.



The constant speed of the electric motor means better separation of the cream.



WESTERN ELECTRIC COMPANY
INCORPORATED
84 Marion St., Seattle, Wash.
680 Folsom St., San Francisco, Cal.
EQUIPMENT FOR EVERY ELECTRICAL NEED

WESTERN ELECTRIC COMPANY:
Please send me illustrated booklet, No. PRR-8 "Brightening Up the Farm."
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"HEADQUARTERS"
FOR WOOD PIPE AND TANKS

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WINE TANKS
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WATER TANKS
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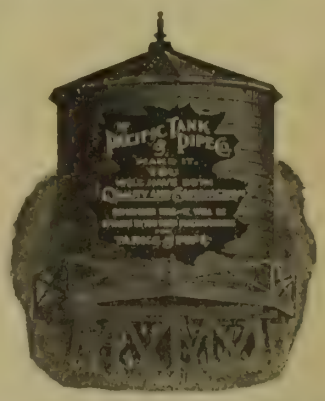

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Pacific

PACIFIC TANK and PIPE CO.
Factories and Offices:
15 Pine Street, SAN FRANCISCO, CAL.
19 Trust and Savings Bldg., LOS ANGELES, CAL.

At the last monthly meeting of the Napa County Livestock Association in St. Helena, it was decided to take $100 out of the treasury and divide it into five prizes to be awarded at the coming County Fair, as follows: For best exhibit of sheep, $20; for best exhibit of dairy cows, $20; best exhibit of beef cattle, $20; best horses, $20; best hogs, $20.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

Poland-Chinas.

EIGHT SPLENDID FALL BOARS ready for service. Twenty spring boar pigs for sale at private treaty. Twenty of grandest Poland China sows ever sold in California go in the breeder's sale held October 19, Hanford, from the "100 head sell." W. Bernstein, Hanford, Cal.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

SLATTERY MAMMOTH POLAND CHINAS.—Bred right, Fed right, Priced right. Pedigree and registration given with each animal. W. J. Slattery, Finley, Lake county, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend Sts., San Francisco.

A-1 BERKSHIRES.—Herd boars Winona Royal Champion and Charmers Star Masterpiece. Best blood lines. Immunized stock. Ayrshire cattle. Arlington Smith, Visalia.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 third. Prices $20 and up. Haden Smith, Woodland.

DUROC-JERSEY BOAR for sale; two years old; from Kansas; an excellent sire; registered; $50; cost $100; object, change blood. Also, two Berkshire sows and pigs, registered. Jersey Queen Farm, San Jose, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

RANCHO RUBIO DUROCS—Nothing to sell at present; a fine bunch of gilts and a few extra good service boars for this fall. Elmer Lamb, Ceres, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first-class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

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BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

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REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

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REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto, Cal.

REGISTERED HOLSTEIN CATTLE—E. E Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

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Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

18th ANNUAL CONVENTION
California Creamery Operators Association

PETALUMA
OCTOBER 4th, 5th and 6th

A very interesting and instructive program has been arranged. Some fun will be provided, too.

Addresses by experts in all branches of creamery and dairy work and cheese making.

We invite all creamery men, cheese men and dairymen. Take a few days' rest and make the acquaintance of the other good fellows in your line of work.

Bring the ladies. Special program for them.

Complete program will be published in this paper.

Reduced rates on all railroads. Ask your agent for a receipt when you buy your tickets and tell him you are going to the Creamery Operators Convention.

OFFICIAL HEADQUARTERS

Continental Hotel = Petaluma

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

JERSEY BULLS—Sons of Gertie's Lad and Gertie's Son's Victor. A. A. Jenkins, Tulare, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

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PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

FOR SALE—Young pure-bred Guernsey bull sired by the famous Raymond of the Preel Box 750, Pacific Rural Press.

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NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices Le Baron Estate Company, Valley Ford, Cal.

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AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

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REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

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REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

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SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

J. R. BLOOM—Breeder of Shropshires. Yearling rams for sale. J. R. Bloom, Dixon, Cal.

WANTED—75 to 100 high-grade Angora goats, not over three years old. J. A. Swall, Bishop, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

HORSES AND MULES.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P.-P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

FOR SALE—25 head of Holstein high-grade dairy cows, average test 37; 30 head of heifer calves from 6 months to 12 months of age out of my best cows sired by grandson of King Segis (Earl Segis Pontiac) No. 131768; 1 lot of registered mule-foot brood sows and barrows (prize winners at State Fair in 1916); Percherons: 3 colts coming 3 years, 2 brood mares, 2 suckling colts, 1 horse 4-year-old, 1 mare 5-year-old; 1 Taylor recording thermometer (used 3 months); 1 improved Haugdahl starter can, 30 gal. capacity, arranged to use recording thermometer (used 3 months); 1 4-H. P. upright steam boiler and smoke stack; 1 500-gal. distillate tank (galv.); 1 distillate burner; 1 ice breaker; 1 buck rake. Beckman Bailey Dairy Farm, P. O. Box 37, Lodi, Cal. Phone 22F5. H. T. Bailey, manager.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal—the best California calf raiser. Geo. H. Croley Co., Inc., 8th and Townsend Sts., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FREE FEED FOR STOCK—Acorns for hogs, grass for cattle and sheep; get State and Government land; new booklet free. Joseph Clark, Sacramento.

Present-Day Dairying at San Luis Obispo

[Written for Pacific Rural Press.]

"The best, or one of the best, handled dairies in San Luis Obispo county," is the way State Dairy Inspector Sloan characterized the outfit of Mrs. M. G. Lima, now being carried on in connection with her sons-in-law, J. Pereira and M. Garcia. We found this dairy far in advance of others we had seen, and the equal of almost any in the State. It is the outgrowth of Mrs. Lima's thirty-five years' dairy and butter-making experience.

SUCCULENCE THE YEAR ROUND.

One of the most advanced features is their system of supplying succulence the year around and having their cows freshen the year around in a county where practically all the dairy cows go dry in July, when pastures dry up. Alfalfa is scarce in San Luis Obispo county, but the "Garden Dairy," as the ranch is called, was cutting the third crop without irrigation late in July. They have forty-five acres of alfalfa, located back of the buttes beside San Luis Obispo, and its growth has been so good that an irrigation plant was being installed while the writer was there. This consisted of a five-inch pump for three wells and cement underground distribution pipe. While fresh alfalfa is available, it is fed green, being hauled two and a half miles to the home ranch. It is allowed to wilt on the ground a day or two before feeding. One load is enough for both night and morning.

SILAGE HELPS OUT.

The second silo in that country is the one on the Garden Dairy. The first is that of E. B. Spooner, twelve or fifteen miles away. The Lima silo furnished rich succulence last season for forty cows from before Christmas until the middle of July. They have about thirteen acres of Indian corn now growing, with which they intend to fill it again. The silo is of cement, 16x36 feet, holding 155 tons. Dry alfalfa hay is fed with the silage. When neither silage nor fresh alfalfa is available, beet pulp and bran are fed with alfalfa hay. Two sacks of beet pulp are given in each feed twice per day.

WINTER MANAGEMENT.

Milking cows are corralled in a large alfalfa pasture which is cropped pretty close, but does not get muddy. They are kept in the barn for milking only, except in stormy winter weather, when they are kept in at night and turned out only from about 9 a. m. until 2 p. m. Gravel is spread around the entrance to prevent mud holes, and the loose dry dust from this is scraped off once a year. Dry stock is kept on hill pastures, being transferred from one to another as the feed gets short, so they are generally in fine condition at calving.

BARN AND FEED ARRANGEMENTS.

The dairy barn and the milk house are the pride of their owners. The barn has cement floors and side walls two feet high. It is 90 x 35 feet, having a line of cows along each side facing a wide center aisle through which a hay rack load of fresh alfalfa can be hauled and distributed to both mangers at once. Silage and beet pulp are distributed the same way from a car which runs down the center aisle. Convenient, comfortable patent iron stanchions are used. The mangers are lifted up by sections twice per day to clean them out. Cattle may be watered in the barn in the cement troughs at the bottom of the mangers, and the surplus drained away. Water faucets under pressure from the tank over the milk house furnish water to wash out the barn as soon as the solid manure is disposed of by patent manure carriers. This is done as soon as cows are turned out, the manure being carefully ricked to avoid its waste. Eight windows on each side and four on each end furnish daylight. Electricity furnishes night light to all parts of the barn and dairy house. Covered milk buckets are used after cows' udders are wiped with dry cloths in summer and washed off in winter.

UP-TO-DATE DAIRY HOUSE.

The dairy house is equipped with an electrically-run separator, bottle washer, etc. Milk and cream are bottled with a small machine, about two dozen bottles at a time. A steam boiler furnishes heat for bottle and utensil washing and sterilization. The Babcock tester is soon to help them choose the cows to keep and from which to raise calves.

Milk enters the dairy house by a pipe through the wall, having been strained into a hopper through a cloth outside. It runs over a cooler and directly into the bottler tank. It is delivered in town twice per day, retailing at $2.50 per month and some of it going in quantities to a restaurant. Cream also is sold.

Calves are raised on skim milk, and pasture after being weaned. They had access to bean straw until it was found to be scouring them. Bean straw seems all right for other dry stock.

HIGH BREEDING SOUGHT.

The cows are mostly of rather refined but medium heavy type, mostly Durham and Holstein blood. A purebred unregistered Holstein bull is now used, but not long hence a registered Holstein will be obtained. This is evidenced by their pride in Lady Canary Pride, a registered heifer brought from the East, and her calf, sired by a registered bull and dropped late in March. An extra stimulus to high breeding will surely come when the cows are judged by the Babcock tester, as we have seen in other herds of the State.

YELLOW DENT PREFERRED FOR SILAGE.

Yellow Dent corn for silage was planted in mid-May, aiming to get it four or five inches apart in the row. It was tasseled at about 5½ feet tall, with some silks showing late in July. A corn binder is used in harvesting it.

The Cleveland Tractor sees no use for any wheels at all. It is a new one in the West.

Hembree Jersey Herd Dispersion Sale

ORLAND, CALIFORNIA, OCTOBER 10, 1917

One of the herds that make Oregon a leading Jersey State. The Oregon Jersey herd best known in California—shown at Sacramento, 1915 and 1917. 46 bulls, cows and heifers to be sold to highest bidders. Individuals rich in blood of Champion Flying Fox through the great show bull, Undulata Prince; Noble of Oaklands through his sons, Noble Peer and Rochette's Noble; Oxford Lad through Stockwell, the $11,500 bull. An outstanding conformation and production Jersey herd.

PLACE, ORLAND
TIME, OCTOBER 10

Send today for catalog with full particulars.

C. P. HEMBREE, Owner
MONMOUTH, OREGON

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
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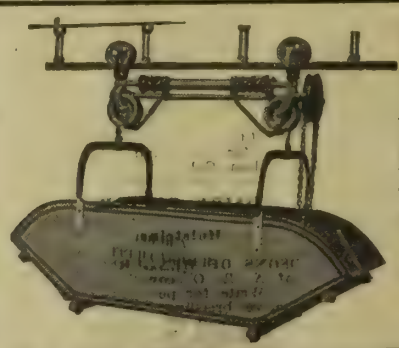

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$67 FEED CARRIER OUTFIT can be furnished in connection with above Litter Carrier Outfit.

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California Hydraulic Engineering & Supply Co.
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SAVE YOUR CALVES

Raise Them Without Milk

Why throw away money by knocking them in the head or selling them for a dollar or two at birth when they can be raised or vealed WITHOUT MILK at a fraction of the cost of feeding milk. You profit both ways selling the milk and still have the calves.

The Best Milk Substitute to Use is

Ryde's Cream Calf Meal

the most successful milk substitute on the market—the standard of perfection. Thousands of farmers are using it and cannot say enough for it. It is NOT a stock food—it's a complete food that long experience has proved to be right for rearing calves. It contains all the nutrition of milk prepared in the most digestible form and is sold on a money back guarantee to give results.

BOOKLET "MILKLESS CALVES" FREE

100 lbs. equal to 100 gallons milk—Try it on your calves.

Watertown, Wis. June 18th 1916
Ryde & Co., Chicago Ill.
Gentlemen:—Above is a picture of our 4 months old calf which I fed on Ryde's Cream Calf Meal. I followed your instructions closely. The meal was the best. (Signed) Alvin Beck

GREAT WESTERN MILLS, LOS ANGELES

Doubles Range Capacity and Adds to Grain Yield

[Written for Pacific Rural Press by Frank C. Clark.]

Complying with the request you made last month, when you visited my camp on the Cammatto Ranch, one of the D. O. Mills Estate properties, located in San Luis Obispo county, I submit the following, that may help the California stockman to double the stock-carrying capacity of his ranges. By way of introduction, I may state that I am an experienced California farmer and stockman, familiar with conditions as they actually exist on the average California ranch. At a cost of 25 to 50 cents per acre, the grass yield in a normal rain season can be more than doubled both as to tonnage and as to feed value. The feed value is increased through more prolific seeding, with tenfold better chance of well matured seeds, which constitute, as any thoughtful stockman knows, the fattening quality of the native grasses. The same rule applies with greater assurance of feed in proportion, when the rainfall is short and weather conditions unfavorable. Light rains and prolonged period of drouth, adverse winds, creating rapid evaporation, being the rule in dry seasons, our ground in California is always over-supplied with an abundance of seed. In consequence, the stand of grass is invariably good, too thick, in fact, for the amount of rainfall. Hence, if 80 per cent of the young grass be destroyed by cultivation at this stage of the game, the remaining 20 per cent has the benefit of all the moisture in the ground, with the mulch or loose soil to assist in preventing evaporation, and with a much better chance to mature. Again, when the evaporation is reduced by cultivation, the chances are good that enough moisture will be conserved to tide over a period of drouth without materially weakening the plants or hastening their maturity to a point where the next rain would not revive them, and will allow a normal seeding to take place. Invariably it will be found that the difference in the height of grass on cultivated or uncultivated ground is so apparent that it seems almost ridiculous to advocate cultivation, as, for instance, alfilaria three inches high without matured seed on uncultivated, as against twelve inches high with plump seeds on cultivated ground. Wild oats will make a two or three foot growth, against six or eight inches on uncultivated land.

The same rule applies to fields of grain. It has been estimated that each harrowing of a growing grain field when needed adds one sack per acre to the yield; yet the California farmer who practices it is the exception. Although the idea of cultivating range land in order to make it produce more and better grass is a new one, it will prove very effectual, and it would seem the time is opportune to put it in practice, when prices of all livestock are high and our Government is requesting its citizens to use every effort to increase production.

Winter-Grown Peas for Silage

[Written for Pacific Rural Press.]

Canadian field peas grown as a winter cover crop in the orchard have been used for silage several years on the Sorosis ranch in Santa Clara county, where they milk about thirty-five cows all the time. Last year the vines were put up too green and juice ran out of a low crack for a week after filling the silo. The silage was too acid and the cows did not like it so well as this year. The peas became nearly ripe last spring before they were cut, partly on account of the dry weather. Many were completely ripe. The silo was half filled with these vines, after which the cooling water from the engine was run into the blowpipe. No juice drained off. The cows relish it and produce well.

Canadian field peas, known also as Niles peas, should be planted about 80 to 100 pounds per acre and as early as moisture can be obtained and maintained. Good top growth is very desirable before cold weather. Mr. Abernathy grows them as winter cover crop in the orchard and mows a ten-foot strip through each center between tree rows for silage, leaving the rest to plow under as green manure.

HOGS CLEAN UP ORCHARDS.

[Written for Pacific Rural Press.]

Hogs are turned into the prune and peach orchards of the Swall Land Company in Tulare county as soon as the fruit is off, with benefit to the hogs, trees, and grain supply. Rejected fruit thus has little time to infect the ground with fungus and breed insects; but it makes good pork. The hogs clean up Johnson grass and stir the ground at just the time when moisture should be conserved. They rub and break young trees, but do no injury to those over two years old and do not gnaw any or otherwise damage the stand.

BREEDING-SOW QUALIFICATIONS

"I have been in the game long enough now so that I know the type of hogs I want; so I am culling out the old sows," said Dr. J. A. Crawshaw of Hanford recently. "I see now which sows are in the best condition, which have the best litters and suckle them without getting poor, which are the best feeders. Those qualities along with proper type, will be the foundation of my herd of the coming days."

EIGHT PIGS ENOUGH.

Eight pigs per litter are enough for a sow to have and raise, thinks Dr. J. A. Crawshaw of Hanford. He has two sows that farrowed eleven each last spring, but three in each litter were not much good. Three sows farrowed ten each, one farrowed nine, and one, eight.

Shorthorns

Paicines Ranch Co.

Offers for summer and fall delivery both registered and unregistered weanling bull and heifer calves.

For prices and particulars apply to

DAVID J. STOLLERY

320 Sharon Bldg.

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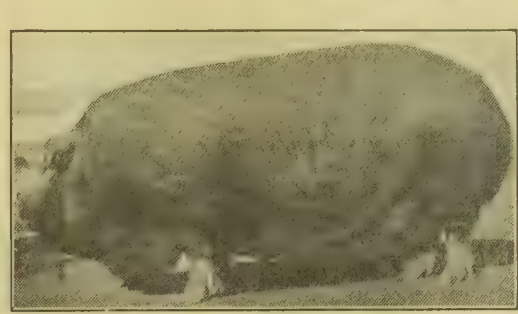


GRAND CHAMPION SOW, P.-P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.

Young stock, $30 Up.

M. BASSETT, Box 1, Hanford, Cal.

SCOTCH SHORTHORNS

We have just purchased the entire herd of shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

CARRUTHERS FARMS, == MAYFIELD, CAL.

City Address: Hearst Building, San Francisco, Telephone Sutter 1311

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED.
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

BULLS = Shorthorns = HEIFERS

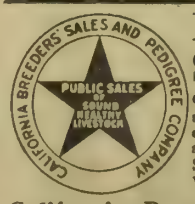
REGISTERED AND TUBERCULIN TESTED.
Animals of either sex ready to deliver in car lots or singly.

H. L. & E. H. MURPHY, Perkins, Cal

Hauser's Digester Tankage

GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.

Hauser Packing Co. Los Angeles



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35 years in this business. I sell direct to the consumer. You act as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.

R. F. WILSON, Stockton, Cal.

TAMWORTHS

(The Bacon Hog)
Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

Shorthorn Breeders' Meeting at State Fair

[Written for Pacific Rural Press.]

Among the many outstanding features that distinguished the present successful session of the State Fair at Sacramento this year was the very enthusiastic meeting of the California Shorthorn Breeders' Association, held at Sacramento on the evening of September 10. As Prof. John T. Caine expressed it, "it was the finest and biggest Shorthorn show ever staged in California."

The State Fair Shorthorn exhibit included over 100 magnificent producers of the nation's most substantial food.

Some fifty Shorthorn breeders and their ladies assembled, under the supervision of David J. Stollery of the Paicines Ranch, and did full justice to a sumptuous banquet, which preceded a cinematographic parade of the Chicago International, held last year, where over 500 Shorthorns were exhibited in the breeding and individual steer classes.

Interesting and pertinent addresses were made on this memorable occasion by Prof. John T. Caine, B. A. Cowan, a Shorthorn breeder of twenty-one years' standing; President A. W. Foster of the California Shorthorn Breeders' Association; J. W. Kavanaugh of the Livestock Department of the State Fair; T. T. Miller of Los Angeles; Frank Brown of Carlton, Ore., and others. The lateness of the receipt of this report at the publication office precludes the possibility of epitomizing the addresses made, which were highly appreciated.

Senator Benj. F. Rush, who has attended every State Fair but one in the past fifty years, and who has been in the business of breeding Shorthorns since 1868, declared the present show the finest ever held at the State capital.

SHORTHORN BREEDERS' SALE, PREPARATORY FOR SAN FRANCISCO LIVESTOCK EXPOSITION.

A definite step toward a San Francisco Livestock Show to correspond with those at Portland, Kansas City, Denver, and Chicago, was taken September 10 at the California Shorthorn Breeders' Association meeting in Sacramento by getting busy on plans for a sale. A committee was appointed to find a location and see what arrangements can be made; and to report at the directors' meeting next week. President A. W. Foster emphasized repeatedly that the cattle for such a sale must be of the sort the breeders did not want to sell; that there must be no underhanded scheming such as is practiced at many auctions to rope in suckers at high prices, and that everything must be aboveboard. Offerings for the sale came so freely from the breeders present that it soon became plain that there would be no lack of stock, and the attitude through the meeting was that the consignors would have to sacrifice some of their best females in order to get the project under way. Then, next year, the association could go to San Francisco business men with something to talk about in getting support for the livestock show.

RAM SALE AT SALT LAKE.

The ram sale taking place at Salt Lake City, August 28, 29, 30 and 31, under the auspices of the National Wool Growers' Association, was a great success. During the four days $225,000 worth of sheep went through the sale ring. The highest price paid was for an imported Hampshire ram consigned by Walnut Hall Stock Farms of Donerail, Ky., and bought by J. F. Detwiler of Twin Falls, Idaho, for $1,600. A Rambouillet ram consigned by John Seeley of Mount Pleasant, Utah, was knocked down at $1,325 to Del Pratt of Moneta, Wyo. Another Rambouillet ram consigned by F. S. King & Bros. of Laramie, Wyo., brought $1,300 and went to Hobbs & Gillett of Buhl, Idaho. This ram weighed nearly 400 pounds in full fleece and measured 5 feet 8 from the tip of his nose to the root of the tail, said to be the largest Rambouillet ram on record. A third Rambouillet ram sold for $1,000 and a Cotswold ram sold for $1,000.

The only consignee from California was Bullard Bros. of Woodland, and their sheep sold well. Their high-priced ram was bid in at $300 to the United States Government to be used at their experimental stud farm at Duboise, Idaho. Others sold at $200, and the Bullard range rams, fifty in all, were sold at $90 each. Hampshires were next in demand and many stud rams sold at $500 to $600 each, while range rams brought $95 to $100. Lincolns and Cotswolds also sold well.

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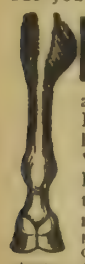

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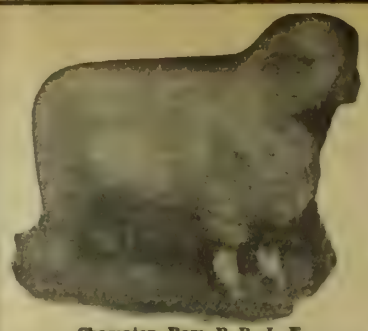

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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

THE MOLTING PROBLEM.

Just now many poultrymen and farmers are wondering whether it pays to keep the early molting hens because somebody tells them that early molting is an indication of weak laying capacity. But there is more than one side to this molting question, as to others. The fact that a flock of hens can be thrown into a molt by shutting off the food supply, or by a sudden change in temperature, change of location, etc., is proof that early molting is not, nor never can be, a true test of the laying qualities of either a flock or of individual hens, unless it occurs in a succession of two or more years, and under good treatment.

EXPERIENCE THE BEST TEACHER.

Theories, without practical knowledge, are of no use as a guide, but most poultry writers have a big hunk of theory and a small hunk of working knowledge to go on, and this confuses people who trust to what they read for information. Two years ago I went to a ranch and found a flock of pullets that had begun to lay in September thrown into a molt by a man who ought to have known better, and possibly did, but he was careless of his employer's interests and changed the feed so that the pullets practically stopped laying, to any extent, and went into a molt.

This was all wrong, because they were not hatched early enough to warrant this molt at all, and it was simply thrust on them, by withholding feed they had been accustomed to and giving them a ration that was lacking in the elements needed for continued egg production. But the mischief was done, and all that could be done was to feed well and get them over it. This he did, and he was soon convinced that the molt was not due to the hens, but to the man who fed and cared for them.

All practical poultrymen know this and do not like to change feeds suddenly, even when a feed is better than the one being used. It is better to make the change gradually.

CULL OUT THE DRONES.

This is a good time to cull out the drones, but don't condemn them just on the molt alone. All hens are not constituted alike, any more than all animals are. Some cows give milk right up to the calf-coming, but it's an open question whether she is any more valuable than a cow which dries up and lets the calf have a reasonable amount of nourishment before its birth. The milk of a cow that milks right up to calving is never fit to use, but the calf could make good use of it because it would go back into the blood and nourish it.

EARLY MOLTING DESIRABLE, IF UNFORCED.

In the case of hens molting early, if they are fed right they will molt more easily in good weather. What is more, they will be back in the laying pens just in the nick of time to produce winter eggs. But this does not mean that we should go to work and force the hens to molt by any unnatural methods. When the molt comes naturally, or from some cause we have not foreseen, then it's wise to cull out the poor layers and keep the best over, getting them through the molt as quick as possible by a system of feeding that will make feathers grow as fast as the hens can take care of them.

CHARD AND KALE FOR CHICKENS AND RABBITS.

To the Editor: I wish to raise kale and Swiss chard for chickens and want to know when they should be planted. Are they good feed for rabbits, which have alfalfa and rolled barley all the time?—E. J. F., Visalia.

If you have water, plant your Swiss chard and kale as soon as possible this month. And if you will dig in a load of poultry manure before irrigating, the growth of the chard will surprise you. But chard really does better in spring. It is not so hardy as kale or mustard. For winter eggs mustard is the ideal green feed, and it, too, can be planted now. Yes, chard and kale are fine feed for rabbits, but in feeding them it is well to leave the alfalfa out. Too much mixing of foods causes trouble with rabbits. Dandelions are a natural rabbit food; they love it and it's just as easy to grow as anything else. They are excellent preventives of disease and keep rabbits in the pink of health at all times.

DERANGEMENT OF DIGESTIVE TRACT.

To the Editor: What is wrong with the poultry here? About every ten days or two weeks an old hen dies. They begin by getting a dark-red comb, and drag along sometimes for a month, towards the end hardly able to walk. I feed them about ½ wheat, ½ oats or barley. The latter two grains are soaked and partly sprouted. They also get kitchen refuse, and all the greens they wish to eat, and have running water, shade, and all exercise needed. Also have one hen and one pullet with sore eyes. I clean house and yard about once a week. Give them ground soup bone about three times a week; charcoal once a week.—B. S., Santa Barbara.

I think you give too much soft feed and the digestive organs are out of order. See that the fowls have some good sharp grit, and add ten drops of tincture of nux vomica to the morning mash or feed for, say, twenty hens. For the swelled eyes give a few drops of benetol in a pill made with a little flour or shorts, enough to hold it together, and dip the head in a little of the same made by pouring hot water over the dark liquid, letting it cool.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

ATTEND AS MANY FAIRS AS POSSIBLE.

County, District and State fairs are institutions of learning for farmers. The farmer sees what the other fellow is doing and plans to do likewise. He goes home jubilant over the many sights in the big tents and exhibit palaces, his mind filled with new ideas on better farming. The brindle cow will soon be replaced by that dandy thoroughbred heifer that won a prize at the fair. A purebred sire will head the herd, and so on. Reuben will drive to town in a brand new automobile, the one that looked so nice in the big tent. His wife, too, will have an electric washing machine run by "juice" supplied by a farm generating system which will light up the house and barn.

By the way, the poultry flock had been neglected all through previous years. But now a flock of standard bred White Leghorns have replaced the lot of mongrels. The culls laid a mixed lot of eggs, which the lecturer at the poultry exhibit demonstrated were not desirable and brought a low price. The eggs from the show birds that won a prize at the fair are sold for hatching or shipped to private trade, in cartons.

PRODUCE INFERTILE EGGS.

SWAT THE ROOSTER.

On every hand we hear the cry, "Conserve our foodstuffs." On every farm there are a lot of worthless cockerels, and as a consequence the hen lays a lot of fertile eggs which spoil very easily. Fertile eggs cost the farmer an enormous sum each year. Farmers lose millions of dollars annually from bad methods of producing and handling eggs. Fully one-third of this loss is preventable, because it is due to the partial hatching of fertile eggs which have been allowed to become warm enough to begin to incubate. The rooster makes the egg fertile. The fertile egg makes the blood ring. The rooster does not help the hens to lay; he merely fertilizes the germ of the egg. The fertile germ in hot weather quickly becomes a blood ring which spoils the egg for food and market. Summer heat has the same effect on fertile eggs as the hen or incubator. After the hatching give the rooster the ax or confine him. Your hens, not running with a male bird, will produce infertile eggs — quality eggs that keep best and market best.

RULES FOR HANDLING EGGS ON THE FARM.

The following rules given out by the United States Department of Agriculture are simple, cost nothing but time and thought, and will add dollars to the poultry yard returns:

1. Keep the nest clean; provide one nest for every four or five hens.
2. Gather the eggs twice daily.
3. Keep the eggs in a cool, dry room or cellar.
4. Market the eggs at least twice a week.
5. Sell, kill, or confine all male birds as soon as the hatching season is over.

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

S. C. RHODE ISLAND REDS—220-egg record, bred from big show winners; breeding pens, cockerels and pullets. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; fall chicks; eggs; cockerels. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

BRONZE TURKEYS — Albert M. Hart, Clements, Cal.

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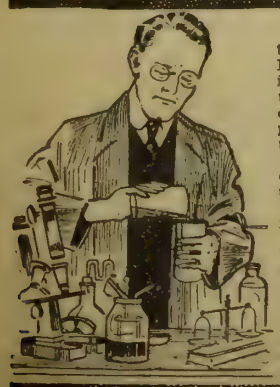
Science Says Buttermilk



Bulletin 162, just issued by the Department of Agriculture, states that Buttermilk is the only preventative of White Diarrhoea. It has been proven that many birds apparently in perfect health have these germs in their system and that they are transmittable to their progeny. Science has discovered that the Lactic Acid Bacilli of Buttermilk kills these poison germs. Write to Berkeley for this important bulletin, free.

The Dry Buttermilk in GLOBE A-1 BUTTERMILK MASH contains 10,000 live Lactic Acid Bacteria to the cubic centimeter.

Globe A-1 Buttermilk Mash is a high protein feed, free from any filler.

Globe A-1 Buttermilk Mash will prevent bowel troubles, keep your flock in glowing health, produce more eggs to market, better eggs to hatch.

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Satisfaction or Money Back.
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Write at once for valuable feeding information and sample, free.

Buttermilk GLOBE A-1 Dry Mash

THE HOME CIRCLE

Mrs. Best's Letter.

FALL FADS IN FURS AND VELVETS.

My Dear Friends: The cool days here in the bay section bring out many fall suits and hats on the streets and I was surprised to see the great number of well-dressed women wearing the new fur or velvet scarfs and capes. It looks as though they were to be the fur fad of the season.

SCARFS IN VOGUE

These scarfs may be long, in stole effect, or so short that they only join in front with a braided ornament or tie with a cord. They may be narrow or quite broad, and they may be made of marabou, fur, plush, velvet, satin or combinations of these materials. Some of them are truly scarfs, being perfectly straight, standing out from the neck at the back, while others are shaped a little bit on the shoulders so they seem more like capes.

One very good-looking one was made of an eight-inch strip of fur from which hung pleated velvet. This was short, while a very pretty long one was of velvet entirely, with a strip of gold embroidery down the centre.

VELVET EFFECTS.

Still another was of two strips of velvet with a strip of chiffon over flowered silk joining them. The ends of some of them are finished with a simple ball fringe, but most of them are perfectly plain. I did not see any of them gathered in and finished with an ornamental tassel, as was so popular a short time ago. The colors are mostly black, with a lighter lining, with a few very dark browns.

It would be quite a simple matter to make one of those scarfs at home, utilizing pieces of fur and velvet one already owned, or if preferred, those materials can be purchased by the yard.

PRETTY WITH PIECE DRESSES.

These scarfs are worn with suits, but are particularly pretty over the one-piece dress for early fall wear. The serge dress gives promise of being just as popular as ever, but satin now is rather the newest fabric for dresses. The bright shade of blue, almost like kings blue, is combined with black most effectively, either as a chiffon blouse braided in black to be worn with a black satin skirt, or as blue braiding on a black satin dress.

Many of these dresses are made with simple surplice waists and draped skirts and soft white collars and cuffs.

ROSABELLA BEST.

FRUIT VINEGAR.

Vinegar can be made in the household from many waste fruits that are not suitable for canning or jelly making.

A.—VINEGAR FROM WHOLE FRUIT.

Crush the fruit thoroughly and heat it almost to boiling. Press it out through a jelly bag or cloth while the fruit is still hot. Allow the juice to cool over night in a quiet place. On the following day add one cake of compressed yeast to each three gallons of juice. One yeast cake will be enough for three gallons but will not be too much for quantities less than three gallons. Crush the yeast up in the juice so that it is intimately mixed with it. A wooden bucket or barrel or a stoneware crock should be used. Do not use a kettle that is made of metal to hold the juice. Allow the juice to ferment. This will take about ten or twelve hours. When the fermentation is over, add to each three gallons of the fermented juice one quart of strong vinegar. If less than three gallons is made, add the vinegar in the same proportion. Leave the vinegar in an open crock or barrel, covering the container with cheesecloth to keep out insects. Allow it to stand until it is sour enough to use. In making up a second lot of vinegar after the first has been made, it will be possible merely to ferment the juice with the compressed yeast as described above and then add one quart of the home-made vinegar instead of vinegar that is bought at the store. Thus the only vinegar needed to start the home vinegar is the first quart of vinegar. Under no conditions should the vinegar be added to the juice until the yeast fermentation is over. The vinegar will kill the yeast fermentation and prevent the making of vinegar if it is added before the yeast fermentation is over. The yeast fermentation is complete when the liquid no longer gives off bubbles of gas and when there is no longer a taste of sugar.

B.—VINEGAR FROM FRUIT SCRAPS.

Such scraps as peach peelings, apple cores, etc., can be used for making vinegar. Sugar, however, must be added in this case. To every cupful of fruit scraps add about three cupfuls of water and boil for fifteen or twenty minutes. Press out the watery juice. To this juice add about one pint of sugar to the gallon and dissolve. Allow to cool over night. Add compressed yeast and proceed as directed for fruit juice vinegar in "A". The vinegar made in this way will not be so good as that made from the whole fruit, but still a very palatable product can be produced.—W. V. Cruess, University of California.

SALTING DOWN STRING BEANS.

Editor Home Circle: I have a recipe for salting down string beans which is perhaps the way Mrs. J. F. P. of San Jose, spoke of. I have received so many valuable hints from the Rural Press, am glad to pass this on.

Prepare the beans as for cooking. They are better cut slantwise in 1½-inch lengths. Put them in an agate kettle in layers with salt, allowing a large cup of salt to a quart of beans, and let stand overnight, when a brine will have formed. Scald your jars and covers, pack with the raw beans, and pour the brine over them. Should there not be enough brine to fill each jar add a little clear cold water and seal.

They should be picked when fully developed, but not ripe, and if they are fresh and juicy may be packed in stone jars—pack each layer as it is cut and press them down with the fists as solidly as you can. Cover with a clean white cotton cloth, tucking in the edges all around, place a plate over the cloth—as large a plate as will fit in the crock—and on that put a heavy clean stone to weight down the whole and keep it well under the brine, then cover up the crock and put it in storeroom or cellar, where it will not be too warm nor too cold.

When you want to use the beans, soak them overnight or for half a day in cold water, changing a few times, cook and season as with fresh beans, with pepper, a little butter and cream, or as you like them.—Mrs. E. J. M., Capay.

DILL PICKLE RECIPE.

Editor Home Circle: In reply to the query of Mrs. A. L. C., of Lancaster, for a dill pickle recipe, the following recipe is one I use every year with perfect satisfaction.—Paul Kruger, Watsonville.

Use medium size cucumbers, soak over night in cold water, as this will keep them hard; wash them the next day and pack in a jar or keg with alternate layers of grape leaves and a few stalks of dill. Cover with brine made by dissolving one cup of salt in a pail of water. Keep the pickles under the brine with a weighted cover. In warm weather, the pickles will be fit to eat in two weeks. No vinegar is needed, for the pickles develop acidity enough to be palatable.

NEW RECIPE FOR PARSNIPS.

Editor Home Circle: I have learned of a new way to cook parsnips that I want to pass on to readers of the Press. I take medium, uniform parsnips and scrub them well and bake in the oven just as you would sweet potatoes. When done, serve and eat as you would a potato, with butter, pepper, and salt. —Mrs. E. M. F., Santa Clara.

SUNSHINE.

Jinks: "I can't see why they speak of the wisdom of the serpent." Binks: "Well, you never heard of a serpent getting its leg pulled, did you?"—Melbourne Leader.

"Boil my egg three minutes." "'Scuse me," said the waiter. "But dat aig is jes' out o' cold storage an' three minutes won't much more dan jes' thaw it."—Washington Star.

FIG PRESERVES.

Choose figs that are ripe but not soft. The white figs make a more attractive product than the black figs, although the flavor of the black Mission fig is hard to excel. Puncture the figs with a toothpick or wooden needle so that the syrup will penetrate. A number of holes should be made in each fig. To each pound of figs add approximately a pound of sugar and a small amount of water, to prevent scorching. Heat the figs over a very slow fire to boiling and boil down in an open kettle until they have become a very heavy preserve. If it is desired to determine the preserving point accurately, a Baume jelly-tester can be used, such as has been described for jelly-making. If this is used, the figs should be boiled down until the syrup will test thirty-two degrees Baume hot. Pour the hot fig preserves and syrup into scalded hot jars and seal at once with scalded caps and rubbers. No further sterilization will be necessary. Other fruit preserves can be made in the same way.—W. V. Cruess, University of California.

QUEER LITTLE HISTORIANS.

Just a raindrop loitering earthward
All alone,
Leaves a tiny "telltale story"
In the stone.

Gravel tossed by teasing water
Down the hill,
Shows where once in merry laughter
Flowed a rill.

In the coal-bed dark and hidden,
Ferns—how queer!—
Left a message plainly saying:
"We've been here!"

You may see where tiny ripples
On the sands,
Leave a history written by their
Unseen hands.

Why, the oak-trees, by their bending,
Clearly show
The direction playful winds blew
Years ago!

So our habits tell us, little
Maids and men,
What the history of our whole past
Life has been!
—Boys and Girls.

TWO WHEATLESS BREADS.

Owendaw.—Boil 1 pint of hominy grits with 3 pints of salted water until mixture thickens, then set on back of stove and cook slowly until done, about half an hour. While hot mix in 1 large spoonful butter and 3 eggs beaten very light, next add 1 pint of milk and lastly 1 pint of cornmeal. The batter should be the consistency of rich boiled custard. If too thick add milk. Bake with good deal heat at bottom until the batter is set. Serve with spoon from dish. This is a soft breakfast bread and a South Carolina specialty.

Barley Pone.—One cup boiled hominy grits, 2 cups of milk, 2 tablespoonfuls bacon fat, ½ teaspoonful salt, 1 cup barley meal, 2 teaspoonfuls baking powder, 2 eggs. Add the milk and fat to the cooked hominy grits. Cool, add salt, barley meal, and baking powder sifted together, then the well beaten eggs; pour into a greased dish and bake in a moderate oven forty-five minutes. Cut in triangular pieces and serve from dish in which baked. Vouched for by the U. S. Food Administration.

CANNED PIMIENTOS.

Editor Home Circle: Will you kindly furnish me a recipe for canning ripe pimientos? Mrs. K., Lockeford.

Immerse ripe pimientos in a solution of boiling soda lye water from ½ to 2 minutes, or until the skin cracks. Use 3 ozs. of lye to a gallon of water and have it boiling hot. As soon as the skin cracks, put pimientos into cold water to stop the action of the lye, slip off the skin and remove the core. Then fold the pimientos and place in jar that has been well sterilized, cover with boiling water, adjust the rubber and cap and sterilize for one hour in wash boiler in the same manner as other fruits.

BUT ONE WAY TO DRY APPLES.

Mrs. A. S. Davis of Bryn Mawr says that there is only one way to dry apples—that is, the way the pioneer woman of the West dried them, not in trays but on strings. The best recipe for drying apples, she says, is to peel the apple and then cut in quarters and string the quarters on a strong stout string two yards long and hang these strings in the attic or any place out of the way. In the winter they will make as good pies as fresh apples.

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EUREKA, CALIFORNIA

Good Health.

[By H. E. Pastor, M. D.]

The Crime of Omission.

There would be less illness and mortality in some of our country towns if the State and municipal quarantine regulations were more conscientiously enforced. The laxity of the public school authorities in this respect, in some of our smaller communities, is little less than scandalous. We have in mind as we write an interior town in this State where the juvenile population seem to suffer from a chronic rotation of children's disorders, and the non-enforcement of the sanitary ordinances of the town and State is largely responsible for this deplorable condition. Diphtheria, whooping cough, measles, and other ailments common to children of school age are ever present. Boards of education and school teachers should be intelligent enough to diagnose these commoner ailments among the pupils in their charge and they should be conscientious enough and firm enough to exclude the suffering pupil or pupils and thus protect the school as a whole; or, if these communicable diseases show a tendency to spread rapidly and to get beyond the control of simple remedial measures, the school session should be entirely suspended until the epidemic is checked. A stitch in time saves nine, and in cases of this kind would save much unnecessary illness and not a few deaths.

Man Is a Social Animal.

Something should be done to break the intolerable monotony that characterizes the routine of life in many of the rural districts of California, as elsewhere. It is not well that man should live alone, and this applies to man's relations to general society as well as to immediate companionship. There is scarcely anything more conducive to the undermining of sound nerves and mental stability than a life of intense or even comparative solitude. People who develop nervous or "flighty" habits should have the companionship of other people. One is less liable to become mentally erratic or even "peculiar" where he has the advantage of more or less constant intercourse with his fellows. In one respect, people in country places may well follow the example of their city brethren. They should meet together oftener, both in private and in public. If farm folk would do this they would be much better off in body, mind and morals.

The Buttermilk Habit.

The belief that sour milk or buttermilk is a potent remedy for digestive disorders and that it is a sort of modern elixir of life has become quite prevalent latterly. Many of the country folk of both Europe and America were imbued with this notion long before Prof. Metchnikoff of the Pasteur Institute of Paris gave emphasis and wider currency to the belief by setting forth scientific reasons therefor. Buttermilk is simply milk with most of the fat removed, and the sweetening principle converted into lactic acid. The action of lactic acid in the intestinal tract is to very effectually retard the multiplication of certain micro-organisms of putrefaction. In this way certain dysenteric and kindred disorders are alleviated or entirely cured. It should be borne in mind, however, that buttermilk, while containing some elements of nourishment, is a remedy rather than a nutrient. It should also be borne in mind that buttermilk is very subject to decomposition and should be used for human consumption when freshly made only.

Had Nature wanted man to be fitfully showing anger she'd have put bristles on his back.

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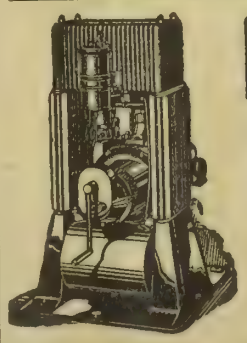

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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, Sept. 12, 1917.

WHEAT.

Still no business is being transacted at the call board meetings and no quotations are posted. A few very minor transactions have been consummated on the street in Sonora wheat at prices ranging from $3.90 to $4.25.

Sonora wheat	No quotations
Northern Club	No quotations
California Club	No quotations
Northern Bluestem	No quotations
Northern Red	No quotations
Russian Red	None offering

BARLEY.

Choice feed has made a slight advance owing to small offerings. The market has not yet recovered from the holiday effects, which must not be taken as any indication of weakness.

Shipping, per ctl	$2.37½@2.40
Brewing	2.37½@2.40
Choice feed, per ctl	2.30@2.37½

OATS.

Demand for oats is slack, and while values remain unchanged they are weak. In Chicago oats broke sharply yesterday, and export demand only saved quotations from dropping further.

White Feed, per ctl	$2.75@2.80
Red Feed, per ctl	2.90@3.00
Red Seed, per ctl	3.00@3.25

BEANS.

Conditions are very unsettled, all hands awaiting the arrival of new crop. Harvesting is well under way, especially in the Southern portion of the State. A considerable quantity of whites has already been harvested and some has made its appearance on the market. The Co-operative Committee on Beans, of the Produce Section of the War Industries Board, consisting of four members, one each from the states of New York, Michigan, Colorado, and California, purposes to secure supplies of beans for the Army and Navy. The committee thinks these supplies will not derange regular conditions, as most of the Government's requisitions have been arranged for.

Bayos, per ctl	$ 8.00@ 8.25
Blackeyes	7.00@ 7.50
Cranberry beans	8.50@ 9.50
Horse beans	3.50@ 4.00
Small whites (south)	11.00@11.50
Large whites	10.00@11.00
Limas (south, recleaned)	10.00@11.00
Pinks	8.00@ 8.25
Red kidney	9.00@10.00
Mexican reds	8.00@ 8.25
Tepary beans	None offered
Garbanzos	4.50@ 5.25

CORN.

The only arrivals of Eastern yellow lately have been for local mills for milling purposes, and the market is bare of supplies. Possibly the deranged condition of the Chicago corn market may have had some influence on shipping. There is no Egyptian offering and demand for all lines is rather slack.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	None offering
California, sacked	$4.00@4.25
Milo Maize	4.00@4.25
Egyptian	None offered

HAY.

Receipts of hay continue large and more has arrived by rail this week than for some time. As Monday was a holiday the arrivals on Tuesday were the largest of the season, amounting to 80 cars and several boats. The market was rather badly congested for several days, but stocks moved off very well and prices were well maintained. Much of the hay has changed hands in the country districts at abnormally high prices, and, owing to poor transportation facilities, there does not seem to be any chance for lower prices. There will be no chance for the piling up of hay in the city, unless the car situation becomes less critical. Export trade is light.

Wheat, No. 1	$19.00@21.00
No. 2	16.00@18.00
Tame oats	19.00@21.00
Wild oats	16.00@19.00
Barley	16.00@19.00
Alfalfa, new, first cut	16.00@19.00
Stock hay, new	14.00@16.50
Straw, per bale	50@90c

FEEDSTUFFS.

Oil cake is off the market temporarily, but there is some cottonseed cake offering, though in small quantity. Holders ask $58.00 to $60.00 for this, with few takers. Trading in feedstuffs is very dull and all transactions are of a jobbing character only.

(Per ton, San Francisco.)

Beet Pulp, per ton	$38.00@40.00
Alfalfa meal, per ton	27.00@30.00
Bran, per ton	41.00@42.00
Oilcake	None offering
Coconut cake or meal	40.00@41.00
Cracked corn	84.00@85.00
Middlings	52.00@53.00
Rolled barley	53.00@54.00
Tankage	None offered
Rolled oats	$56.00@58.00
Rice middlings	None offered
Rice bran	$30.00@33.00
Shorts	43.00@45.00

POTATOES, ONIONS, ETC.

Cucumbers are a little stronger, but still plentiful and cheap. String beans, peas and tomatoes move freely at quotations, with full supplies in the market. Yesterday, prices of River potatoes advanced owing to the light receipts, because of farmers not digging, and of a big shipping demand. The onion situation has improved.

Asparagus	None
Peas, per lb	4@4½c
String beans, per lb	2@4c
Wax beans, per lb	2@4c
Hubbard squash, per sack	None
Summer squash, per box	35@50c
Cucumbers, per box	30@50c
Celery, per lug	Nominal
Tomatoes, per lug box	50@75c
Potatoes, Salinas	$2.75@3.00
Oregon	None
New, Rivers, per ctl	$2.00@2.50
Sweets, per lb	4@4½c
Onions, yellow, per sack	$1.25@1.50
Reds	None offering
Garlic, per lb	3½@4c

POULTRY.

The approaching Jewish holiday has caused a heavy demand for nearly all lines of poultry, and, in the absence of any Eastern arrivals prices on broilers, fryers and hens have advanced sharply. (Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb	20@22c
do, dressed, large, per lb	None
Broilers, 1½ to 2 lbs	28@30c
do, 1¼ lbs.	30@32c
do, under 1 lb.	30@32c
Fryers	28@30c
Hens, extra, per lb., colored	24@25c
Small leghorn	18@19c
Smooth young roosters, per lb. (3 lbs. and over)	28c
Old roosters, per lb	12@13c
Geese, per lb	18c
Squabs, per doz	$2.50@3.00
Ducks	15@18c
Old	12½c
Belgian hares (live)	14@16c
do (dressed)	16@18c

BUTTER.

The butter market is firm at present prices. Extras are rather scarce, and the high prices are curtailing demand. While the Government purchases are not phenomenally large they are enough to take a considerable quantity off the market. Four or five of the leading creameries are devoting their outputs to filling Government contracts.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	41½	41½	42	42	42½	42½
Prime 1sts	40	41	41	41	41	42

EGGS.

Extras rose a half cent on Wednesday. There are plenty of extras coming in to supply the demands of this market, so that any advance beyond the present high standard of prices meets with a rebuff. According to the best opinion here, the tremendous advance predicted by some to take place at an early date is not likely to materialize.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	45	44	44	47	45	45½
Extra 1sts	44	43½	43½	46	44½	44½
Extra pullets	42½	42	42	44	42	42½
Extra 1st pul.	42	41½	41½	43½	41½	41½

CHEESE.

Fancy California flats have moved well up to the level of the values of Young Americas. There is a good deal of alfalfa cheese in this market, much of which does not come up to standard. The advance of 1½ cents on flats may be taken as a further indication of the dearth of fancy cheese.

Y. A.'s	24½c
Fancy California Flats, per lb	23c
Monterey cheese	8@18c

FRESH FRUITS.

Plums are in oversupply in this market, and are very weak at lower quotations. Other lines are moving off well with advances noted on pears. Grapes and cantaloupes have fallen back in price, owing to the heavy receipts. Casabas are quotable at $1.00 to $1.50 a dozen, and Persians range from $1.25 to $3.00.

Apples, Gravenstein, per box	$1.50@2.00
Pears, per box	75c@$1.75
Cantaloupes, per crate	50c@$1.00
Apricots, per box	None
Peaches, per box	50c@$1.00
Nectarines	50@75c
Figs, per box	40@75c
Plums, crates	40@75c
Watermelons, per doz	$1.25@3.00
Grapes, Malaga	60@75c
do, Seedless	60@90c

CITRUS FRUITS.

The Eastern market, being now well supplied with fresh fruits, will not maintain a high standard of citrus fruit prices. Accordingly, lemons took another drop this week, followed by lemonettes, grapefruit, and Valencias.

Oranges:	
Valencias, fancy	$3.50
Valencias, choice	3.00
Lemons:	
Fancy, per box	7.50
Choice	6.50
Standard	4.50
Lemonettes	5.00
Grapefruit, fancy	3.50

DRIED FRUITS.

Considerable activity in buying is noticeable, although there is no great demand from the East. Apples and prunes, 4-size basis, show advances, but pears have declined a cent. There is an enormous crop of prunes, especially of the smaller sizes. Larger sizes bring higher prices.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop	10½@12 c
Apricots, per lb	13 @16½c
Figs, black, 1917	5½@ 6 c
do, white, 1917	6½@ 7 c
Calimyrna, 1917	11 @12 c
Prunes, 4-size basis, 1917	6 @ 6¾c
Prunes, 1916, basis	None
Pears	6@7c
Peaches, 1917	8@9c

BERRIES.

Raspberries have strengthened, as arrivals have fallen off somewhat. Straws and blacks remain unchanged in price. For the time of year, strawberries hold their quality well.

Strawberries, Banners, chest	$5.00@5.50
Longworths	None
Blackberries, per chest	$4.00@4.50
Raspberries, per chest	8.00@10.00
Gooseberries	None

HONEY.

Extracted water white honey is scarce, but other lines are arriving in better quantity. The market is firm and there is considerable trading.

White comb	13@15c
Lt. amber comb	10@12c
Amber comb	8@10c
Extracted, water white	12@14c
do, Lt. amber	10@11c
do, Amber	8@10c

HOPS.

Prices of the new crop are quoted strong at 30 to 33 cents, and there is some activity shown in buying as the crop is short. Oregon and Washington stocks are held at slightly higher figures.

Baled, per lb	30@33c

LOS ANGELES.

Los Angeles, Sept. 11, 1917.

BUTTER.

Receipts of week ending Sept. 11, 324,000.
Receipts of same week last year, 352,200.

There was a marked falling off in the receipts the past week, while the consumptive demand held up fairly well. The eastern markets were also firm, which had a sympathetic influence. There was no butter put into cold storage during the week, but 6265 pounds were withdrawn. Monday being Admission Day and a holiday and no call Saturday, gave us a short trading week. Tuesday, with very good receipts and the trade taking hold slowly, the market failed to follow San Francisco's advance.

We quote:

California extra creamery	41c
California prime first	40c
California first	39c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	41	41	41	41	41	41
1916—						
Extra	31	32	33	33	33	31

EGGS.

Receipts (railroads) for week ending Sept. 11, 1917, 624 cases.

Receipts (railroads) for week ending Sept. 11, 1916, 1254 cases.

A steady and firm market was had the past week. The high prices of a week ago for fresh ranch eggs were pretty generally maintained under light receipts, while there was a marked falling off in the arrivals compared with a year ago, the trade was not disposed to advance prices, but turned to cold storage stocks, which they took quite freely at the difference in price. Prices are 7½c higher than this time last year. Tuesday, with very light receipts and San Francisco higher, the market on call today was advanced 2c all round and holders not anxious sellers at this advance. The eastern markets were also firm, which had its influence.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	45	45	44	44½	44½	46½
Case count	42	42	42	42	42	44
Ex. pullets	36½	37	37	37	37	39
1916—						
Case count	35	35	36	37	37	37

POULTRY.

There was a further advance in young stuff the past week. Receipts lighter and the demand is holding up fairly well, which encouraged dealers to bid a little more money both for broilers and fryers. Hens firm in sympathy and in fair demand. Ducks and turkeys in light supply and selling fairly. Ducks higher.

We quote from growers:

Broilers, 1¼ to 2 lbs	25@26c
Fryers, 2½ to 3 lbs	23c
Hens over 4 lbs	22c
Hens under 4 lbs	16@17c
Ducks	17c
Geese	12c
Roosters, 3 lbs. up (soft bone)	22c
Turkeys, heavy, 12 lbs. and up	29@30c
Turkeys, light	24@25c
Squabs, live, per doz	$3.00@4.00
Dressed	3.50@4.50

FRUITS.

There was a little better tone to the market the past week. Receipts were not so heavy and peaches brought a little more money. Pears are higher under lighter receipts and in very good demand. Figs in liberal supply. Grapes in fair demand. Apples are dull, but steady. Plums are pretty much out of the market. Quinces dull and weak.

We quote from growers:

Apples, Gravenstein, per 4-tier box	$1.40
Bellefleur, 4-tier	1.05
do, 3½ tier	1.10
do, 4½ tier	.90
Peaches—	
Freestone, local, per lug	50@80c
Clings, per lug	50@70c
Northern, per lb.	2@2½c
Figs—Black, 2-layer	85c@$1.00
Figs—White Smyrna, 2-layer	60@75c
Figs—White Pacific, 2-layer	90c@$1.00
Grapes—	
Malaga, per lb.	2@2½c
Muscat, per lug.	75@80c
Tokay, per lug	$1.25@1.40
Black Hamburg, per lug	70@75c
Plums—	
German prunes, per lug	90c@$1.00
Satsuma, per lug	50@60c
Pears, per lb.	3½@4c
French prunes, per lug	50@60c
Quinces, per lug	40@50c
Damsons, per lug	60@70c
Apples, green, per lug	25@30c
Local apples, per lug	40@60c

VEGETABLES.

Offerings the past week not so heavy and the tone of the market was a little better. All good fresh stuff in fair demand. Summer squash and cucumbers a little higher and in fair demand. Potatoes in better demand and higher. Onions slow sale but steady. Corn firm and the best in very good demand. Cabbage continues dull and as cheap as ever. Celery in fair demand and steady. String beans higher and in fair demand, and the same may be said of limas. Tomatoes in liberal supply. Sweet potatoes steady and in fair demand.

We quote from growers:

Potatoes, Northern, per cwt	$2.60@2.75
do, local	2.40@2.50
Peas, Northern, per lb.	7@7½c

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, September 11, 1917.

Lighter offerings of tree fruits during the past week have had a tendency to strengthen the market on firm stock, but a proportion of the receipts of plums has been arriving in overripe condition, selling in some instances at a loss.

There has been a noticeable demand for late peaches in the Middle West markets and some inquiry for Clings throughout the Southeast, but practically all tree fruits, with the possible exception of late varieties of pears, will be cleaned up in ten days.

Practically 40 per cent of the Malaga crop has already been harvested, but as the quality has not been up to standard the prices in the forepart of the week were not altogether satisfactory, but later arrivals, showing an improvement in quality, have stimulated the demand, with an upward tendency in all markets. Shipment of Malagas, weather conditions permitting, will last for sixty days longer.

Tokays are testing the required sugar content, but are in a great many districts lacking in color and we do not look for a heavy movement before the middle of this week. If the fruit carries to destination in good condition, we anticipate satisfactory prices.

All markets have ruled strong on sound arrivals of late Bartletts from the mountain districts.

There is quite an active demand for wine grapes and this has caused the California wineries to raise their original offers.

Averages for the week ranged as follows:

New York: Bartlett pears, $2.90 to $2.95; Grand Duke plums, $1.40; Gross, $1.15 to $1.25; Giant, 97c; Kelsey, $1.26; Lovell peaches, 61c to 65c; Orange Cling, 84c to 93c; McDevitt, $1.08 to $1.18; Tokay grapes, $1.60 to $3.00; Malaga, $1.09 to $1.30; Muscat, $1.40 to $1.60.

Chicago: Bartlett pears, $1.86 to $2.42; Malaga grapes, 88c to $1.15; Tokay, 97c to $2.43; Thompson Seedless, 85c to 95c; Black Prince, 75c to 85c; Elberta peaches, 82c to $1.16; Orange Cling, 76c to $1.13; Lovells, 76c to $1.22; Picquettes, $1.09 to $1.20; Hulls, $1.07 to $1.20; Crawford, 89c to 96c; Susquehanna, 70c to 90c; Grand Duke plums, $1.11 to $1.51; Giant, 80c to $1.25; Diamond, 99c to $1.47; Kelsey, $1.17 to $1.71; Hungarian, 96c to $1.28; Gross, 94c to $1.08.

Shipments from the State for the week ending September 6, by cars, as follows: 56 peaches, 56 plums, 210 pears, 512 grapes.

Special Citrus Market Report

Los Angeles, September 11, 1917.

Shipments of citrus fruits from Southern California from November 1 to September 9: Oranges, 37,710 cars; lemons, 7,395 cars. Same time last year: Oranges, 29,594 cars; lemons, 6,477 cars.

The Eastern markets were slow and lower the past week. The shipments for the week were 510 cars, which was too many for the market, when there is so much other fruit on the market to contend with. Grapefruit seems to have held up better than oranges and lemons, which met with a very draggy market. The largest local packers have suspended operations until the new crop comes in, only one small house now operating. It is taking a few oranges and lemons at old prices and a few grapefruit is finding sale. Local buyers paying 2@2½c per pound for Valencias delivered; for grapefruit 2@2½c per pound delivered, and for the best lemons 2@3c per pound delivered. Poor have to be sold for what they will bring.

AUCTION SALES.

New York, September 10.—Market steady on fancy Valencias, but easier and lower on 216s and smaller; lower in spots on 80s and 200s. Market steady on lemons. Good demand at prevailing prices for grapefruit. Nineteen cars oranges, one car grapefruit and two cars lemons sold. Weather fair. Valencias averaged $1.65 to $4.55. Lemons averaged $2.25 to $4.50.

Boston, September 10.—Sixteen cars sold. Market unchanged on oranges, but weaker on lemons. Valencias averaged $1.50 to $3.10. Lemons averaged $1.50 to $4.40.

Philadelphia, September 10.—Six cars sold. Market doing better on Valencias, but unchanged on lemons. Valencias averaged $1.80 to $4.70. Lemons averaged $2.30 to $3.95.

WHO CAN GUESS THE FUTURE OF THE BEAN MARKET?

Word has reached the office of the Pacific Rural Press that some bean growers in the vicinity of Salinas have contracted their crops of small whites on a ten-cent basis, which brings up the question of what bean values will settle down to at the end of the harvest season. It is unlikely that anyone is gifted with sufficient prescience to foretell exactly at this time just what those values will be. Prices on futures are purely speculative, and conservative dealers are handling little of this class of trade. Uncertainties of the weather as affecting the local crop and uncertainties of the size and quality of the bean crop in the Orient and other foreign sources of supply, together with the high cost of bottoms for transportation, make speculation in futures hazardous. Published quotations are several cents above prices paid to producers, the difference covering the items of cleaning, sacking, loss in weight, etc.

Onions, Yellow Danvers, per cwt..$1.35@1.40
do, Australian Browns ..... 1.35@1.40
do, White Globe, per cwt..... 1.50@1.60
Garlic, per lb. .....3@4c
String beans, per lb. .....2@2½c
do, Kentucky Wonders, per lb..2½@3½c
Tomatoes, No. 1, local, per lug.....20@25c
do, No. 2.....15c
Summer squash, per lug.....20@25c
Cucumbers, per box of 2½ to 3 dozen .....15@25c
Green corn, per lug.....40@50c
Cabbage, per 100 lbs.....40@50c
Lima beans, per lb.....3@4c
Okra, per lb.....5@6c
Bell peppers, per lb.....1½@2c
Chile peppers, per lb.....1c
Celery, per crate.....$2.25@2.50
Egg plant, per lb.....2@2½c
Sweet potatoes, per cwt.....$3.00

MELONS.

The offerings were very good, both of cantaloupes and watermelons, and they met with a very fair demand—that is, the best. Poor lots and over-ripe were hard to move. Casabas are doing a little better and the best of them a shade higher. Honey Dew melons continue in liberal supply.

We quote from growers:

Cantaloupes—
Local, Pineapple and Tiptop, jumbo crate .....75c@$1.00
Pineapple and Tiptop, pony crate .....50@60c
Columbia, jumbo crate .....75c@$1.00
Paul Rose, standard crate.....60@70c
Watermelons, per cwt.....75@80c
Casabas, per jumbo crate.....$1.00@1.25
Honeydew melons, per box of 9-10, 75@85c

BEANS.

While prices show no change from a week ago the tone of the market is weak. Beans are being threshed all around us now and with freer offerings buyers are inclined to hold back and go slow. While holders are counting on the government taking a number of beans for the army and navy, it will not pay fancy prices and the speculative excitement in the market last year will be absent this season.

We quote from growers:

Limas, per cwt.....$10.00
Large white, old, per cwt..... 12.50
Small white, old, per cwt..... 12.50
Large white, new, per cwt..... 10.00
Small white, new, per cwt..... 10.00
Pinks, per cwt..... 9.50
Blackeyes, per cwt..... 8.00

HAY.

A rather firm and fairly active market was had the past week. Receipts continue only moderate. Alfalfa and grain hay both selling fairly well and last week's prices were sustained.

F. O. B. Los Angeles:

Barley hay, ton .....$21.00@22.00
Oat hay, ton ..... 21.00@22.50
Alfalfa, northern, per ton..... 19.00@20.00
Alfalfa, local, ton..... 21.00@22.00
Straw, ton ..... 9.00@10.00

HONEY AND BEESWAX.

High prices cause the trade to buy sparingly. Little honey is said to be back in the country, which is causing dealers to hold prices firm in the face of the light Eastern demand. Hence a firm but dull market. Beeswax steady and in good demand.

We quote from growers:

Comb, per case.....$3.00@3.25
White sage .....12@12½c
Light amber sage .....10@10½c
Light amber alfalfa.....10¼c
Beeswax 32½c

Special Livestock Market Report

San Francisco, Sept. 12, 1917.

CATTLE.—Supply and demand in the local cattle market are so evenly balanced that the price indicator varies neither way. The market is so strong, however, that any variation from present quotations is likely to be upward. Calves are in light supply. Quotations stand.

Grass Steers:
No. 1, weighing 900 to 1200 lbs..8¾@9 c
No. 1, weighing 1200 to 1400 lbs..8¾@ 9c
Second quality .....8 @8½c
Thin, undesirable.....6½@7½c
Grass Cows and Heifers:
No. 1 .....7 @7¼c
Second quality .....6¼@6½c
Common to thin.....4 @5½c
Undesirable .....4 @5½c
Hay-fed Cattle, ½@¾c higher.
Bulls and Stags:
Good .....5¾@6 c
Fair .....5 @5½c
Thin .....4 @4¾c
Calves:
Lightweight .....9¼@9½c
Medium .....8¼@8½c
Heavy .....7¼@7½c

SHEEP.—There is the usual dearth of supply in this line, and although the retail demand is light, it is not easy to find stock to supply it. Of course, the high wool market and the disposition to hold back good animals for breeding purposes has much to do with the situation.

Lambs—
Yearling .....11½@12 c
Milk .....11½@12½c
Sheep—
Unshorn wethers .....10 @10½c
Unshorn ewes .....8 @8½c

HOGS.—The arrivals of hogs properly fitted for the block are scarce, though taking the good with the indifferent and subindifferent, the demand is about met and prices are unchanged.

Hard, grain-fed, 100 to 150.....14c
do, 150 to 300.....15c
do, 300 to 400.....14½c

DRESSED MEATS.

Steers—
No. 1 .....14c
Second quality 13½c
Cows and heifers .....13@16c
Calves, as to size, etc.....13@16c
Lambs—Suckling 20c
do. Yearling 19c
Sheep—Wethers 18c
do. Ewes 17c
Hogs 22c

HIDES.

There is no general market for this modity, and such little trading as is e is a matter of barter between the lividual buyer and seller. Naturally, nder such conditions prices vary greatly, and quotations can only give a general idea of values. The general market is dull.

Cattle:
Wet salted hides—Per lb.—
Steers and cows, all weights.....18@19c
Bulls and stags.....15@16c
Kip 23c
Veal and calf .....23@25c
Damaged ..... 6@12c
Horse:
Wet salted, skinned to hoof:
Extra large prime.....$4.00@5.00
do, medium ..... 3.00@4.00
Small ..... 2.00@3.00
Colts .....50c@$1.00

Los Angeles, Sept. 11, 1917.

CATTLE.—The market here remains much the same as a week ago. Fair offerings of medium and fair fleshed steers were had, but really well finished cattle were scarce and for such top quotations were being paid. Killers were all in the market, but as the beef market was dull they bought only moderately. California and Arizona continue to furnish the receipts.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1,000 to 1,100 lbs....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers..... 6.50@7.00
Calves, per cwt..... 8.00@9.00

HOGS.—There was no especial life to this market the past week. With light receipts, however, and sensational high prices being paid for hogs East, buyers bid prices up $1.00 per cwt. all round. They bought sparingly, however, at this advance. Most of the arrivals were made up of half grown and half fat hogs, but few really well finished hogs coming in and they command a premium.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs..$13.00@14.00
Mixed, 200@250 lbs..... 14.00@15.00
Light, 175@200 lbs..... 14.00@15.00

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP.—But few sheep and lambs are coming in. What few are arriving meet with ready sale at old quotations. As killers are not wanting many, prices are firm. California and Arizona furnished what few wanted.

Per cwt. f. o. b. Los Angeles:

Prime wethers .....$ 9.00@10.50
Prime ewes ..... 9.50@10.00
Yearlings ..... 10.50@11.00
Lambs ..... 13.00@14.00

Portland, Ore., Sept. 10, 1917.

Cattle.—The cattle market was active and sales were consummated at an advance of a strong half a dollar, the packers giving evidence of willingness to pay for properly finished material when they took the tops today at $9.75. We are not including this, however, on our quotations, as they were exceptionally fine quality steers. We are quoting an advance of 50c on all the steer kind with the tops in the cow column steady and medium cows 50c higher.

Best steers, $9.00@9.75; good steers, $7.50@8.75; good cows, $6.75@7.50; ordinary, $4.00@6.75; heifers, $7.00@8.00; calves, $7.00@9.50; bulls, $4.00@6.75; stockers and feeders, $4.50@7.25.

HOGS.—Packers seemed determined to keep the toboggan well greased under the hog market. We do not find the opening market in Portland as strong comparatively as it has been for previous weeks.

Prime light, $16.75@17.00; prime heavy, $16.50@16.75; bulk, $16.25@16.50; pigs, $14.00@15.50.

SHEEP.—The market continues active with bulk of sales going at the top of the quotations in the various classes, and some sales being quoted beyond. Ewes sold as high as 9c and lambs as high as 14c during the opening hours of the week's market and 10½c was the price paid for practically all wethers offered.

Yearlings, $10.00@10.50; wethers, $9.75@10.50; ewes, $8.00@8.50; Western lambs, $13.00@13.50; Valley lambs, $11.75@12.50.

We quote from growers:

Comb, per case.....$3.00@3.25
White sage .....12@12½c
Light amber sage .....10@10½c
Light amber alfalfa.....10¼c
Beeswax 32½c

Classified Advertisements

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MISCELLANEOUS.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero st., San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

APPLES DIRECT FROM PRODUCER—Fancy Bellfleurs, $1 per box; No. 2 grade, 70c; Newton Pippins at same prices; bulk pack. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smith's Cash Store, 106 Clay st., San Francisco.

ALL SIZES OF PIPE and screw casing, both new and second hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard street, San Francisco.

WELL CASING—Want quantity 12-in. single, collared, second-hand; reply with description, price, etc. A. M. Foote, Williams, Cal.

WEEDS WANTED—Flowers, seeds, berries, leaves, barks, roots, 2c to $2.50 pound. National Drug Company, Yakima, Wash.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

WANTED—Energetic young married man to take charge of herd of 140 registered Holsteins; must be an all-around practical dairyman, competent to do anything connected with a dairy and breeding establishment, including the making of weekly and yearly records. Geo. A. Smith, Corcoran, Cal. Phone 241.

WANTED—Position as herdsman; understand testing, scientific feeding and treatment of disease; good references. Box 780, Pacific Rural Press.

MAN—To wear fine suit, act as agent; big pay, easy work. Banner Tailoring Co., Dept. 738, Chicago.

COUNTRY LANDS.

IF YOU WANT 160-ACRE FARM in the best climate and above the fog belt, Lake county is the place; land values are based on what they will produce; ideal for chickens and fruit; good for stock and grain; 18 acres walnuts, interset with prunes, besides 50 acres wheat land; 3-room cottage, 4-horse barn; 1 mile to school, 3 miles to town; price $7,500; no exchange. Address Box 71, Kelseyville, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

FOR SALE—40 acres, 1½ miles from town, Mendocino county; new house and barn; all fenced; running water year round; price $2500. For further particulars address Box 790, Pacific Rural Press.

20 ACRES—13 bottom; fenced; 5 acres young trees; 2 alfalfa; barn, well; 3 miles Anderson; $3500; half down. W. Rupe, Anderson, Cal.

HUMBOLDT STOCK RANCHES—1700 acres $8 with stock cattle. Long lease; additional land. C. E. Robertson, 105 Montgomery St., San Francisco, or J. E. Wilson, Carlotta, Cal.

SEEDS, PLANTS AND TREES.

ALFALFA PLANTERS, fill your fall requirements now with Green-Gold seed; high quality because of personal field selection; low price because of direct dealing; send for samples and prices. Bomberger Seed Company, Desk A, Modesto, Cal.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

WE BUY WEED SEEDS—Mustard, rape, anise, bitter clover, etc.; send samples; write us stating quantity and price. Globe Mills, Los Angeles.

SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar sts., Oakland, Cal.

AGRICULTURAL BLASTING—Tree planting. Experienced. Fruit Trees. Panama Nursery Co., Concord, Cal.

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"Webster" says: *"Investment: the laying out of money in the purchase of property, especially a source of income or profit."*

We maintain that that definition exactly fits the purchase of a Maxwell.

American industries have hundreds of millions of dollars invested in labor saving devices.

That's what the automobile is today—a saver of human energy and time.

And, friends, energy and time are *you*—are *your* life.

Can you afford to waste time and energy when you can run a Maxwell for $2 a week?

You can drive a Maxwell 5,000 miles a year at a cost of $2 a week.

This is not a theory.

Scores of thousands of Maxwell owners are doing it.

In our great economy contest on May 23rd, last, 1,092 Maxwells averaged 27.15 miles on a gallon of gasoline each.

In our great economy contest in June and July last, 2,040 Maxwells averaged 29.04 on one gallon each.

The Maxwell engine holds the world endurance record—22,022 miles without stopping.

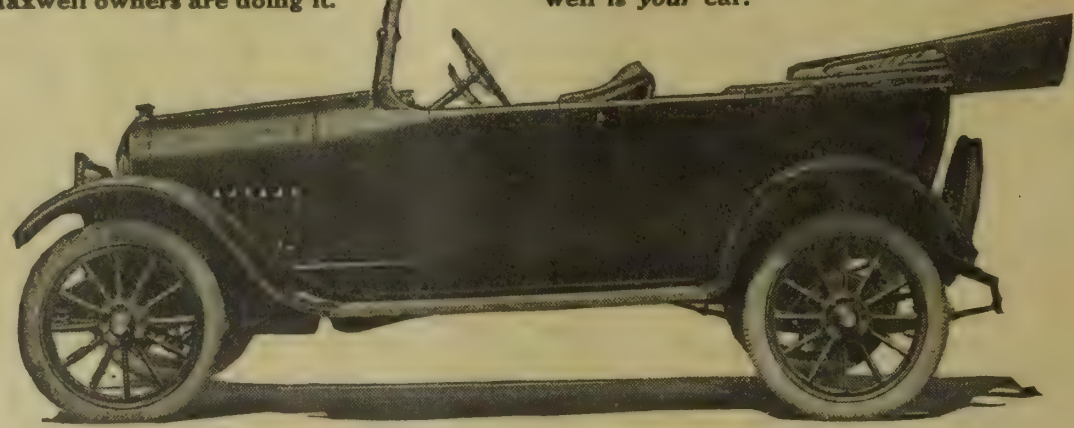
The Maxwell clutch runs in oil—is wear-proof, smooth, efficient.

Maxwell transmission is simple, trouble-proof.

The mighty Maxwell axles stand the strain of the road.

Every vital part is built to do its work smoothly and well *for years.*

Whether for farm or city use, the Maxwell is *your* car.



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Vol. XCIV—No. 12 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO SEPTEMBER 22, 1917 LOS ANGELES

State Colonies to be Centers of Purebred Livestock

[Written for Pacific Rural Press.]

A MOST serious danger confronting the democratic form of government and the safety of agriculture is tenant farming, which is recognized as almost of necessity a soil-robbing and farm ruining system, in which not a large proportion of successful men are developed. Another serious danger is the present necessity of depending on discontented and transient labor.

Subdivision of large ranches among an intensive farm-owning population carrying on a good diversification and rotation of crops is a solution of both difficulties. Private efforts along this line have generally made life failures of about two series or "generations" of settlers and obliterated their life savings.

State to Subdivide Land.

The spirits of suicides and life failures due to California colonization rascals and greedfull promoters have at last spoken with effect in the form of the Land Settlement Act passed by the recent Legislature. The State is to colonize about 10,000 acres on the plan proved workable and safe in Australia after investigation of similar European systems. A "State Land Settlement Board" is administering the act. Its Chairman is Elwood Mead, who had charge of the Australian project. They hope to throw 5,000 acres open to settlement next spring.

The law was passed after investigation of 32 typical California colonies, where the average price paid by settlers for unimproved land has been $160, the average area 37 acres, the average contract rate of interest 6.9 per cent, and the time allowed for payment in full has been 5.8 years. Very few with limited capital have pulled through at all. Thousands of people have invested their life savings; and their mortgages have been foreclosed either by the colony agents or by starvation; many suicides have resulted directly. The land has often been hardpan and unwaterable. Fatuous settlers have been told how certain crops thrive on alkali; they have bought a good climate; but most of them have proved unable to retain possession of it. The improvements they have put on have enabled the second "generation" of settlers to stick it out a little longer. After the second generation have had to give up, the third has generally made a living, where the soil and water have been good.

Plan of Settlement.

The Legislature appropriated $260,000, of which $250,000 is to be used as a revolving fund to buy and improve land to sell to bona-fide settlers, experienced in farming, and to bona-fide farm laborers who want to own their homes. As outlined by Chairman Mead of the Board, the plan proposed is about as follows:

The Board will buy, first, if feasible, 5,000 acres, with water rights, and all in one piece. It will first be approved by the Dean of the College of Agriculture as being fit for subdivision into farms of 20 to 100 acres on which a family may make a living; and the water rights will be certified by the State Water Commission. It will be more or less levelled and seeded, and after consultation with the settler, suitable buildings may be put up by the State.

The settler must have capital enough to pay 5 per cent on the land and one-third of the cost of leveling, seeding, and construction of buildings, besides enough to live on until the farm begins to return something. The State will also loan some to help buy livestock. About $1500 capital will be needed for a 20-acre farm, and more for larger farms. The settler must apply to the Federal Farm Loan Board for a loan of 50 per cent of the value of the land and 20 per cent of the value of the buildings, which loan is to be paid to the Settlement Board. The unpaid balance is to be paid in amortizing installments which will clear up the debt on the land within 40 years, on the improvements within 20 years, and on the livestock within five years. All payments will be made to the original owner through the Board. The original owner is secured by a second mortgage. If the settler defaults payment, the Board may make payment and take up the mortgage. If the settler continues to default, he must get off and lose what he has put in. The failures are rare; because the Board must make good on the scheme; and will help freely those settlers who prove willing to help themselves.

Allotments Equally Desirable.

The price per acre of the land to settlers will be determined according to its character of soil, location, and general desirability. All farms will be planned as nearly as possible to be equally desirable. The size will vary according to suitability for intensive cultivation. After size of the various allotments is determined, the price on each will be set so that the total will equal the total cost of land with improvements to be made by the State, plus a working margin to pay for administration and to maintain an Agricultural Superintendent on whom all settlers may call freely for help and advice. The margin in Australia was 15 per cent; and a surplus of several hundred thousand dollars has been ac-

(Continued on page 283.)

Mr. Mead brings to his duties on the State Land Settlement Board a rich and successful experience in doing the same thing in the State of Victoria, Australia. Though still young and vigorous, he has studied and experienced more in the line of State colonization than probably any other man in America. Educated as a civil engineer, he followed irrigation development work, first as State Engineer of Wyoming, then as Chief of Irrigation Investigations for United States Department of Agriculture. Meanwhile he spent 10 years at the University of California as Professor of Irrigation.

During this time, the State of Victoria, Australia, spent $20,000,000 on irrigation works through a semi-arid country of ranches containing mostly 5,000 to 40,000 acres each. The irrigation system was unprofitable and the problem arose of getting them subdivided and settled by people who would use the water. In 1907 the Australians took Prof. Mead as Chairman of their State Rivers Commission, which was created by the Government to control diversion of water from the rivers and to make their irrigation project pay. The undertaking was of such magnitude and novelty there, that Prof.

ELWOOD MEAD, CHAIRMAN OF THE STATE LAND SETTLEMENT BOARD

Mead and Minister of Lands Hugh McKenzie were sent to Europe in 1910 to study the Government land settlement projects which had proved successful in Italy, Germany, Denmark, and especially Ireland, where the English Government had bought and settled over 9,000,000 acres with the former tenants.

On returning to Victoria, a plan was put into effect whereby a settler with $1,500 made an initial payment of 3 per cent on the land and one-third of the cost of buildings and leveling, with over 30 years to pay the rest at 4½ per cent interest. In California, the average rate of interest on unpaid installments has been 6 to 10 per cent and the time allowed has averaged three to eight years.

Victoria kept on buying land and settling it and the other Australian States have followed. The Australian Commonwealth has recently appropriated $100,000,000 to be used similarly for returned soldiers.

Prof. Mead came back finally to the University of California in 1915; though Victoria offered him a 10-year contract. As Chairman of the California Commission on Land Colonization, provided by the Legislature in 1915, he became the best posted man on California colonization projects. He was therefore pre-eminently fitted for his present chairmanship of the State Land Settlement Board.

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EDITORIALS

REASONABLE PEOPLE.

THE SUPREME NEED of the hour is the triumph of reasonable people. We are in the war with the proud claim that we contend for no national advantage in world-power or in world-wealth through trade advantage but for the enforcement of the rights of all men and all nations, great and small. It is a reasonable purpose and it will be achieved by reasonable people. And who are reasonable people? Evidently those whose past lives show that they have always tried to act reasonably. Loud claims of altruistic reasonableness by those who have upset the world in the regular course of their autocratic ambitions, or by those who have tried to upset the world by anarchistic recourses, must be reasonably discredited and rejected. The divine right of kaisers to possess and the devilish right of the I. W. W. to destroy are neither of them real and reasonable rights, and they must go out of the world together. It seems clearly to be the purpose of the Higher Power which is immanent in human affairs that these two chief demons of unreason shall be overthrown by cataclysm and that all their petty offspring shall likewise perish, if they reject redemption through the sacrifice which the world is now making to secure reasonableness in all the relations of men. But it is not our purpose to proceed in this transcendental way: let us drop to phenomena of experience, to wit: prunes.

WHAT IS REASONABLE IN PRUNES?

CALIFORNIA prune growers effected an organization last winter on the basis of assigned control of 75 per cent of the product by the growers thereof. This organization was the outcome of an affiliation of growers which did good work in 1915 and 1916 and which we supported to the best of our ability. The plan and methods of the new organization did not seem to us the best possible, but its purpose was right and we strongly supported its effort for existence. As we understood this purpose, it was to sell as many prunes as possible at a good profit above the cost of production: not to keep anybody from selling prunes if he could with such profit to producers, but to urge everybody and to help everybody to sell prunes in that way to the outmost limits of California's possible production. In the pursuit of this purpose which we attribute to it, the association of 1917 seemed to have full confidence in its own ability and ways of doing things. Its management has shown no particular liking for us and we have received no favors from it. We make this frank statement to show that what we have to say is neither by inspiration nor through reciprocation, but from conviction which self-respect requires us to declare because we believe it to be for the profitable maintenance of prune production in California.

It is reasonable that prune production, which is expected to reach two hundred million pounds in California this year and will be still going up in future good years, will be wrecked unless it maintains a growers' co-operative organization for producing and marketing. It is also reasonable that the opportunity for great trading gambles in prunes, which will yield crafty manipulators millions, depends upon the reducing of the growers to an unorganized condition of dependence and ignorance which has robbed them of fair reward for their labor and investment in previous years. This statement cannot be successfully controverted. It is the ultimate, reasonable thing in prune production. It is also just as reasonable to expect that those who desire to profit by buying low and selling high will use all their artillery this year to blast the economic foundation from beneath the growers' organization, and if they should succeed prune production will be at the mercy of manipulators and trade-robbers for a decade to come. The interior allies of the prune trade are making a supreme effort for the preservation of their autocracy and they see well enough that it must come soon or never. Conditions favor their easiest warfare, which is to offer more than the association price, because the outlook for value in prunes for two years of either war or peace is very bright. If, then, they can get prunes and break the association, they will be in it to risk nothing this year and to have their own way, which will condemn the grower to scratching gravel for a decade to come. We do not need to follow the tedious claims which the combined dealers are making of unwisdom on the part of the management of the association. They will, of course, split hairs to the confusion of the growers and obscure the real issues in every possible way. We can only see two things which must be weighed against any fraction of higher price which they offer the contracting association members. One is that a defaulting contracting grower will face prosecution which will cost him more than all the foolish fractions he can add together. The other is that if the association is forced, by those who fall before these miserable temptations, to handle few prunes and many lawsuits, prune growers' mortgages will go unpaid; their property will decline in value and all the material joys of their lives will go out. Hold fast to the association; if the management is unwise, change it before the next crop; if the methods of procedure need revision, change them also; but do not break your contracts! If it seems now like medicine, take it like a man. If glib talkers tempt you, talk back; new courage sometimes comes as your words crunch on your enemy's jaw; get some fun out of the fight, for if he gets your prunes you will be a long time dead! This is the only reasonable thing in prunes!

WHAT IS REASONABLE IN WHEAT?

CERTAIN EFFORTS are proclaimed to reopen the issue on the market value of this year's wheat. There is one such effort which seems to us unreasonable and that was the call for a mass meeting at St. Paul credited to North Dakota growers and others who are credited with responsibility for the agitation seeking to have the wheat price of $2.20 per bushel reviewed and the withdrawal of food administration regulations designed to prevent hoarding of grains. It is not likely that such an agitation will get far. It is probable that the federal department of justice will not allow it to get anywhere. The price of $2.20 was fixed in accordance with the national law after a three days' conference by a commission of experts in which four or five representatives of national agricultural associations participated, as described on page 234 of our issue of September 8. The price is 35c per bushel above the limit proposed by the representatives of the labor unions and is probably as much above the price which the manipulators would have hammered it down to if the government had not set foot on their game. From the point of view of national war purposes and of yielding growers tributary to the Mississippi valley terminals a fair profit, the price seems to us reasonable, and to question it now or to claim that speculators should be allowed to hold wheat back from export or consumption is not only unreasonable but is giving aid and comfort to the enemy. But there is still a question of the value of wheat in districts not tributary to Chicago. If that has been yet determined, we have overlooked it. Discounting value according to geographical distance west of Chicago is, of course, not fair to Pacific Coast growers, and we are not surprised that growers in our upper coast States are not satisfied to sell at $1.90, which would be the equivalent of the $2.20 price at Chicago, less the rail freight to take it there. Under normal conditions Pacific Coast wheat does not go to Chicago, and from the point of view of the old world marketing is better circumstanced by being near to Pacific Coast salt water ports. From this point of view and from the points of view of local consumption and grinding, wheat should be worth as much in Pacific ports as it is in Atlantic ports, and that is $2.30 in New York, $2.29 in Baltimore and Philadelphia and $2.25 in Buffalo. It is unreasonable, therefore, to knock it down at $1.90. And there is an entirely different line of argument which gets to the same end and even beyond it, and that is the equivalence to prices of other grains. Dean Hunt of the University of California has just published a very significant circular on "The 1918 Grain Crop," which every reader interested in grain should send to Berkeley for. Here is one paragraph on equivalence of wheat and barley:

> Under average soil and climatic conditions forty bushels or twenty centals of barley is considered a satisfactory yield in California. An equally satisfactory yield of wheat is twenty bushels or twelve centals per acre. The cost of producing either crop being substantially equal, in order to secure the sowing of wheat in place of barley the gross return from an acre of wheat should be at least equal to that from an acre of barley. If barley is worth $2 per cental or $1 per bushel, it would be necessary that wheat should bring $3.33 per cental or $2 per bushel. Last winter when barley was selling at $60 per ton wheat was not too high at $5 per cental or $3 per bushel from the standpoint of inducing future production.

This is a suggestion from the very fundamental relation of things that if California is to be at all expected to increase her local wheat production by lessening the barley product, it is necessary that wheat should be priced as nearly as possible to what it is locally worth and not charged freight to Chicago, where it will never go. Of course, the price for the 1918 wheat crop is not fixed, except that it must not be sold for less than $2 per bushel, unless the end of the war should knock out the legislation. But it is not reasonable to expect our growers to concern themselves as they should in the crop of 1918 if they are penalized for distance from Chicago in their product of the current year.

WILL LABOR BE REASONABLE?

THE MOST IMPORTANT question of all which the passing days force upon attention has to do, not alone with food production but with every national undertaking which is now of present moment and future concern, and it is this: Will organized labor be reasonable? For a people claiming to be united in aim and purpose we are certainly having class attitudes and actions which must give our enemies much hope and comfort and tend to weaken our own national courage and confidence. The Pacific Coast States are apparently suffering unduly from such misfortunes. While we are insisting upon our ability, skill and resources to do great things for national aims and achievements, we are condemning ourselves in the sight of the nation and the world by conflicts among ourselves over transportation and construction activities which must cease if we are to be any satisfaction to ourselves or value to the country. The national government is apparently doing its utmost to secure fairness to all contributors to national efficiency, to reduce greed and extortion and to equitably apportion burdens and advantages. In these lines we have apparently made more progress during the last few months than in all previous years, and if all work reasonably and loyally to carry the country through this world crisis, it is fair to expect that fairness between man and man in all that man desires and strives honorably for will be secured here as nowhere else in the world. And yet we are upset by conflicts and distracted by claims of which the present should not be called upon

for settlement. At a meeting in New York last week of the American Alliance for Labor and Democracy, of which Samuel Gompers is president, the following declaration was adopted:

"We must make it clear to Russia quickly that the working people of America are solid in support of the war; that the nation is a unit in the war and that there can be no peace except a peace that will guarantee democracy to the world."

Is that what we are doing this week in San Francisco?

REASONABLENESS OF PIE AND CAKE.

EXALTED PATRIOTISM requires a man to risk everything for his country, but it is dangerous to bluff a risk and count on recovering vicariously. Certain Russian generals who are risking treason in the hope of becoming dictators are losing their necks every few days. We reasonably hope that it will not work that way with certain American magnates, but we must warn them to beware. We read that Maximilian Strasser, honorary president of the New York State Association of Master Bakers, patriotically proposes to give the people cheap bread and get the money back on pie and cake. He believes that the best service the bakers could give the Government and the public at this time would be to reduce the price of bread. "The people clamor for cheaper bread," he declared at a recent meeting, "and it is up to the manufacturing and retail bakers to hearken to their demands. Let us forget the profits we have been making on bread and be content with the profits we make on pies, cake, doughnuts and other pastry. It is possible that in the past many of us have been too selfish, and it is time for us to show we are willing to do our bit."

And we have to say: "Max, you better look by gracious oud." Presumably the food administrator knows and likes pies and cakes as well as bread and, being a Californian, has, of course, largely grown up upon them. He probably needs no better tip that you have been gouging the public too deeply on pastry. This being the case, two things may happen: you may have a chalk line on pastry profits to walk or, if worst comes to worst, he may declare that there shall be no pie. Better not be too frank, Max. An arraigned person who advises the court generally goes to jail.

UNREASONABLE FIGURES.

OUR COL. JOHN P. IRISH has had to check up his home folks back in Iowa for publishing unreasonable figures about California. It seems that the Greater Iowa Association publishes with pride an array of statistics showing that the acre product of farm crops in California is worth $2.85, while the acre product in Iowa is $14.50. The Colonel properly points out that to divide an estimate of the value of farm crops by the acreage of a State is no way to get at the average acre product, and is particularly unreasonable in a comparison of California and Iowa because California has such large areas of mountains, deserts, forests, lakes, etc., while Iowa has perhaps a greater percentage of her area tillable than any other State in the Union. And we would like to add to these indisputable points in his claim that Iowa should be just to California a little protest of our own. We do not believe in cropping our scenery, while if we had nothing better in that line than Iowa we would be disposed to do so. We have plenty of tillable land and when it reaches the degree of development of which Iowa has a right to be proud the total products of California will convince the Greater Iowa Association that it has something to do to approximate it. But California is rather glad that nature has made it impossible for her ever to become such a trim little dooryard as Iowa development is destined to achieve. We are proud that our mountains periscope the continental United States and have no rival except in Alaska; that we have the largest uplift of fresh water in the world; that our trees have no superior in age or stature; that our deserts lie lower below sea level than any other—and all that. It is these things, and the climatic conditions to which they minister, that make California distinctive and glorious and they have all had their influence in giving us a third greater population than Iowa. And it is particularly unkind for the Greater Iowa Association to try to obscure our acre-average of production, which is really greater than that of Iowa for lands actually in use, by spreading our farms all over this splendid scenery. But we forgive the offense, which was probably ignorantly committed, in consideration of the thousands of fine people Iowa has given us and who constitute an important and influential element of our citizenship.

QUERIES AND REPLIES

By the Editor

Inquirer Must Give Full Name and Address

Pruning the Himalayas.

To the Editor: When is the time to prune old stalks, "out at the end where berries have just been," of Himalaya blackberry vines. My crop has been gathered, but the vines are blooming again and have green berries; a vigorous growth of new shoots on them, should they be pruned now or later? When is the proper time to transplant blackberries and raspberries?—I. H. R., Santa Margarita.

Prune Himalayas as your own convenience in training the vine may require, when it closes up its shop for the winter. If you have a climate and other conditions which give you ripe blackberries for Thanksgiving why should you worry? Meantime let the leaves grow and send as much force as they can back to the main stem and roots. When they finish their work, cut back as you find it convenient to handle the vine, but do not cut out all the old wood as you would with other black and raspberries, for the Himalaya keeps on sending fruiting shoots from the old wood, and they do not. The farther you let the vine stretch out toward the place where you sell your berries the less hauling you will have to do. We have seen vines go 125 feet in that direction and we do not know how much farther they will go. As for transplanting all bush fruits, do it when the leaves are out of business.

Walnut Growing.

To the Editor: What have walnut prices been for the last few years? Would it be advisable to plant an English walnut orchard in Glenn county, intersetting with some quick-bearing trees? Is it better to plant the black walnut and then top-graft after a few years, or to use trees which have been grafted in the nursery? Is there much danger of either blight or dieback?—D. F. B., Del Rey.

The best seedling walnuts have ranged from 13½ to 16½ cents, and fancy budded walnuts from 17 to 20 cents during the last four years, from first hands. On good, deep land, with the right moisture assured, walnut planting is warranted in the interior valleys. All the valley counties have such land, but one must be smart enough to find it. It is common to plant at full distances and interplant with fillers. If one has more time than money he can get a good orchard by planting black seedlings and grafting over; if he has money available he had better plant grafted or budded trees, just as he does with other fruits. One has to expect blight and fight it, and sunburn is to be expected also in the interior valley, but neither is prohibitive of planting. He ought not to have die-back if his soil and moisture are right and other measures for the thrift of the trees are faithfully pursued.

Embargoes on Beans.

To the Editor: I am sending bean leaves that have small insects on under side leaf and seem to turn into a small pale green fly that sucks the leaf dry; also a small red insect. Some of the leaves have a sort of mold on the upper side. The bean bushes are turning brown fast and the leaves fall off. Please tell me what is the trouble and what kind of insect is doing the damage. Up to this time the beans have been growing strongly. What can be done for them?—M. W. L., Bethany.

You have about everything that is due to arrive on beans. The small green fly is an aphis and the small red insect is the red spider, but there is not enough of either of these present to do much harm in your case. Your chief invader is bean mildew, which is what you describe as a "sort of mold." This indicates that your beans are on rather moist ground or you are sprinkling them too much—otherwise you might have less mildew and more red spider. Dust fine sulphur over the foliage: it will check the mildew and the red spider and save some beans, probably, if these pests have not gone too far. But you also have a good lot of thrips on some of the leaves—not enough to wreck the plants which seems to be chiefly the effect of the mildew.

Pollination of Pumpkins and Squashes.

To the Editor: All through this region the pumpkin crop is a failure. Blossoms did not begin to set until lately and at the tips of the runners. In my own fields the vines did well. They were covered with blossoms, bees were in abundance, yet the fruit is scarce as almonds. Have you a possible reason for the crop failure? An old friend says the bumble bee is the chief agent in pollinating pumpkins. Is this so?—C. A. S., Chico.

Any kind of a bee can do the business for a squash. The blossom is open not like some others which are believed to require the special armament of a bumble bee. The chief cause of sterility is usually the absence of all bees, but as you noted their abundance, some other cause must be sought and that is beyond our reach. An unusual amount of high, dry heat might have put the floral parts out of condition. The later setting of fruit which you mention warrants a suspicion that you may have had aerial conditions, which made even bee visits futile.

Strawberry Leaf Spot.

To the Editor: What shall I do for strawberries that seem to blight? The leaves have a small brown spot and then they are completely covered with a rust and die down, and the berry that touches the ground is even affected and dries up.—F. E. M., Freshwater, Humboldt county.

Fortunately, the fungus is not often abundant enough to do much harm in most parts of California. When it is bad as late as this perhaps the best thing to do is to mow off all the foliage, rake up all the litter and burn it. If the disease comes on earlier in the season the plants should be sprayed with Bordeaux mixture as soon as you see the spotting beginning. Better than any treatment probably is to plant resistant varieties, such as Albert F. Etter of Ettersburg in your county has originated. They will give you strong, healthy foliage without spraying.

Which Is the Best Fig to Plant?

To the Editor: What is the best variety of figs to plant for commercial purposes?—D. F. B., Del Rey.

Ask the Kaiser. If the war goes on and the Turks are bottled up long enough the White Adriatic will go at great profit in this country, as it has recently. If the Smyrna product gets free soon to overrun the world again as it formerly did, it seems to us that the "fig of commerce" grown in California is about the only projectile we have any chance with.

Red Spider and Worms on Alfalfa.

To the Editor: I have red spider on alfalfa. I have had some experience with the spider on trees but not on alfalfa. We are also troubled with worms on the alfalfa. What can we do, if anything?—J. M. L., Raisin.

Nobody does anything to kill pests on alfalfa. It would probably cost a great deal more than the crop is worth. Water will kill or discourage red spider. The worms will soon go to moths or butterflies for this season. Pasturing is the best way to fool the worms.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., September 18, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.01	.03	.71	68	48
Red Bluff	...	...	.25	102	60
Sacramento	...	...	.15	102	56
San Francisco	...	...	.02	94	54
San Jose	...	...	.17	98	48
Fresno	...	...	...	102	58
San Luis Obispo	...	...	.14	92	56
Los Angeles	...	...	...	84	56
San Diego	...	...	...	72	60

California Citrus Crop Returns Growers $47,675,000

[Compiled from Report of California Fruit Growers' Exchange.]

The annual report of the California Fruit Growers' Exchange discloses a most healthful condition in the activities of that organization. The total crop of California citrus fruits for the year ending August 31, 1917, reached 53,830 carloads, which returned to the growers $47,675,000. The Fruit Growers' Exchange handled approximately 69 per cent of this business—a new record, both in the whole amount handled and in percentage of the total. The actual amount handled by the Exchange was 36,218 carloads, which returned $33,611,000 to its members. Expressed in terms of boxes, the exchange handled 12,836,848 boxes of oranges, grapefruit and tangerines, and 2,656,142 boxes of lemons. On account of the large volume of business done and the cooperative methods employed, the selling costs were low—4¾ cents per box, the lowest on record. To this cost must be added, however, an advertising expense of 2¼ cents per box on oranges and 4 cents per box on lemons. This advertising expense is deemed necessary in order to increase consumption of citrus fruits to keep pace with the rapidly increasing output. According to the general manager, G. Harold Powell, consumption has increased 80 per cent in the ten-year period covering the Exchange's advertising campaign, though population increased but 25 per cent meanwhile.

THE NAVEL CROP.

The crops of oranges and lemons in southern orchards were this year the largest in the history of the citrus industry, notwithstanding some damage done to navels on lower lands of the early maturing districts by November frosts. Some difficulty was also experienced in getting sufficient car accommodations for navel shipments. The application of the maturity standard for oranges, passed by the last State Legislature, operated to delay somewhat the beginning of shipments. The Exchange exercised great care, however, in inspecting orchards and fruit presented for packing under their regular labels and the Sunkist trademark. The navel crop, as a whole, sold for a higher price than any other in recent years.

THE VALENCIA CROP.

This crop also was the largest California has produced up to this time. Owing to new acreage coming into bearing, shipments of this variety have been steadily increasing in volume until now they amount to about 50 per cent of the navel shipments. Even the smaller trade is now handling Valencias in carload lots through the summer and fall seasons, thus, in conjunction with the navels, making the orange trade an all-year-round business.

THE LEMON CROP.

Lemon shipments show an increase over previous years, due mainly to new acreage coming into bearing. California supplied 71 per cent of the total lemon consumption of the United States and Canada for the Government's fiscal year ending June 30, compared with 64 per cent the previous year, and a declining percentage prior to that.

ACTIVITIES OF BY-PRODUCTS COMPANY.

The Exchange By-Products Company, organized by the Exchange lemon growers, converted during the past season over 5,100 tons of lemons unsuitable for shipping into citric acid. The acid is a high-grade product and finds a ready sale on the market. About 175,000 pounds were sold. The quantity of lemons thus used amounted to about 6 per cent of the volume received. There was also manufactured and sold over 1,000 gallons of lemon and orange tincture. The quantity of lemons thus used amounted to about 6 per cent of the volume shipped by the Exchange growers.

NEW SHIPMENT DEVICES.

Under the direction of the United States Department of Agriculture, in co-operation with the carriers and citrus growers, some experiments have been made as to the carrying quality of citrus fruits, under varying conditions of equipment and methods of loading. One valuable fact brought to light is that cars equipped with floor racks, or false floors, will carry fruit without freezing at much lower temperatures than the ordinary car equipment, and railroad companies have definitely decided to install false floors on cars used for citus transportation purposes.

THE PROSPECTS FOR THE COMING YEAR.

As is well known, the citrus districts in June last were visited by several days of excessively hot weather. This hot spell had been immediately preceded by unusually low temperatures, which fact increased the sensitiveness of the young and tender fruit. In the interior districts the heat was accentuated by very dry winds. The result was that a large per cent of small navels of next year's crop shriveled up and dropped from the tree. Many small lemons were similarly affected, and large sized, matured lemons were made unmerchantable. Valencias were less severely damaged. It is impossible, therefore, at this time to make an accurate forecast of next year's navel production. Valencias, seedlings, sweets, and grapefruit will probably not be much below normal. Lemon pickings will likely be light except in districts near the coast.

California's citrus crop for the fiscal year of the California Fruit Growers' Exchange, closing August 31, amounted to 53,830 carloads. This fruit brought in the markets to which it was consigned the snug sum of $67,600,000, and returned net to the State of its origin $47,675,000. California achieved the distinction of supplying over two-thirds (71% exactly) of all the lemons consumed in the United States and Canada. Incidentally, 175,000 pounds of citric acid and 1,000 gallons of lemon and orange tincture were manufactured.

Control of Red Spider on Almond Trees

[Written for Pacific Rural Press by H. P. Stabler.]

Mr. John Wood, a Sutter county fruit grower near Yuba City, has a ten-acre almond orchard of five-year-old trees. The leaves are on the trees and are as green and fresh as they were in the spring, while most almond orchards have been defoliated by the red spider infestation, which is unusually severe this season.

On July 20 Mr. Wood sprayed his trees with a sulphur paste solution which contained ten pounds of sulphur to 200 gallons of water. Five gallons of spray were used to each tree and every part of the foliage was thoroughly coated.

The secret of Mr. Wood's success was the application of the spray early in the season, before the damage resulted from the red spider attack. At the time of spraying, each tree showed a slight infestation. Most growers wait until the mites have reached the adult state, when the damage has been done, and the adult mites are very resistant to dry sulphur or sulphur sprays.

Many Sutter county almond growers have recently visited Mr. Wood's orchard near Almendra Station, and have been amazed at the complete control of the red spider pest, while neglected orchards are entirely defoliated.

[The foregoing significant paragraph by County Horticultural Commissioner H. P. Stabler is accompanied by branches cut from Mr. Wood's trees, showing bright, clean foliage on which we cannot find spiders enough for a good specimen. The specific information which Mr. Stabler gives will enable any grower to have his orchard next year in as good shape if he will begin early and do good work.—Editor.]

FUNDAMENTALS OF FREESTONE PEACH PRUNING.

[Written for Pacific Rural Press.]

Since a peach bears fruit on that wood only which was produced last year, the object of pruning is to produce enough of such wood without excess and to make it strong enough to set and hold fruit until the fruit ripens, says Tehama County Horticultural Commissioner C. B. Weeks.

Unless the grower systematically cuts back the growth, it will be spindly and will not come low down on the limbs which could hold the weight of fruit desired. Without proper cutting back, the new growth will come from the terminals of last season's growth and on ordinary soil will be short, weak, and spindly. They will have few fruit buds and the following year will produce comparatively no fruit. If such a tree is on low, moist soil, the growth from terminals will be longer and will set more fruit, but will be so spindly that it cannot hold up or mature the crop it sets. Cutting back the new growth stiffens it and the limb it comes from. After a tree is mature, the wood which bore fruit last year should be removed so far as practicable; and where new growth is too thick it should be thinned. This, with the cutting back of new wood, will force new growth throughout the tree.

In the cutting back the habit of the variety in locating fruit buds must be observed. With Elbertas and Muirs fruit buds are made near their junctions with larger branches, so cutting back of fruit laterals only is necessary, and they may be cut pretty short, especially far out on a branch. With Lovells the branch itself may preferably be cut back, leaving fewer laterals and these considerably longer, because their fruit buds are scarce near the junctions.

BETTER METHOD OF TURNING RAISINS.

[Written for Pacific Rural Press.]

When the empty tray is laid onto a full one to turn the drying raisins, there are usually a few lying on the cleats. These get squeezed and spoiled when the trays are stacked. Many people brush them off with the hands. This involves the time of one person idling while the other does it.

A. B. Cate and J. A. Schlueter of Fresno county independently devised a system of almost mechanical clearing of the cleats, which are on the long sides of their trays. Both say it works fine. When the empty tray is being placed, it is tipped to one side enough to catch the grapes lying on the cleat, and slipped over enough to leave about an inch clear space inside the cleat on one side. After turning and before the upper tray is lifted, it is tipped and slid sidewise to clear the other cleat in the same way. When the swing of the operation is acquired, it takes scarcely an instant more than to omit it.

Another waste is the loss of loose berries which fall out in turning. This could be largely prevented by having the usual quarter-inch cleats extend across ends as well as sides; and if heavy trayfuls are to be picked, as seemed the rule last season, by having thicker cleats. There is no appreciably increased difficulty in dumping the cured raisins into sweat boxes, but many pounds of raisins will be saved and much time will not be used in picking up the spilled raisins. This plan is used at the Kearney vineyard.

MARKET FOR WHOLE DRIED APRICOTS.

To the Editor: Regarding whole apricots would say only a few whole apricots have been dried which have been used in the bakery trade. We do not believe this trade could be exploited very much, owing to the fact that we believe that the demand would be limited, as the apricots could only be used for flavoring without extracting the pits. However, we are working on this proposition and trust in another year to be able to use quite a few cars of these.

Yours very truly,
H. G. COYKENDALL.

A man can be firm without having a head you could crack walnuts on.

Some New-Day Wants

In Motor Cars, Which the Latest Mitchells Meet

Today the men who know cars best don't want too light a car. On country roads such cars cannot endure. And thousands have now learned that.

Now the demand is for superlative endurance. The fine-car buyer wants a lifetime car. He buys a car to keep.

Three years ago Mitchell engineers started to meet this want. They adopted the standard of 100 per cent over-strength, which is twice the usual margin of safety. Now the Mitchells, in all important parts, comply with that new standard.

All safety parts are vastly oversize. Castings are almost eliminated. Over 440 parts are made of toughened steel. And we use a wealth of costly Chrome-Vanadium.

Average repair cost has been reduced some 75 per cent. Car life has been multiplied, we think. Two Mitchells that we know of have already run over 200,000 miles each. That is 40 years of ordinary service. And since this standard was adopted, not one rear spring has broken. Yet owners say it is the easiest riding car on the market. To most car buyers, this over-strength is the chief attraction in the Mitchell cars.

Nothing to Buy

In former times, nearly every car buyer bought some extra features. He found things missing which he wanted on a car.

We have examined thousands of new cars to learn what those extras are. One by one we have added them to Mitchells. The latest Mitchells have 31 features which are rarely included in cars.

A power tire pump, for instance, reversible headlights, shock-absorbing springs, a dashboard engine primer, a locked compartment, a light in the tonneau, etc. So the Mitchells combine in a single car nearly every known attraction.

Lasting Beauty

The demand today is for beauty that endures. We have spent vast sums to meet that. Now the finish coats on Mitchells are fixed by heat, so the luster lasts. We use extra-grade leather to get durable upholstery. In the past year alone we have added 25 per cent to the luxury cost of the Mitchell, so the cars will long look new.

No Extra Cost to You

These things are expensive. Yet note that Mitchell, in both sizes, undersells its rivals.

That fact is due to John W. Bate, the famous efficiency expert. He has spent years of time and millions of dollars to create here a model plant. It now covers 45 acres. And from end to end it is built and equipped to produce this one type economically.

We build the whole car—chassis and body—under these efficiency methods. We build the parts which most car makers buy. And we build them at the lowest factory cost.

That saving amounts to millions of dollars. And that is what pays for these extras.

The Mitchell comes in two sizes, at two prices. But the types are identical. Both embody the same extreme standards. Both are built to render lifetime service.

These cars have scores of distinctions. Go see them and see what they mean to you. If you don't know the nearest Mitchell dealer, ask us for his name.

Mitchell SIXES

TWO SIZES

Mitchell—a roomy 7-passenger Six, with 127-inch wheelbase and a highly-developed 48-horsepower motor.

$1525 F. O. B. Racine

Three-Passenger Roadster			$1490
Club Roadster	$1560	Cabriolet	$1960
Sedan	$2275	Coupe	$2135
Club Sedan			$2185

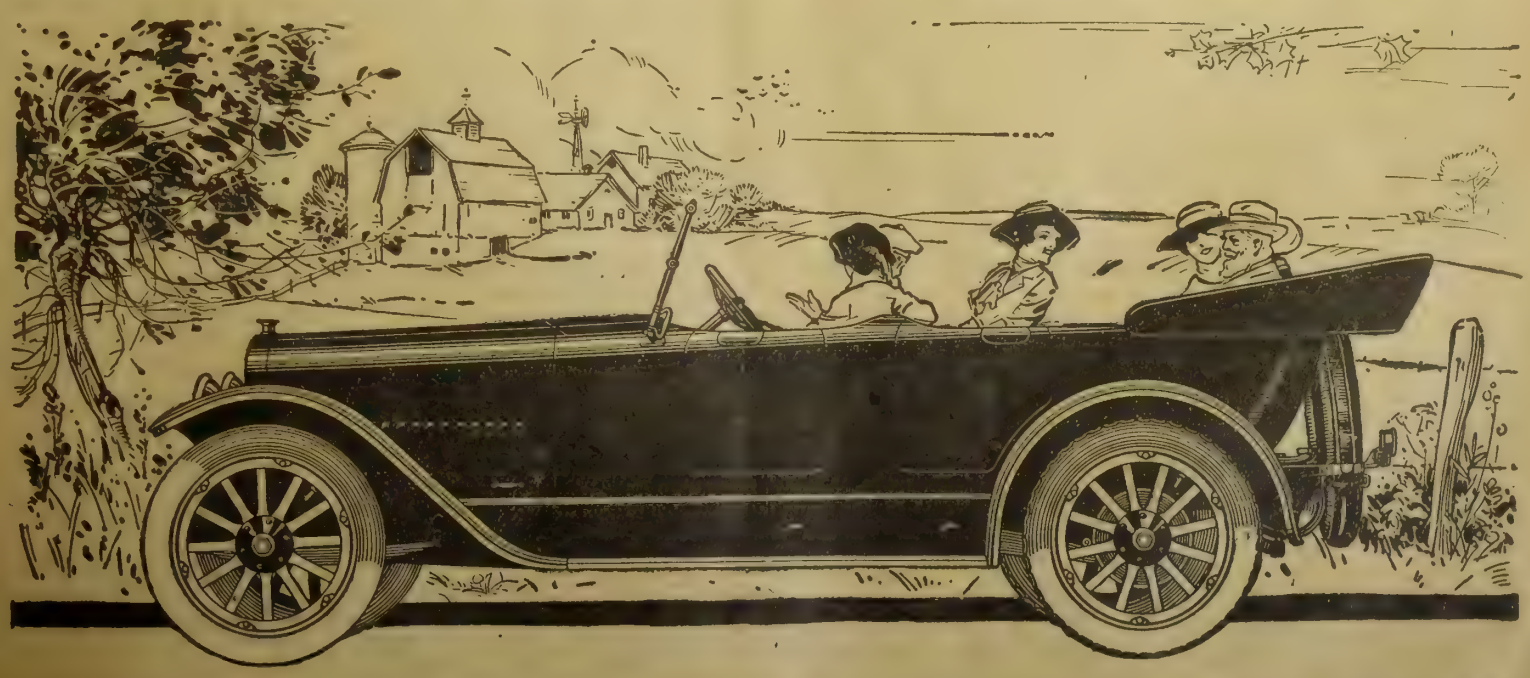
Also Town Car and Limousine

Mitchell Junior—a 2 or 5-passenger Six on similar lines with 120-inch wheelbase and a 40-horsepower motor, ¼-inch smaller bore.

$1250 F. O. B. Racine

Club Roadster $1280, Sedan $1950, Coupe $1850

MITCHELL MOTORS COMPANY, Inc., Racine, Wis., U. S. A.



Here and There in the Fruit Business

[Written for Pacific Rural Press.]

DO COVER CROPS DELAY RIPENING?

"Oranges are not so soon up to the eight-to-one test where cover crops have been grown," said B. J. Morey of Tulare county. W. E. Vaughan's fruit in Butte county was late in maturing, and had been cover cropped at least two years. It was left until after blooming. Mr. Morey's is plowed before blooming. "Twelve years ago and previously, our oranges colored on the trees for Christmas shipment, but since cover crops have increased we can't get fruit ripe by Christmas," said J. E. Adamson of Los Angeles county. "Cover crops make no difference with early maturity," said H. E. Walcott of Los Angeles county. Now what have other subscribers observed?

THOUSANDS OF CITRUS DRONES.

"As a result of our records on citrus tree production, we will bud over 25 per cent of our trees with buds from twigs of the highest producing trees, cut with high-type fruit on the twigs," says Frank Chase of the National Orange Company of Riverside county. "We expect it to be six years after rebudding until we will be getting crops equal to what we now get normally from those poor producers. But after that we expect a great increase over what is possible with our present trees." It takes a lot of faith to look so far into the future, but it would be still harder to look into an indefinite future of boarding some 34,000 citrus trees just for their beauty.

LESS WATER FOR TOPPED TREES.

[Written for Pacific Rural Press by Donald Lowell.]

Four years ago V. A. Browning of Anaheim budded his ten-year navels over to Valencias. Contrary to the local practice, he did not irrigate the trees until they had developed a considerable top. The trees showed a little wilt. He overcame this wilt by bringing moisture to the surface with cultivation, and today has one of the best Valencia orchards in the neighborhood. His idea was to keep the whole root system busy; as idle roots are likely to deteriorate, and true to his theory, many of the neighbors' irrigated trees developed root rot. On ground that is naturally moist more foliage should be left when trimming for budding in order to keep all the roots active.

ASPHALT VS. SUNBURN.

Black tree protectors have not been recommended on account of their supposed absorbing of sun heat and holding it where it is dangerous. However, a Napa county prune grower's experience last summer throws light on this theory. He applied Grade D asphaltum to his trees early in June from the ground about eight inches up, as protection against sunburn, which seemed to be killing the trees. After about three months of the hot summer time he cleaned off some of the asphalt and found the bark under it green and healthy.

KADOTA FIGS.

The Kadota fig has certainly shown itself up to be a good variety for distance shipping and also for canning and preserving. Last year some of the growers seemed to get good prices for the dried product, but its success for the production of dried figs remains to be seen. I understand the crop this season is rather light, partly on account of damage from the heat and on account of the lateness of the season. —I. J. Condit, University of California.

CUT BLIGHT WHILE LEAVES ARE GREEN.

"Now is a fine time to cut out pear blight," says Chas. Wells of Sacramento county. "I generally cut it as fast as it comes. Been too busy picking. We must cut way below the blight and sterilize the tools intelligently, so they wont spread the germs. I use carbolic acid with an equal quantity of water as a disinfectant, carried in wooden pails."

FALL FRUIT IRRIGATION.

Observant fruit growers are in great numbers seeing the necessity of irrigating fruit trees right after the crop is off, in the case of early and mid-season fruits, unless subirrigated. Bud development for a strong setting next season depends on enough root moisture after the strain of fruit bearing.

APPLE PACKING LAW.

The Apple Standard Law of 1917 provides that no packed apples may contain more than three per cent of apples with any one defect, nor more than ten per cent of all defects. This means that not over three per cent of packed apples or pears may be wormy.

Deciduous Shipments Start Late, but Make the Race in Good Form

The Rural Press presents below a comparative statement of deciduous fruit shipments for this year and last up to September 15, 1917. Shipments of these fruits began late this year owing to the backwardness of the growing season. However, the weekly statements issued by the California Fruit Distributors, showed a comparatively increasing volume of shipments until now, when the figures for the current year have not only overtaken those of last, but have exceeded them by about 2000 carloads. The quality of this year's fruit crop compares favorably with the average, prices are much higher, and the close of the 1917 season will show an unusually bountiful harvest. The figures for the varieties shipped follow:

1916		1917
164	Cherries	295
289½	Apricots	403
1891½	Peaches	2329
1997¾	Plums	2638¼
3515¾	Pears	4307¾
3577¼	Grapes	3064¾
30	Misc	15
11,465¾		13,052¾

COVER CROPS

VETCH
BUR CLOVER
MELILOTUS ALBA
MELILOTUS INDICA

ALFALFA SEED

EXTRA FANCY NEW CROP
DODDER FREE

WRITE FOR PRICES AND SAMPLES

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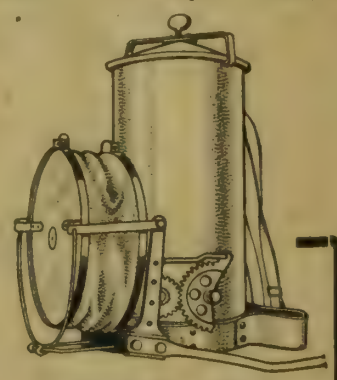

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Standard size $16.00
Junior size 13.50
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CLAY PRODUCTS
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Use PERMANENT PIPE for
IRRIGATION DRAINAGE
CULVERTS SEWERAGE
CROCKER BLDG. - SAN FRANCISCO
WORKS-LINCOLN, CAL

Beet Lime Fertilizer
besides its readily available precipitated lime value, contains organic matters of manure value.
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in the fight to overcome the great world food shortage?
Do you want to "Do Your Bit" by making every acre of your land produce its utmost? If so you must feed your soil, i. e., increase the available supply of the elements required by your crops.

GOLD BEAR FERTILIZERS
are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.
LET OUR FERTILIZER DEPARTMENT HELP YOU SOLVE THE PROBLEM OF BIGGER AND BETTER CROPS.

WESTERN MEAT CO.
SAN FRANCISCO, CAL.

PURE ANIMAL MATTER AMMONIATES
GOLD BEAR
FERTILIZERS
FOR CALIFORNIA SOILS

Dr. Washington Dodge, vice-president of the Anglo-London Bank, has completed experiments which have convinced him that cotton of quality can be grown throughout the entire length of the Sacramento and San Joaquin valleys. He will plant 9,000 acres to cotton next year on his ranch near Chico. Pima cotton, a cross between the Sea island and Egyptian types and noted for its extreme length and strength, was the kind experimentally planted and successfully grown on the Dodge ranch.

State Colonies to be Centers of Purebred Livestock

(Continued from first page.)

cumulated, as it was found that one superintendent could attend to 200,000 acres there. The amount of capital to be required for each allotment will also be predetermined. Buildings may be erected as preferred by the settler. If he wants to save on the cost, he may use plans to be furnished by the University Department of Agricultural Engineering through the Board. If contracts can be let for a number of these standardized sets of buildings at once, the cost of construction will be much less. They are to be located as much as possible, at crossroads or other groups for sociability.

PUREBRED LIVESTOCK CENTERS.

It is planned by the Land Settlement Board, according to Mr. Mead, to encourage the use of purebred livestock of only one breed of each kind in each community; and perhaps only one breed in the whole colony. The advantage of this is seen in the advertising such communities get and their attraction for buyers, which insures a market at home. The Board will own some of the best bulls they can get, furnishing their services to settlers at cost and changing them to other communities every two years. Settlers may buy cows through the Board to insure against getting culls.

Similar arrangements are hoped for hogs and other livestock, especially sheep, of which it is hoped a few will be kept on every farm. That system has tremendously stimulated sheep breeding in New Zealand, which is exporting large numbers of purebred sheep to California, although California is an older sheep country.

FARM LABORERS TO OWN HOMES.

Allotments of two acres each are to be set aside for sale on similar terms, but of course with very little capital, to farm laborers. This will establish a dependable regular supply of help of the best class, and will permit them to raise much of their own living at their own homes. In Victoria, Australia, 8,800 acres of such allotments, and 4,000 farm laborers' homes were provided and sold with immense benefit to all concerned.

APPLYING FOR LAND.

The Board is now looking for suitable tracts and has been offered several. The value of the colony as an example of intelligent colonization will probably lead to choice of a tract which is readily accessible for visitors. The location is yet to be determined; but the Sacramento Chamber of Commerce has strong claims in the proposal to furnish such a tract between there and San Francisco, where thousands of people pass daily.

There is no limitation as to who may become settlers, except that they must be citizens of the United States and cannot own agricultural real estate interest to a value over $15,000 including the colony farm he wants to buy. They must move onto the colony within six months and farm right. A system of crop rotation and diversification will be insisted upon, in order to keep the settler busy the year around and minimize the demand for transient labor.

Each applicant must fill out a blank set of questions stating his farm experience and capital and the allotment he wants, giving first, second, and third choice. The Board will assign the allotments to the applicants deemed most likely to succeed. In Australia as many as 30 applied for one allotment; but this will be avoided in California by the equitable revaluation of each to make them all equally desirable. The second colony of 5,000 acres will perhaps take care of disappointed applicants; and as land is paid for, other land will be bought for similar subdivision.

The financial safeguards in Australia and State help for settlers have been such that Prof. Mead received a letter early this month from the Victorian Minister of Water Supply saying that the Minister of Lands had just stated in Parliament that the percentage of failures had been fewer in Victoria than anywhere else in the world.

The system of colonization to be worked out in California is based on the successful systems of Europe as proved out in Victoria. Prof. Mead feels that the California project is simply the introduction of a system already thoroughly developed in practice and proved workable and safe.

State Fair Butterfat Contest

[Written for Pacific Rural Press.]

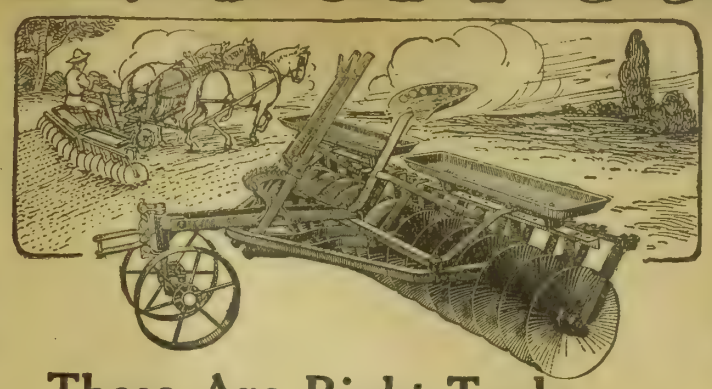
Judged by butterfat and milk production figures per cow, the State Fair three-day milking contest showed great superiority for the Holsteins. Judged by production per unit of feed, who knows but that it might have told a different story? Judged by production per unit of feed and labor, both of which are high priced, who knows which breed would have won? Only seven cows of three breeds were entered; and it is doubtful if this valuable feature of the State Fair ever will be well patronized until arrangements are made for a separate competition for each breed or else an accounting of the economy of production and preparation for the test, as well as handicaps for various stages of lactation.

The two Holstein cows entered by the J. S. Gibson Co. of Williams stood distinctly at the head of their classes, as the figures following will show. Both Holsteins produced over 45 per cent more milk than their nearest competitors.

Three-Day State Fair Butterfat Contest.

Cow over four years—Breed and Owner.	Fat
De Kol of Valley Mead II, Holstein (J. S. Gibson Co., Williams)	8.043
Imp. Morland Amber, Guernsey (B. E. Nixon, Napa)	6.822
Imp. Lynchmere Meadow Sweet II, Guernsey (B. E. Nixon)	5.053
Goldie of Venadera, Jersey (Guy H. Miller, Modesto)	4.952
Over 30 months, under 48.	
Flossy De Kol Nevada, Holstein (Gibson)	5.140
Catalina of Venadera, Jersey (Miller)	4.611
Heifer Martha of Venadera, Jersey (Miller)	2.812

H. C. Merritt of the Tagus ranch, near Visalia, has sued the Mount Whitney Power and Electric Company for $475, the value of several head of cattle killed by fallen wires.



These Are Right Tools

WHAT you do for your seed beds before the crops go in has so much to do with the yield and quality you reap at harvest time that it pays to go slow and **be right in choosing your tillage implements.** That is why farmers everywhere—your neighbors among them—are using International Harvester disk harrows, peg and spring-tooth harrows, cultivators, etc.

At your I H C dealer's store is your opportunity to find out about these. There you will find disk harrows with rigid lasting steel frames, with gangs made to be level at all cutting angles, bearings with four wears, built correctly as to adjustments, seat and levers. You'll find double harrow attachments, forecarriages, transports, everything to just suit you and your fields, even though they be hilly, stony or of any sort of unusual soil.

Take note of what has made the peg and spring-tooth harrows popular with men who want crops as big as they can be made. Pegs that never wear loose. Oil-tempered spring teeth fastened on steel pipe bars to stay. Runner teeth and transports, easy-set levers, riding sulkies, etc.

Be careful in buying tillage tools and be sure to study the International Harvester line. We have catalogues that will interest you.

International Harvester Company of America
(Incorporated)

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Portland, Ore. San Francisco, Cal. Spokane, Wash. Salt Lake City, Utah

Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

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MANURE Sheep Manure, Horse Manure, Cow Manure and Rotted Manure

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Land already checked, leveled and in good stand of alfalfa. For sale on easy terms in tracts of 20 acres and up. Also first-class orchard and bean land.

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Hides, Leather, Tallow, Wool and Skins

220 TOWNSEND ST., - - SAN FRANCISCO, CAL.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

STATE FAIR TRACTORS AND TRACTOR MACHINERY.

[Written for Pacific Rural Press.]

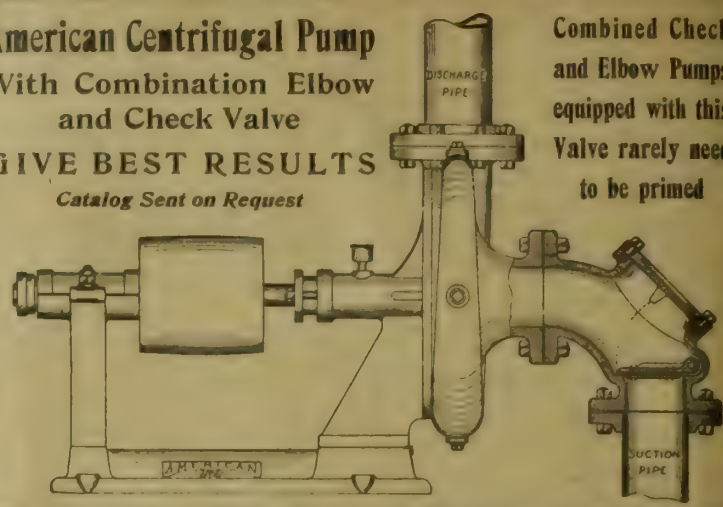
Never before has there been an exhibit of tractors, tractor machinery, and tractor accessories at a California State Fair to equal the one just past. Never before was interest so persistent and displayed by so many people. The big tractor tent covering over 25,000 square feet was packed with exhibits by the California Tractor and Implement Dealers' Association. The tent was one of the most comfortable places on the grounds, having been floored with shavings to keep dust down, and having no exhibits in motion. Its location beyond the rest of the State Fair displays, yet in full view of the grandstand, brought all interested people there, but excluded most of idle curiosity. A great sign labeled it; and the old race-horse buildings in front of it had been torn down. The reason for no motion, was to avoid noise, gas, and dust, so people could comfortably investigate. But it was also found that prospective tractor users must see the machines in motion; and it was decided to provide such facilities at future fairs. It was realized that people want to know what is in an engine; so the commonest and most attractive features in the tent were exposed engines and transmissions.

Features of the exhibits in the Association tent were about as follows, beginning at the nearest corner: Two Bean tractors with one partly cut away. One stood on an iron plate by which its system of steering by the track which pulls it was demonstrated; Monarch Oil Co.; John Deere Plow Co., with light and heavy tractor disk gang plows, and several heavy moldboard gangs; Union Oil Co.; International Harvester Co., with a Mogul and a Titan, a gang plow, some disk cultivators, and a silage cutter which operates by a flat wheel 3½ feet in diameter with knife-edged openings which shear the corn clean and powerfully. Baker & Hamilton occupied the next space with disk and moldboard gang plows to fit most any tractor in the tent; also double-disk cultivators of 32 disks each. One of the exhibits that always had a crowd was the Cleveland track type tractor, which is new in this country. It has two narrow tracks and no wheels, one of the smallest of this type that is made. The Standard Oil Co. showed all the oils necessary for tractors, and then some. P. & O. disk and moldboard gang plows occupied the next booth with a Western pulverizer, which works down a strip 15 feet wide at a trip. Oliver gang plows occupied the end of the tent, being hitched together in long series which would be more than any one tractor could pull. One such gang is designed for summer plowing a foot deep in hardpan or hard clay. The Dauch Mfg. Co. showed three Sandusky tractors with the crank case of one of them taken off—also a bare crank. The Big Bull tractor was represented by a small part of its machinery, probably because of transportation difficulties. W. L. Cleveland Co. had both models of the Waterloo Boy on exhibit, one with four wheels for row cultivation, etc., and the other with three wheels for plowing, etc. J. I. Case showed three tractors, a stationary thresher, and a rice-and-bean thresher. Hughson & Merton had a Tracford attachment on exhibit and a Wallis Cub tractor on the cars in Wyoming which even the telegraph failed to get to Sacramento in time. The Samson Sieve Grip Tractor Co. showed two models with an array of separate parts, illustrating the speed with which repairs may be obtained and installed on their machines. The center of the tent was occupied by big exhibits. The Holt Mfg. Co. occupied the largest space and showed the largest piece of machinery, a self-propelled caterpillar-type combined harvester which had already cut 2,100 acres of grain this season and was under contract to cut several hundred acres of gyp corn after the Fair. It takes a strip 18 feet wide and threshes 38 to 44 acres per day. The Caterpillar 45 and 75 h. p. tractors were also shown, and on a table nearby was a two-foot working model showing track action. The Cal. Moline Plow Co. occupied the next largest space with disk and moldboard gang plows, disk cultivators, and two tractors, one of which was attached to an eastern grain harvester so the driver sits on the harvester as usual. A long exhibit of Newell-Sanders disk and moldboard gang plows and double-disk cultivators was made by the Pacific Implement Co. C. L. Best had a tractor and Schmeiser land leveler operating in the race track, besides their tent exhibit of a 75 h. p. tractor and a wheelless 45, around which there was usually a crowd. A naked frame was also an interesting exhibit. The Yuba Construction Co. exhibited three different-sized tractors and three of their big special tractor disk gang plows; also an uncovered transmission to show their easy change of speeds, etc.

OUTSIDE EXHIBITS.

Across the way from the Association tent was a Schmeiser exhibit

American Centrifugal Pump
With Combination Elbow and Check Valve
GIVE BEST RESULTS
Catalog Sent on Request



Combined Check and Elbow Pumps equipped with this Valve rarely need to be primed

WE HANDLE MOTORS, GAS ENGINES, OIL ENGINES
Louden STALLS AND STANCHIONS FOR COW BARNS
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Four Routes East!

Sunset Route: Along the Mission Trail, and through the Dixieland of song and story. To New Orleans via Los Angeles, El Paso, Houston, and San Antonio. Southern Pacific Atlantic Steamship Line, Sailings Wednesdays and Saturdays, New Orleans to New York.

Ogden Route: Across the Sierras and over the Great Salt Lake Cut-off. To Chicago via Ogden and Omaha; also to St. Louis via Ogden, Denver and Kansas City.

Shasta Route: Skirting majestic Mount Shasta and crossing the Siskiyous. To Portland, Tacoma and Seattle.

El Paso Route: The "Golden State Route" through the Southwest. To Chicago and St. Louis via Los Angeles, Tucson, El Paso, and Kansas City.

Oil Burning Locomotives
No Cinders, No Smudge, No Annoying Smoke
Unexcelled Dining Car Service

FOR FARES AND TRAIN SERVICE ASK ANY AGENT
SOUTHERN PACIFIC
Write for folder on the *Apache Trail of Arizona.*

Uni-Lectric LIGHTING SYSTEM
Electric Light for Your Farm
Will have Plant in operation in Machinery Hall at State Fair
Be sure to see it
Write today for full description and low price.
KARL A. HEDBERG ELECTRICAL ENGINEERS 104 Clay St., San Francisco, Cal.

showing two power land levelers, one of which is operated by compressed air. A tractor with them showed the means of pulling them. A Sure-Pop almond huller stood alongside. In another large tent were several attachments to make tractors out of Ford cars. A new one and the only track type Ford attachment we have seen, was the Franco Chain, which did some plowing in the hard ground and parading about the Fair. Moving pictures of the Staude-Mak-a-Tractor held much interest.

On the Machinery Building open porch was an important exhibit of tractor machinery by the Killefer Mfg. Co. This included heavy-duty multiple chisels and subsoilers, and other cultivators; but not their three-step subsoiler by which the standards behind each other go 16, 32, and 48 inches deep.

STATE FAIR AUTOMOBILES AND TRUCKS.

The big automobile tent was filled and overflowing with latest models and courteous attendants. Inside views of the mechanism were featured in many cases. The auto-truck tent also overflowed and these useful machines might be seen in several parts of the grounds.

THE ECONOMY OF ELECTRIC BLASTING.

Farmers have relied entirely on fuse firing of powder charges too long. The work of removing stumps, in the hands of average man, is the same today as it was nearly a generation ago—not because no advance has been made in methods, but because improvements are not in general use. They are largely unknown except in large mine and quarry work.

The small electric blasting machines which now can be bought for farm use, cost only a few dollars each and nearly always save their cost in the first few hundred pounds of powder fired. They save, in the first place, by getting the same or better results with less powder. This is made possible by dividing the big charges necessary to get out stumps into several small charges, which are loaded about under the main roots—in other words, the powder force is hitched shorter to the load, with consequent greater advantage over it.

The small charges can be loaded much easier and much quicker than large ones, because the only holes needed can be made with a bar and sledge, or an auger. The spoon shovel is not needed. Tamping the small holes is a small operation, quickly completed, and at the same time the tamping can be made tighter than it is possible to tamp a large dug hole or tunnel.

The multiple charges under a single stump break it apart better than one charge can, because they subject roots, body and all to so many different strains at once. The pieces left are more easily handled. In fact, when loading is done right all the pieces can be handled by hand, and can be piled and burned without the use of power or rigging of any sort other than a horse and sled to haul in the more widely scattered ones.

Since each root is given its own individual pull, the result is a much more complete removal than is possible to secure from one charge. It is no trick to make a clean job of a stump when several charges are used. The man with a blasting machine can get along pretty well without any horses at all, for pulling out roots left by his blasts.

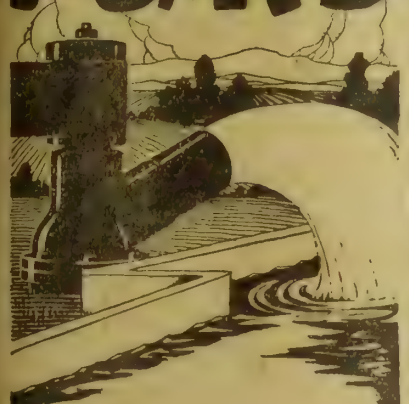
The final economy is in the smaller holes made. Blasting out big stumps with single charges cannot be done without at the same time excavating large craters. But blasting out the same stumps completely with a number of small charges located around over a considerable area is another thing. The stick or two of powder that is placed at any one spot is not enough to throw out much dirt. The result of the properly loaded electric blast is merely a more or less broken area of ground free from roots, for most of the dirt is lifted so little that it falls back where it came from.

This year there is every reason for employing any method or appliance that will speed up work and make it easier. The hundreds of farmers clearing land, in order to cash in more fully on the war prices with the increased acreage and the virgin fertility, should find this one thing to be worth about as much as an extra man on each job.

TRACTOR SHORT COURSE.

For the man who wants a practical course in the operation and management of a tractor, the University Farm Gas Tractor Short Course at Davis, November 5 to 15, includes practice in the operation of tractors, timing, adjustment, testing, belt lacing, pipe fitting and babbitting; and the leading makes of tractors, with a corps of practical mechanics, will be available for instruction.

LAYNE & BOWLER PUMPS



It makes no difference how much or how little water you want to develop, there is a Layne & Bowler Pump to do the work, and do it economically.

OUR FIELD IS AS BROAD AS THE EARTH AND AS DEEP AS WE CAN BORE. ASK FOR CATALOG No. 25

Layne & Bowler Corporation
900 Santa Fe Ave. Los Angeles

After Harvest

There's more time for the plowing after the harvest, before the rains come, than there is in the spring after the rainy season. Many very successful farmers plow when the ground is hard and dry. They plow deep, turn up eight to twelve inches of good soil for the air and rain to melt into a muddle.

It pays to use power enough to plow dry land deep—the Yuba way.

We'll be glad to send you the names of scores of farmers who plow dry land, and plow it deep. Send for catalog, Dept. A2.

YUBA MANUFACTURING CO.
433 California Street
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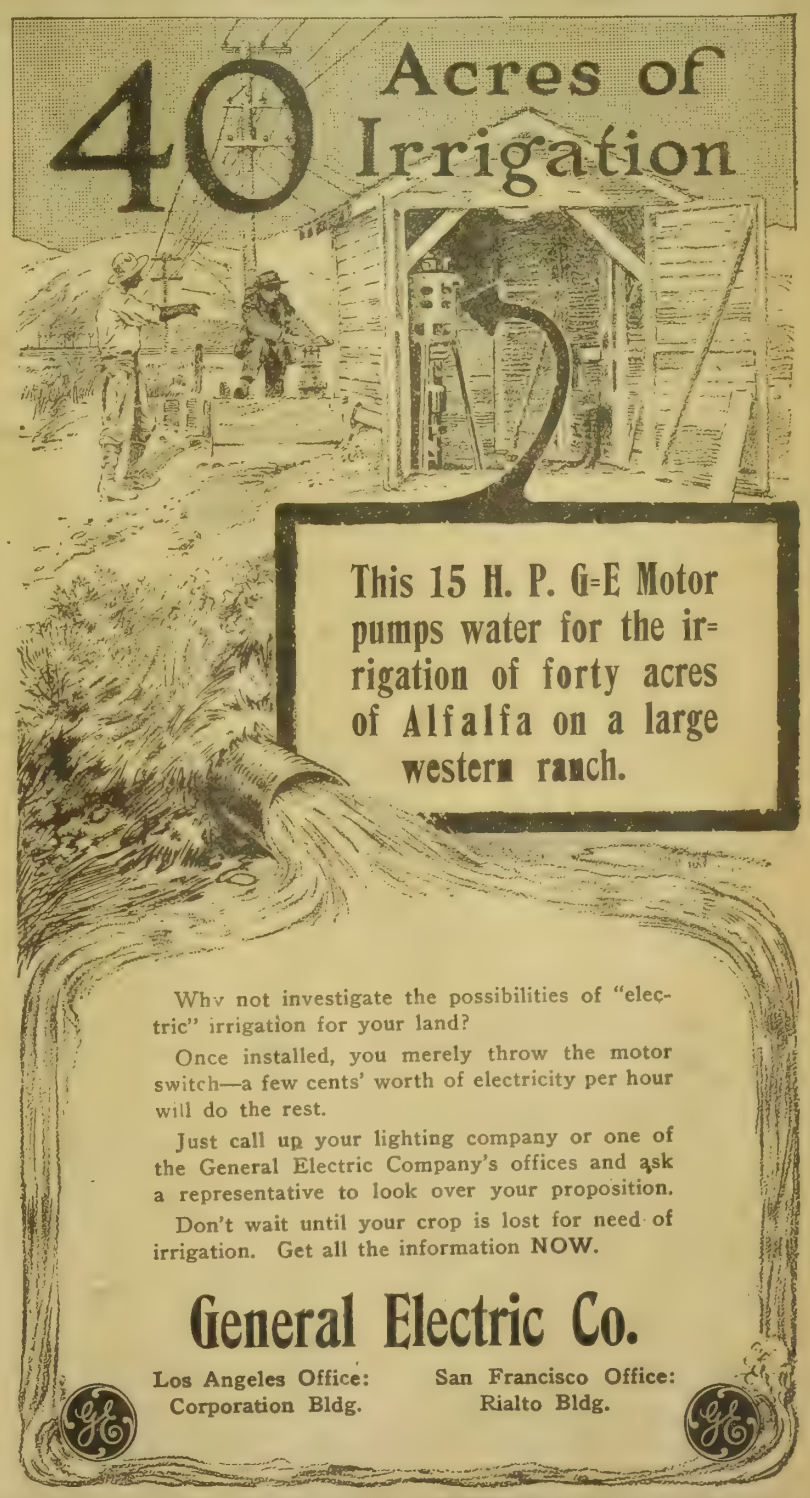
WITTE
"Kero-Oil" Engines
Immediate Shipment—All Styles—2 to 22 H.P.—No Waiting—Big Factory—Big Output—Prices most favorable. Write for my terms and prices—Cash, Payments or No Money Down.—ED. H. WITTE, Pres.
WITTE ENGINE WORKS
2060 Oakland Ave., Kansas City, Mo.
2060 Empire Bldg., Pittsburg, Pa.

I Save You $15 to $200

40 Acres of Irrigation



This 15 H. P. G-E Motor pumps water for the irrigation of forty acres of Alfalfa on a large western ranch.

Why not investigate the possibilities of "electric" irrigation for your land?

Once installed, you merely throw the motor switch—a few cents' worth of electricity per hour will do the rest.

Just call up your lighting company or one of the General Electric Company's offices and ask a representative to look over your proposition.

Don't wait until your crop is lost for need of irrigation. Get all the information NOW.

General Electric Co.

Los Angeles Office: Corporation Bldg.
San Francisco Office: Rialto Bldg.

Low boiling points ---the first links in the continuous chain---give easy starting.

Standard Oil Company (California)

RED CROWN GASOLINE

The Gasoline of Quality

easy starting

General Agricultural Review

Field Crops.

Kings county is planning for a County Farm Adviser.

The cucumber crop in Central California is the best in several years.

The eleventh annual Fresno district fair will start Tuesday afternoon, September 25.

An estimate of the Yuba county bean crop places it at 80,000 sacks, at a valuation of $7.50 per sack.

A bale of cotton to the acre is possible on all the valley land in California, according to Dr. Washington Dodge.

It is reported that nearly $3,000,000 will be received from the cottonseed crop of 1917-1918 by valley farmers.

C. R. Melander, of the Farmers' Mercantile Company, says that Salinas will receive $1,250,000 for its bean crop this year.

A provision in section 6 of the food law exempts the grower from violation of the hoarding law so long as the grain belongs to him.

Joseph Stevens, president of the Pacific Rice Growers' Association, predicts a rice crop valued at between eight and ten million this year.

California leads cotton states in condition of crop as follows: Texas, 55; Arkansas, 79; Missouri, 83; Oklahoma, 86; California, 90; Arizona, 89.

The value of farm land in the state has consistently increased during the last four years, according to the annual report of the State Board of Agriculture.

Rice is grown successfully in the northern part of Kern county, on heavily laden alkali land which had hitherto been regarded as practically worthless.

According to the report of the State Agricultural Society in 1916, there were 61,800 acres in rice in the Sacramento valley and 3,200 in the San Joaquin valley.

Latest crop estimates given out by the Department of Agriculture for the United States and California show, in nearly every case, a big increase over last year.

President J. H. Stephens of the Pacific Coast Rice Growers' Association predicts that the total gross value of the rice crop this year will be close to $12,000,000.

M. M. Gregg, auditor of the S. P. Milling Company, states that the total barley crop for Monterey county this year will be but 30,000 tons, or 12,000 tons short from last year.

Rice fields of Yolo county are to be visited by the State Commission of Immigration and Housing, which is making preparations to have its labor camp inspectors visit all the labor camps in the Sacramento valley.

The harvesting of the large bean crop in the Sawtelle Southern California district began last week. The land in beans there this year is 10,000 acres. The beans are mostly Spanish and brown beans and are bringing 6 cents per pound at the warehouse.

Amended articles of incorporation of the California Lima Bean Growers' Association were filed at Ventura last week, whereby new powers are given the directors who are named as follows: Thos. McCormick, W. S. Saviers, H. C. Sharp, Myron Gabbert, W. A. Graham, T. A. Rice, B. F. Barr and Wm. C. Jerome. Deliveries of lima beans have been made to the Association warehouses at Saticoy, El Rio, Camarillo and Hueneme.

At a meeting last week at Owensmouth of bean growers of the San Fernando valley at which Col. Harris Weinstock, State Market Director, and R. I. Church, manager of the California Lima Bean Growers' Association, spoke, it was agreed by those present to form two local bean growers' associations to cover the entire San Fernando valley. One at Owensmouth to embrace Chatsworth, Zelzah and Marian and all the territory west of the Newhall wash. The other at Van Nuys to cover the entire eastern portion of the valley. The California Lima Bean Growers' Association has enlarged its scope of operations so as to include all kinds of beans.

Deciduous Fruits and Nuts.

The Prune and Apricot Growers predict a possible 200,000,000-pound production of prunes for the state.

The California Peach Growers estimate that there will be in the neighborhood of a 35,000-ton crop of dried peaches.

Five acres of prunes owned by G. W. Strickland just outside of Colusa, will yield 25 tons this year and net about $3,000.

Mr. Elsbree, whose orchard is at Middle Camp, east of Sonora, will have about 2,500 boxes of choice apples to send to city markets.

The Prune and Apricot Exposition is being held in Mountain View, Santa Clara county, Friday and Saturday, September 21 and 22.

The Alameda County Horticultural Commission has begun a quarantine against blemished fruit, acting under the provisions of the new apple law.

Due to lack of help, Sutter county has suffered a heavy loss, as much of the fruit has dropped to the ground and spoiled, especially peaches.

Capay valley will raise one-fourth of the state's almond crop, according to an estimate made by leading growers who figure that the yield will reach 500 tons.

A Sutter county fruit grower near Yuba City has demonstrated the efficacy of a sulphur paste solution in the control of red spider infection on his almond trees.

An opening price on Imperials of 14 cents for 20s and 30s was declared by the Board of Directors of the Prune and Apricot Growers' Association at their meeting recently.

Mr. Ralph, who has a large orchard on the high hills between Sonora and Tuolumne, will this year ship out about 4,000 boxes of fine apples—both early and late keepers.

It is said that the Pacific Electric Railroad will extend its line from Redlands to the Yucaipa valley at once, giving shipping facilities to 250 cars of fruit out of the valley, the estimated yield of the valley this year.

S. Tinel, manager at Yucaipa, has equipped his cannery for the evaporating of apples. Plans have been made for handling all the culls in the Oak Glen and Beaumont districts this year. Apple butter will also be made.

August shipment of peaches from Tulare to the Pasadena Canning Company amounted to about 1,400,000 pounds of fruit. The shipments will continue for another month. Most of the fruit now being shipped is of the clingstone variety.

Citrus and Semi-Tropical.

Lindsay is to have a $30,000 olive plant, now in the course of erection. An estimate of a 60 per cent yield is now placed on the local crop.

According to orange growers of the Grand View Heights section south and east of Porterville, a 75 per cent crop of fruit will be marketed from that section this year.

Butte county olives have improved from 65 to 70 per cent, peaches from 20 to 30 per cent of the normal crop and plums have raised their estimates 5 to 10 per cent.

In is announced from Ontario that the Bloomington Fruit Association has affiliated itself with the Ontario-Cucamonga Fruit Exchange. The Ontario-Cucamonga now numbers 13 members, including associations in Ontario, Cucamonga, Upland, Etiwanda and Bloomington, and its members number 100.

Reports from Porterville say that this season's navel orange crop will be late. It is thought it will be towards the middle of November before there will be any for shipment. With a short Florida crop and a light yield expected in other portions of the state, the disposition will be to hold the fruit on the trees until it meets the full eight-to-one test. The crop is estimated at 65 per cent of normal.

At the annual meeting of the Ontario Citrus Fruit Association just held, the manager, N. H. Garrison, reported 454 cars of oranges shipped the past season and its members were paid $327,965 for their fruit. This is said to be a gain of $111,732 over last year. The old board of directors and officers were reelected. The office of manager will be dispensed with the coming year on account of the promised light crop, his duties being taken over by the secretary.

Grapes.

The New York retail trade is buying California seedless raisins as a substitute for currants, the latter article this year being considered almost out of the question owing to the high cost to import.

The California Associated Raisin

DRYING MUSCATS.

[Written for Pacific Rural Press.]

Usually, where twenty to twenty-two pounds of Muscats per tray are sloped toward the south, ten days in the sun will dry them two-thirds on top and make them ready to turn, according to John McBriar of Fresno county. They will be a brown color, slightly amber, but not too much amber, which would denote that they were picked too green. The time in the sun will depend on sun, wind, haze, and atmospheric moisture. Two turnings may be necessary in moist weather.

Two men can turn 3,000 trays in ten hours and do a good job. The charge for that is about three dollars per thousand. Dangers here are that they will spill grapes or scatter sand on them, and by ordinary practices they are likely to mash those that rest on the cleats.

The grapes dry faster after being turned, because they are dry and warmer on the under side. When they are two-thirds dry, about seven days after turning, the best practice is to stack them. This is done by two men who set them endwise to the wind, and with ends alternately projecting to let air in. This lets them cure evenly, without getting them too hard. If the grapes were entirely ripe when picked, they will hold together if balled in the hand, when dry enough for the sweat box.

Five Years After

Five years ago these two orchards were planted. At that time there was no difference between them—except that the trees on the left were planted in holes blasted with Hercules Dynamite while the trees on the right were planted in holes dug with a spade.

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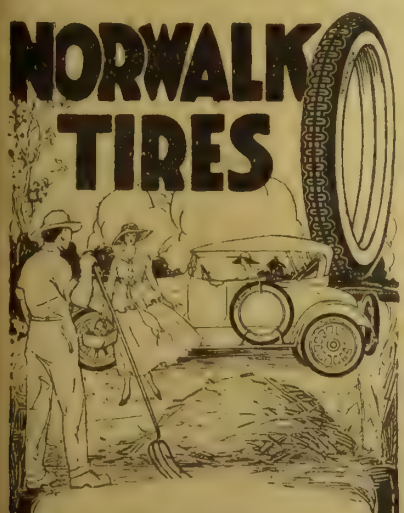

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ELABORATE PREPARATIONS FOR THE CALIFORNIA LAND SHOW.

Preparations on an elaborate scale are being made for the California Land Show which is to open in San Francisco in October. It is claimed that an expenditure of $100,000 will be necessitated before the doors are open to the public, and that the exposition as a whole will represent an outlay of about $2,000,000. It is intended to install an extensive industrial exhibit and to show the varied resources of California and their by-products in attractive forms. Miniature farms, orchards, vineyards, rice fields, and perhaps cotton fields, will be features. There will also be a fine display of wines, pottery of various kinds from three porcelain works, as well as marbles adapted to mosaic purposes. Pumping and irrigation plants, street car lines, and turning machinery in operation are promised.

F. M. Pickering is chairman of the livestock committee, and will have associated with him on the committee and as judges the following well-known men: E. A. Bridgeford, San Francisco; Jas. M. Brown, San Francisco; Frank A. Brush, Santa Rosa; John Cuddeback, Paso Robles; John D. Daly, San Francisco; Robert E. Easton, Santa Maria; Clemente Fatjo, San Francisco; A. W. Foster, San Francisco, W. C. Hammon, San Francisco; H. A. Jastro, Bakersfield; Robt. Kimble, Hanford; D. O. Lively, San Francisco; Richard S. McGreery, San Francisco; Wm. Mayo Newhall, San Francisco; Jerome O'Neill, Oceanside; Warren R. Porter, San Francisco; Wm. B. Reis, San Francisco; Wm. H. Saylor, San Francisco; Wm. T. Sesnon, San Francisco; Hon. Peter J. Shields, Sacramento; Fred J. Sinclair, San Francisco; Howard Tilton, Gilroy; E. H. Tryon, San Francisco; Fred W. Keisel, Sacramento; Edgar J. Depue, San Francisco.

The several counties of the State are rapidly reserving space for individual displays. Mendocino county, for example, will contribute much of the redwoods with which the entire show will be "dressed," metamorphosing a city plot of 200,000 into a bewitching forest of sequoia. This county will bring replicas of a tree in the old apple orchards which abound in the coast district. The famous Gravenstein was planted 90 years ago by Russian farmers in Mendocino, and some of the trees are still living and bearing fruit.

Santa Cruz will show the famous Pajaro Valley apples and San Luis Obispo will have samples of its famous dried apples.

Orange county will display the alligator pears, and Santa Barbara and Orange counties will both have extensive exhibits of oranges and other citrus fruits.

San Benito will be represented, and prominent ranchers in the region of Hollister as well as other cities of that county are planning on a fresh and dried fruit exhibit of pears, peaches, prunes and famous apricots.

Santa Barbara is to have a display of flora, which will be a feast of color to the lovers of flowers. Oroville, famous for its oranges, has decided this year to present a most comprehensive display of olives. There will be ripe and green olives, olive oil, lessons and pictures on olive orchards, the preparation of soil and—to please the visitors—an olive day that those who doubt may taste of this ultra flavored product. Colusa and Sonoma counties are to bring the best of their fruits and grains and both are expected to have distinctive show places in the exposition.

Many other counties, some announced and others as yet unannounced, are assiduously at work making plans for this all-California show.

Contra Costa county has organized a Farm Bureau with Frank T. Sweet as president. The Bureau has secured from the county supervisors a fund to pay the expenses of a County Farm Adviser and hope to have one sent them by the University of California shortly.

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New Breeders Outstrip Old Ones at State Fair

[Written for Pacific Rural Press.]

Perfect weather, greater conveniences for comfort, greater prosperity, and a greater motive than ever before, drew record crowds to the State Fair at Sacramento, September 8 to 15, and set a pace that will not be easily surpassed in future fairs. While the lack of help for fitting animals reduced the number exhibited below what was expected, we know that the quality of the livestock was a revelation to the breeders themselves. It was a great stroke of advertising for the California livestock industry that was carried out in bringing Eastern judges to study our stock and place the awards. A few years ago this might have been a mistake, but with the quality exhibited at Sacramento this year, not only the judges but the field representatives of the national breed associations will not cease referring to California livestock in their future talks to Eastern breeders. They were surprised as well as we, although the Panama-Pacific Western livestock has been talked about in the East for two years. The point was acknowledged by a number of Eastern visitors, with the cordiality of good sports, that the movement of fine livestock will in a very few years be as much Eastward as Westward, especially if Western breeders exhibit at Eastern shows to prove what we have.

A surprise to many was the large number of grand championships that went to exhibitors who had not shown before at the State Fair.

One of the strongest and most important features of the State Fair week was one least advertised in advance — the meetings of livestock breeders. The revelation at these meetings of good fellowship, high purpose, patriotism, and the interested number of breeders augurs well for the livestock industry, which probably has never been so well united as now. Space precludes more than general mention of the meetings, but what was said will appear later at intervals.

CATTLE.

Dairy and beef cattle this year filled all the old exhibit sheds and some new ones besides overflowing into the new pens built this year for hogs.

DAIRY CATTLE.

The absence of some customary exhibitors was not so noticeable as at first feared, because the available space was filled by a greater number, representing more sections of the State. Several of the leading breeders whose stock stayed at home this year felt a bit envious, and they determined to be at the State Fair with the goods next time. When a new exhibitor quietly takes both bull and cow grand championships, it makes people rub their eyes. A lot more people ought to rub their eyes and get into the State Fair milking contest, which cannot be fairly conducted from a breed standpoint unless more entries are made.

BEEF CATTLE.

Enthusiasm over the breeds of beef cattle at the Fair ran high. Surely California, with only one-sixth as many cattle per square mile as Iowa, can well be proud of the quality she is producing. The aim of most of the breeders may well be that the best purebred bulls should be furnished to rangemen at prices they will pay. An unusual feature of the show was the winning of grand championship Hereford bull by a calf dropped March 4, 1917, and shown by a new exhibitor. Last year all Hereford and Angus entries were made by the University of California; this year four breeders exhibited, and most of these have developed their purebreds since the Panama-Pacific. In the extraordinarily large and fine show of Shorthorns, a new breeder won grand champion bull and reserve grand champion female. A new Angus breeder appeared and created favor. Fat cattle in carloads and as individuals were a great feature of the show.

HOGS.

Poland Chinas and Durocs were there in about equal numbers, but Berkshire breeders had only about half as many. The Yorkshire, Hampshire and Chester White breeds put up strong exhibits. A surprise here was sprung in some classes by the favor shown for ability to put on size. Many first prizes went to such, although in some cases better type in smaller sizes could not be overlooked. With similar judges next year, breeders may hope to win without impairing the breeding ability of their winners by over-fattening. A new exhibitor won grand champion Poland China boar, which is sired by a boar in one of the smaller herds of the State. The Duroc grand champion boar was shown from one of the smaller herds and by a man who has not been long in the show ring.

SHEEP AND GOATS.

The small sheep show was a fine aggregation of Shropshires, Hampshires, Corriedales and Dorsets. Several new names are on the exhibitors' list, though a few of the old-timers dropped out this year. There was a nice exhibit of goat and long hair.

DRAFT STOCK.

For beauty that attracts everybody, horses cannot be excelled, and where mules are displayed as at the State Fair their own attractiveness surprises the usual visitor. All kinds of draft stock were more numerous than before, so that some of the champions had to be housed in rather uninviting sheds.

Jacks were there with music that sounds like gold jingling in their owners' pockets in these days of demand for mules—jacks of well-nigh perfect build and proud of their offspring.

Belgian mares, a beautifully uniform trio shown by Ruby & Bowers.

De Kol of Valley Mead II, Winner of State Fair Butterfat Contest. Record, 8.043 pounds fat in three days. Owned by J. S. Gibson Co.

State Fair Awards

[Awarded in order named as reported to us by State Fair Publicity Department.]

BEEF CATTLE.

Shorthorns.—Exhibitors securing awards: Jack London Ranch, Glen Ellen; Thomas T. Miller, Los Angeles; Ormondale Co., San Francisco; Pacheco Cattle Co., Hollister; Carruthers Farms, Mayfield; T. B. Gibson Estate, Woodland; Hopland Stock Farm, Hopland; T. S. Glide, Davis; H. L. and E. H. Murphy, Perkins.

Grand champion bull: Miller on Greendale Sultan. Grand champion cow or heifer, any age: Hopland Stock Farm on Hopland Lass. Senior champion bull: London on Roselawn Choice. Junior champion bull: Miller on Greendale Sultan. Senior champion cow: Hopland Stock Farm on Hopland Lass. Junior champion cow: Miller on White Mayflower. Aged herd: Miller, London, Pacheco Cattle Co. Breeders' young herd: Glide, Pacheco Cattle Co., Hopland Stock Farm. Calf herd: Pacheco Cattle Co., Gibson Estate, Hopland Stock Farm. Get of sire: Pacheco Cattle Co. on Get of True Dale, Glide on Get of Knight Perfection, Pacheco Cattle Co. on Get of True Dale. Produce of dam: Hopland Stock Farm on produce of Diana Duchess 4th, Pacheco Cattle Co. on produce of Gondomar's Princess, Pacheco Cattle Co. on produce of Pearl Thomas. Bulls, three years old or over: London on Rose Lawn Choice, Miller on Diamond Choice, Ormondale Co. on Golden Goods Jr. Two years old and under three: Miller on Greendale Sultan, Carruthers Farms on Hallwood Flash, Carruthers Farms on Hallwood Voyager, Gibson Estate on Snow King. Junior yearlings: Hopland Stock Farm on Hopland Lord, Pacheco Cattle Co. on Pacheco Lad 92nd, Glide on Village Type, Glide on White Knight, Carruthers Farms on Rookwood Monogram. Senior calves: Pacheco Cattle Co. on Pacheco Lad 100th, Hopland Stock Farm on Hopland Valkyrie, Ormondale Co. on Star of Ormondale, Hopland Stock Farm on Councillor 9th. Junior calves: Pacheco Cattle Co. on Pacheco Lad 109th, Gibson on Ringleader's Ring 2nd, Gibson on Ringleader's Model, Glide on King's Knight, Glide on September Night, Miller on Bright Gloster. Cows, three years old or over, with calves at foot: Hopland Stock Farm on Hopland Lass, Miller on Brandsey's Jinny 18th, Glide on September Morn, Ormondale Co. on Sweetheart, London on Pine Grove Secret 8th. Two years old and under three: Ormondale on Mayflower 4th, Pacheco Cattle Co. on Pacheco Lass 80th, Miller on Golden Queen, London on Village Pride II, Hopland Stock Farm on Hopland Duchess, Carruthers on Rookwood Bessie, Glide on Hilcrest Mary, Glide on Hilcrest Flower. Senior yearling: Glide on Sonella's Lady, Glide on Spicy Lady, Pacheco Cattle Co. on Orange Blossom, Miller on Sultana of Linwood 2nd. Junior yearlings: Carruthers on Broadhook's Sultana 2nd, London on London's Aloha, Pacheco Cattle Co. on Pacheco Lass 103rd, Glide on September Night, Ormondale Co. on Ormondale Beauty, Pacheco Cattle Co. on Pacheco Lass 89th, Murphy on Lady Foxglove 4th, Murphy on Miss Orange 12th. Senior calves: Miller on White Mayflower, London on London's Choice Lady, Pacheco Cattle Co. on Pacheco Lass 108th, Carruthers on Lady Mayflower, Pacheco Cattle Co. on Pacheco Lass 111th. Junior calves: London on London's Lavender Lady, Pacheco Cattle Co. on Pacheco Lass 118th, Gibson Estate on Roselawn Blossom, Gibson on New Year's Morn, Glide on Mysie's Rose.

Herefords.—Exhibitors securing awards: W. J. Bemmerly, Woodland; D. O. Lively Stock Farm, San Francisco; H. H. Gable, Esparto; J. A. Bunting, Mission San Jose; Mrs. J. H. Ware, Live Oak; Kern County Land Company, Bakersfield; H. L. & E. H. Murphy, Perkins; Western Meat Company, San Francisco.

Grand champion bull, any age: Gable on Diamond Fairfax. Grand champion cow or heifer, any age: Lively on Lady Berenda 208th. Senior champion bull: Lively on Bertram Fairfax. Junior champion bull: Gable on Diamond Fairfax. Senior champion cow: Lively on Lady Berenda 208th. Junior champion cow: Bunting on Lady Tintinger. Breeders' young herd: Bemmerly. Calf herd: Bemmerly. Get of sire: Bemmerly on get of Mr. Perfection. Produce of dam: Bemmerly on produce of Ruby Splawn, Bemmerly on produce of Molly Hope. Bulls, senior yearling: Bemmerly on Bonnie Brae. Junior yearling: Lively on Bertram Fairfax, Bemmerly on O'Connor. Junior calf: Gable on Diamond Fairfax, Bemmerly on Kenneth Splawn. Cows, three years old or over: Lively on Lady Berendo 208th, Bemmerly on Lady Dulcinea, Lively on Lady Berendo 200th. Two years old and under three: Bemmerly on Goldie Donald. Junior yearling: Bunting on Baby Bunting, Lively on Lady Evenho, Bemmerly on Patricia Splawn. Senior calf: Bunting on Grace Bunting, Bemmerly on Nolo Ray. Junior calf: Bunting on Lady Tintinger, Bemmerly on Alyandia, Bemmerly on Ruth Dulcinea.

Aberdeen Angus.—Grand champion bull, any age: Ware on Elderly Prince. Grand champion cow or heifer, any age: Ware on Scioto Coquette. Senior champion bull: Ware on Elderly Prince. Senior champion cow: Ware on Scioto Coquette. Bulls, two years old and under three: Ware on Elderly Prince. Cows, three years old or over: Ware on Scioto Coquette.

FAT CATTLE.

Any breed, pure bred or grade.

Steers, one year and under two: Kern County Land Co., Murphy. Car lot steers, any breed, one year old or over: Kern County Land Co., Western Meat Co.

DAIRY CATTLE.

Holstein-Friesians (Open Class). — Exhibitors securing awards: J. W. Benoit, Modesto; J. S. Gibson Co., Williams; S. G. Kounias, Modesto; Napa State Hospital, Napa; E. G. Wharton, Tulare; J. H. Harlan Co., Woodland; Bridgford Co., Knightsen; Gonzalo Co., Cia. Santiago, Chile; Fred D. Ross, Hanford; Toyon Farm Association, Los Altos; F. A. Heroux, Oakland.

Grand champion bull: Bridgford, King Segis Alcartra Prilly. Grand champion female: Bridgford, Miss Korndyke Mercedes 2nd. Senior champion bull: Harlan, Prince Butterboy Walker. Junior champion female: Napa State Hospital, Fay Nook Creamelle. Aged herd: Gibson, Napa State Hospital. Young herd: Bridgford, Harlan, Ross. Calf herd: Bridgford, Gibson, Harlan. Get of sire: Gibson, Segis Creamcup Pontiac; Harlan, Prince Butterboy Walker; Ross, Creamcup Fidessa Cornucopia De Kol. Produce of dam: Ross, Fidessa Pietertje; Gibson, Nance Aaggie of Oakwood. Bulls, three years old or over: Benoit, El Prado Wayne Colantha; Gibson, Segis Creamcup Pontiac; Kounias, King Korndyke Hengerveld Ormsby VII; Napa State Hospital, Prince Rag Apple Imperial; Wharton, It State Bells. Two years and under three: Harlan Co., Prince Butter Boy Walker; Gibson, Segis Annie De Kol Burke; Gonzalo, Segis Pontiac De Kol Burke; Ross, Rossmead Fidessa Pietertje; Gibson, Sir Aaggie Alcartra Korndyke. Junior yearling: Gibson, Segis Mead Walker; Harlan, Toyon Valdessa Hengerveld; Toyon Farm, Finderne Soldene Valdessa; Ross, Rossmead Alcartra De Kol. Senior calves: Bridgford Co., Nudine Butter Boy; Gibson, Prince Pontiac Roma Alcartra; Gibson, Hartog Korndyke Pontiac; Heroux, Model Domino Glista; Ross, Rossmead Korndyke De Kol. Junior calves: Heroux, Dutchland Aaggie's Lucky Guess; Napa State Hospital, Husky Pontiac Gem; Gibson; Kounias, Toyon King Korndyke Soldene; Toyon Farm, Toyon King Korndyke Pet. Cows, four years old or over:

Bridgford, Miss Korndyke Mercedes 2nd; Napa State Hospital, Hazelwood Hello Queen; Benoit, Koroba Electa; Napa State Hospital, Midnight Marie 2nd; Bridgford, Spring Farm Pauline Pontiac 2nd. Three years and under four: Napa State Hospital, Bessie Johann Lill Black; Bridgford, Spring Farm Pontiac. Two years and under three: Heroux, Riverview Bracelet Brett; Bridgford, Bos Antonia Cornucopia; Gibson, Queen Pontiac Charlotte Korndyke; Napa State Hospital, California Colantha Bess; Heroux, May Flower Pietertje. Senior yearling heifers: Napa State Hospital, Fay Nook Creamelle; Gibson, Colantha Juliana Dotty Sunnydale; Harlan, Salambo Korndyke 2nd; Bridgford, Miss Pontiac Model D. K.; Harlan, Nadgy Korndyke Mosi 3rd. Junior yearling heifers: Gibson, Contenta Riverside Mead; Gibson, Cora Forbes of Linwood; Ross, Rossmead Pontiac Hengerveld; Bridgford, Valdessa Inez Korndyke; Bridgford, Adeline Pontiac Segis Korndyke. Senior heifer calves: Bridgford, Jennie Korndyke Walker; Gibson, Princess Hazel Pontiac Alcartra; Napa State Hospital, Lady Ormsby Genesee; Gibson, Princess Korndyke Segis Alcartra; Bridgford, Princess Inka Butter Girl. Junior heifer calves: Bridgford, Miss Orpha Pontiac; Harlan, Margie Waker Moore; Bridgford, Inka Hengerveld; Harlan, Modjeska Walker Crane; Napa State Hospital, N. S. H. Midnight Marie.

A typey Jersey, shown by Guy H. Miller.

Jerseys.—Exhibitors securing awards: C. P. Hembree, Monmouth, Ore.; Guy H. Miller, Modesto; J. B. & J. E. Thorp, Lockeford; S. F. Williams, Orland; Dr. H. W. Hand, Glenn; O. J. Ames, Oakdale.

Grand champion bull: Hembree, Rochette's Noble Duke. Grand champion female: Hembree, Imp. Brilliant Spray. Junior champion bull: Thorp, Jolly Senator Raleigh. Junior champion female: Hembree, Brilliant Jersey Queen. Aged herd: Hembree, Miller, Thorp. Young herd: Hembree, Thorp, Hembree, Miller. Calf herd: Hembree, Miller. Get of sire: Hembree, Undulatta Prince; Miller, Altama Interest; Williams, Alva Lady de Foss Boy; Thorp, Marquis Golden Lad 3rd. Produce of dam: Williams, Golden Maidikin; Thorp, Miss Benedeta; Hembree, Imp. Brilliant Spray; Williams, Bessie of Golden Trix; Miller, Fern of Venadera. Bulls, three years or over: Hembree, Rochette's Noble Duke; Miller, Altama Interest; Thorp, Imp. of L.; Hembree, Undulatta Prince; Williams, Alva Lady's La Foss Boy. Two years and under three: Williams, Golden Maidikin's Boy; Hembree, Clover Blossom's Noble Boy. Senior yearling: Thorp, Jolly Senator Raleigh; Williams, Noble Lucy's Warder Boy. Junior yearling: Hembree, Inglenook Lass's King; Williams, Coutelenc. Senior bull calves: Miller, Aldene's Interest; Williams, King Hanford; Hand, Oxford Daisy's Keep On; Thorp, The Wolfe; Hembree, Bull. Junior bull calves: Hembree, Bull; Williams, Hanibright; Miller, Lorita's Golden Fox; Hand, Blossom's Liberty Bond. Cows, four years or over: Hembree, Imp. Brilliant Spray; Thorp, Salome of Mossdale; Hembree, Noble Peer's Jewel; Hand, Foxhall's Sweet Blossom; Miller, Goldie of Venadera. Three years and under four: Miller, Catalina of Venadera; Ames, Rebekah's Figdale Nugget; Ames, Dimple Bunny of Figdale. Two years and under three: Thorp, Miss Daisy of Mossdale; Miller, Martha of Venadera; Hembree, Spray's Clotilde. Senior yearling heifers: Hembree, Brilliant Spray's Gipsy; Thorp, Nomie of Mossdale; Miller, Angels of Venadera; Hembree, Royal Queen's Pretty Girl. Junior yearling heifers: Hembree, Brilliant Jersey Queen; Hembree, Noble Duke's Little Prim; Thorp, Rose of Mossdale; Williams, Alta La Foss. Senior heifer calves: Hembree, Birdie's Agnes; Hembree, Silverine Pearl's Duchess; Hand, Shasta Daisy Keep On; Miller, Lucile of Venadera; Thorp, Blossom's Miss of M. Junior heifer calves: Hembree; Hembree, Herome's Lora; Miller, Cantata of Venadera; Williams, Aleta Dean; Williams, Orland Queen. Cows having official yearly record: Hembree, Imp. Brilliant Spray; Hand, Foxhall's Sweet Blossom; Miller, Goldie of Venadera.

Guernseys.—Exhibitors securing awards: B. E. Nixon, Yountville; A. J. Welch, Redwood City; Charles De Bois, Berkeley; J. W. Henderson, Berkeley; L. D. Smith, Berkeley; Calla Grove Farm, Manteca.

Grand champion bull: Nixon, Imp. Ricardo of Edgemoor. Grand champion female: Nixon, Imp. Clatford Fay of the Mill. Junior champion bull: Nixon, Imp. Pearl King of Revada. Junior champion female: Calla Grove, Calla Grove Itchen May. Aged herd: Nixon. Young herd: Smith. Get of sire: Welch, Dairymaid's Prince; Smith, President's Mysie. Produce of dam: Nixon, Clatford of Meadow Sweet; Nixon, Dorothea of Meadow Farm; Smith, Mysie's May of Claremont; Henderson, Rancho Morning Rose; Smith, Daisy of the Isle II. Bulls, three years or over: Nixon, Itchen Daisy May King of Langwater; Welch, Dairymaid's Prince. Two years and under three: Nixon, Imp. Ricardo of Edgemoor; De Bois, Mysie Dale of Claremont; Henderson, Glenburnie Boy. Junior yearlings: Welch, Argie's Prince; Nixon, Imp. Star of Revada; Nixon, Imp. Dorothea's Knight of Revada; Henderson, Sir Elsie Masher of Glenburnie; Smith, Mysie's Mar of Claremont. Senior bull calves: Nixon, Imp. Pearl King of Revada; Nixon, Don Leno of Revada; Welch, Bijou Prima of Hidden Valley; Smith, Mysie's Prince of Claremont. Cows, four years or over: Nixon, Imp. Clatford Fay of the Mill; Welch, Imp. Argie of Linwood; Nixon, Imp. Lynchmere Meadow Sweet; Nixon, Imp. Lynchmere Meadow Sweet 2nd; Nixon, Imp. Morland Amber. Three years and under four: Nixon, Imp. Bijou Des Mau Marquis. Two years and over three: Nixon, Imp. Violet of Cache's Farm; Smith, Mysie's May of Claremont; Henderson, Musetta of Bella Vista. Senior yearling heifers: Welch, Coral Sequel's Dairymaid; Henderson, Kitchener's Rosette of Bella Vista; Smith, Mar's Sequel of Claremont. Junior yearling heifers: Nixon, Imp. Golden Wish of Revada; Nixon, Imp. Wickham Hope of Revada; Calla Grove Farm, Calla Grove Beauty. Senior heifer calves: Nixon, Imp. Purity of Revada; Smith, Mysie's Hope of Claremont; Henderson, Roselee of Bella Vista; Nixon, Imp. Buttercup of Revada. Junior heifer calves: Calla Grove Farm, Calla Grove Itchen May; Welch, Theodora of Hidden Valley; Nixon, Sunshine Girl of Revada; Welch, Chene's Princess of Hidden Valley; Welch, Raymond's Lily of Hidden Valley. Guernsey cow having official yearly record: Welch, Imp. Argie of Linwood.

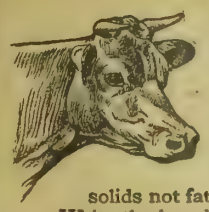
Bull three years or over: Alexander & Kellogg, Glenside Royal. Two years and under three: Thomas Harrison, First Royal Buttercup; Alexander & Kellogg, Shasta. Senior yearling: H. L. & E. H. Murphy, Brighton Boy. Junior yearling: G. A. Murphy, Sunnyside Chief; Harrison, Chardon. Senior bull calves: Alexander & Kellogg, Westward Ho; Alexander & Kellogg, Golden West. Junior bull calves: Alexander & Kellogg, Knight of Tunisfail; G. A. Murphy, Mary's Albert. Cows four years or over: Alexander & Kellogg, Lady Beatrice; Alexander & Kellogg, Bellevue Daisy; Harrison, Lady Sunshine. Three years and under four: Murphy, California Beauty 2nd; Stuart, Crystal Beauty. Two years and under three: Alexander & Kellogg: Beggar Maid's Beauty; Alexander & Kellogg, Carperby Dairy Maid 2nd; Murphy, Newark Frantic. Senior yearling heifers: Stuart, Louise's Best; Stuart, Lois Diamond 2nd. Junior yearling heifers: Alexander & Kellogg, Solano Fern; Murphy, Sunnyside Mary; Harrison, Princess Wildeyes 3rd. Senior heifer calves: Alexander & Kellogg, Island Buttercup; Murphy, Beatrice; Alexander & Kellogg, Valley Belle 5th. Junior heifer calves: Murphy, Sunnyside Sisyphus.

Senior and Reserve Grand Ch. Shorthorn Bull, Jack London Ranch.

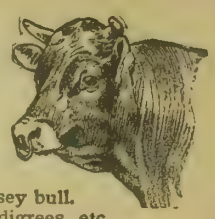
Ayrshires.—Exhibitors securing awards: E. B. McFarland, San Mateo; Preston School of Industry, Waterman.

Grand champion bull: McFarland, Willowmoor Robinhood 32nd. Grand champion female: McFarland, Willowmoor Vesta 4th. Senior champion bull: McFarland, Willowmoor Robinhood 32nd. Junior champion bull: McFarland, Steybrae Masterpiece. Senior champion cow: McFarland, Willowmoor Vesta 4th. Junior champion heifer: Preston School of Industry, Ravendale Doreen. Aged herd: McFarland. Calf herd: McFarland. Get of sire: McFarland. Produce of dam: McFarland. Bulls, three years or over: McFarland, Willowmoor Robinhood 32nd. Senior year-

Jerseys for Net Profits



You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull.



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The American Jersey Cattle Club, 388 West 23rd Street, New York City

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

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Visitors welcome. Correspondence solicited.

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Young bulls from dams and grandames in Register of Merit.

GUY H. MILLER, Modesto, Cal.

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Fine individuals, with Register of Merit backing.

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With or without registration papers. Service Bulls from cows with yearly records. Jersey females. Prices right. Tuberculin tested.

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Senior and Reserve Grand Champion Bull

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GUERNSEY CATTLE AND HAMPSHIRE HOGS
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BULL CALVES, 7 to 13 months old from A. R. dams. See their records in State Contest.
BOARS, any age and at reasonable prices.
GILTS—bred to the best sires in the country—the dam of one of them sold in the ring for $680 and was Grand Champ. at Omaha.
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REGISTER OF MERIT JERSEYS

Did you ever try to buy Register of Merit registered Jersey cows at private sale?

If you have, you know how very, very scarce they are.

Did you ever figure up how many Register of Merit registered Jersey cows have ever been sold at public sale in California?

If you have, you know how very, very scarce they have been in public sales.

In the Stanislaus County Jersey Breeders' First Consignment Sale at Modesto, California, Tuesday, September 25, 1917, there will be more Register of Merit breeding represented by animals backed by one, two, and three consecutive generations of Register of Merit cows than has ever been offered in any sale, private or public, in this State before.

Great young cows, with R. M. records above 500 pounds butter in one year, splendid daughters of such cows, and of the blood lines that are most famous in California.

There are 22 FRESH COWS AND HEIFERS in the sale, besides a considerable number of heavy springers. Many of these springers and other bred cows and heifers are bred to bulls by Register of Merit sires and out of dams with excellent Register of Merit records.

Every animal over six months of age has been tuberculin tested, an individual certificate will be furnished, and, besides that, THE PURCHASER WILL BE PERMITTED TO TUBERCULIN RE-TEST ANY ANIMAL HE BUYS.

If you want good, young, dependable registered Jerseys, be at Modesto next Tuesday, September 25, for it is an opportunity not often available to secure this high class of cattle.

Contributors to the sale:

GUY H. MILLER, Modesto
FRED B. WULFF, Modesto
M. W. BRADY, Modesto
RIVERINA FARMS, Modesto
W. J. HACKETT, Ceres
JNO. A. ORR, Ceres
W. J. AMES, Oakdale
C. W. HACKETT, Ceres

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Col. Ben A. Rhoades
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California Breeders Sales & Pedigree Co.

C. L. Hughes, Sale Manager, SACRAMENTO, CAL.

ing: McFarland, Bangles Prince of Steybrae. Senior bull calves: McFarland, Steybrae Masterpiece; McFarland, Steybrae Improver; McFarland, Steybrae Highland Lad. Junior bull calves: McFarland, Steybrae Torro Major; McFarland, Mossy's Prince of Steybrae. Cows, four years or over: McFarland, Willowmoor Vesta 4th; McFarland, Willowmoor Happy Girl. Three years and under four: McFarland, Burnside Mary; McFarland, May Morning. Two years and under three: McFarland, Calla Lily; Preston School of Industry, Cedar Hill Dew Drop; McFarland, Ada Roan; Preston School of Industry, Cedar Hill Bessie. Senior yearling heifers: Preston School of Industry: Ravensdale Doreen; McFarland, Lady Stair of Steybrae; Preston School of Industry, Steybrae Beauty; McFarland, Caroline of Steybrae. Junior yearling heifers: Preston School of Industry, Cedar Hill Pansy; McFarland, Kate of Steybrae. Senior heifer calves: McFarland, Steybrae Anne; Preston School of Industry, Cedar Hill Jean 2nd; McFarland, Steybrae Ellen. Junior heifer calves: McFarland, Pegotty of Steybrae; Preston School of Industry: Steybrae Ruby; McFarland, White Queen of Steybrae.

Dairy Shorthorns.—Exhibitors securing awards: Alexander & Kellogg, Suisun; Thomas Harrison, Glen Ellen; H. L. & E. H. Murphy, Perkins; G. A. Murphy, Perkins; T. M. Stuart, Salt Lake City, Utah. Grand champion bull: Alexander & Kellogg, Westward Ho. Grand champion female: Alexander & Kellogg, Lady Beatrice. Senior champion bull: Alexander & Kellogg, Glenside Royal. Junior champion female: Alexander & Kellogg, Solano Fern. Aged herd: Alexander & Kellogg. Young herd: Alexander & Kellogg. Get of sire: Alexander & Kellogg on Glenside Royal. Produce of dam: Murphy on Greenwood Mary; Alexander & Kellogg on Valley Belle 4th; Murphy on Sisyphus 5th.

Dutch Belted Cattle.—All awards to U. G. and Mrs. Jennie Strader of Ceres.

SWINE.

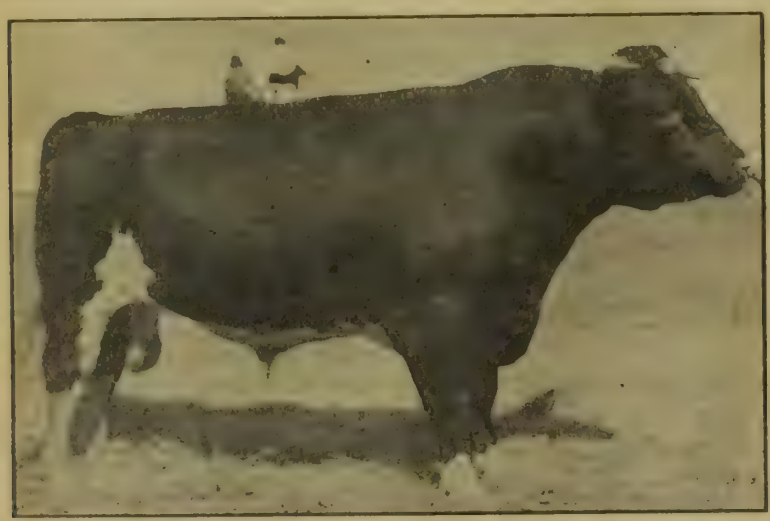
Exhibitors securing awards: Perkins & Co., Perkins; James Mills Orchard Company, Hamilton City; A. B. Humphrey, Escalon; H. L. & E. H. Murphy, Perkins; A. L. Stephenson, Los Molinos; Frank A. Brush, Santa Rosa; H. J. Hammond, Sacramento; Carruthers Farms, Mayfield; George M. York, Modesto; Frank B. Anderson, Sacramento; Napa State Hospital, Napa.

Berkshires.—Grand champion boar: Perkins on Majestic King 6th (sold to A. B. Humphrey before judging). Grand champion sow: Brush on Rookwood Lady 100th (sold to Harry Murphy before judging). Senior champion boar: Perkins on Majestic King 6th. Junior champion boar: Brush on Rincon's Rival. Senior champion sow: Brush on Rookwood Lady 100th. Junior champion sow: Carruthers on Mayfield Laurel XVI. Boar and three sows, over one year: Brush, Humphrey. Boar and three sows, under one year: Humphrey, Carruthers, Brush, Anderson. Boar and three sows bred by exhibitor: Humphrey, Humphrey, Carruthers. Get of sire: Humphrey on get of Solano Emblem, Brush on Ames Rival 102nd, Mills on Ames' Rival 70th. Produce of dam: Carruthers on produce of Forest Grove Laurel 2nd, Humphrey on produce of Columbia's Model 108th, Brush on produce of Riverby Princess. Fat barrows, any age: Humphrey, Humphrey, Brush. Fat barrows, pen of three, any age: Humphrey, Brush, Brush. Boars, two years old and over: Perkins on Majestic King 6th, Mills on Ames' Rival 70th, Humphrey on Solano Emblem, H. L. & E. H. Murphy on Artful King 11th, Stephenson on Tehama Chief. Senior yearling: Brush on Mayfield Champion, Humphrey on Fashion Longfellow 27th, Brush on Rincon Duke. Junior yearling: Brush on Winona Lee Champion 6th, Hammond on Hedgemere Irving. Senior pig: Brush on Rincon's Rival, Humphrey on Escalon Blackbird, Carruthers on Mayfield Rival 24th, Brush on Rival's Rincon, York on Western Premier 3rd, Mills on Mills Improver 3rd. Junior pig: Hammond on Hedgemere Star, Humphrey, Stephenson on Wilsonia Chief Laurel, Brush on Rincon Lee Champion, Anderson on Natomas Riverby. Sows, two years old or over: Brush on Rookwood Lady 100th, Humphrey on Fashion Longfellow Princess, Humphrey on Grand Bernice, Murphy on Rival's Pointer Star 15th, Brush on Wheeler's Geronimo. Senior yearling: Brush on Mayfield Rosemead 5th, Brush on Rookwood Belle 7th, Humphrey on Escalon Lady, York on Lady Rose, Napa State Hospital on Lady Combination 30th. Junior yearling: Humphrey on Leader's Artful Belle 3rd, Brush on Mayfield Lady 10th, Brush on Princess Leader, Murphy on Mayfield Laurel 11th, Hammond on Hedgemere Belle. Senior pigs: Carruthers on Mayfield Laurel XVI, Humphrey on Amoretta, Humphrey on Escalon Ladybird, Carruthers on Mayfield Laurel 15th, York on Premier Leader's Belle. Junior pigs: Stephenson on Miss Villia's Laurel, Anderson on Natoma Duchess, Anderson on Natomas Princess, Humphrey on sow, Humphrey on sow.

Poland-Chinas.—Exhibitors winning awards: A. L. Bassett, Hanford; M. Bassett, Hanford; Geo. V. Beckman & Sons, Lodi; Raymond Beckman, Lodi; J. M. Bernstein, Hanford; W. Bernstein, Hanford; W. M. Browning, Woodland; Joe Caesar, Reedley; Erickson & Yates, Orland; J. H. Hansbrough, Modesto; H. I. Marsh, Modesto; E. Miner, Lodi; H. C. Peterson, Reedley; F. D. Ross, Hanford; W. A. Young, Lodi.

Grand champion boar: Hansbrough on Major Hadley Wonder. Grand champion sow: W. Bernstein on King's Rosebud. Junior champion boar: A. L. Bassett on Model Wonder. Junior champion sow: A. L. Bassett on Long Model. Boar and three sows bred by exhibitor: A. L. Bassett, W. Bernstein, M. Bassett. Get of sire: J. M. Bernstein on President, H. I. Marsh on Model Major, M. Bassett on Chief Victor. Produce of dam: M. Bassett on Miss Quality Style, M. Bassett on Chief's Lady, A. L. Bassett on Morning Glory. Fat barrows: Both entries and prizes by Beckman & Sons. Fat barrows, pen of three: Beckman & Sons. Boars, two years and over: Hansbrough on Major Hadley Wonder, Marsh on I B A Wonder, J. M. Bernstein on President, M. Bassett on Chief Victor, M. Bassett on Model Fellow. Senior yearlings: M. Bassett on Surprise, Miner on Ursus Jr., Marsh on Smooth Orphan. Junior yearlings: W. Bernstein on Rosebud Chief I; M. Bassett on Spells Corrector, M. Bassett on Hustler's Model II, R. Beckman on Duke of Lakeside, Beckman & Sons on C's Charmer. Senior boar pigs: A. L. Bassett on Model Wonder, W. Bernstein on King's Lad, Ross on Panama Prince, M. Bassett on Wonderful Victor, W. Bernstein on Some Revenue. Junior boar pigs: A. L. Bassett on Big Bone Hustler, M. Bassett on Hustler's Chief, M. Bassett on Wonderful Hustler, Marsh on Giant Wonder, Marsh on Major Wonder. Sows, two years and over: W. Bernstein on King's Rosebud, M. Bassett on Dewdrop, Marsh on Big Beauty, W. Bernstein on Candy Kid, M. Bassett on Gold Drop. Senior yearlings: W. Bernstein on Sunshine Maid, W. Bernstein on Lillie B., Marsh on Miss Giantess, Ross on Silver Bell, M. Bassett on Wonderful II. Junior yearlings: M. Bassett on Good Style, W. Bernstein on Ruby B., M. Bassett on Hustler's Girl, W. Bernstein on King's Rosebud II, Hansbrough on Queen Bess Hadley. Senior sow pigs: A. L. Bassett on Long Model, W. Bernstein on Belle of Revenue, Miner on Molly Giantess, Peterson on Bell of Fowler. Junior sow pigs: Young on Major's Lady, Young on Fairview Model, Marsh, M. Bassett on Lady Chief, M. Bassett on Perfect Lady.

Duroc-Jerseys.—Exhibitors securing awards: J. M. De Vilbiss, Patterson;



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Yountville, Napa County, California

Iver Iverson of Arcata, Wins Rural Press Dairy Prize for August

I beg to inform you that our records show that five grades in the herd owned by Iver Iversen, of Arcata, had the largest production of grades entered in the State Dairy Cow Competition for the month of August, among those eligible to competing for the Pacific Rural Press prize. Mr. Iversen is, therefore, entitled to this prize for August and I would ask you to send him a check for the prize money. The five grades averaged 1279.1 pounds milk and 64.740 pounds butter fat; average per cent 5.06. The production of individual cows ranged from 67.90 to 60.78 pounds butter fat. The production of five grades in other dairy herds that competed for this prize during the past month was as follows: J. W. Coppini, 57.784 pounds; F. Stenzel, 51.909 pounds; Bohnett Bros., 48.554 pounds; J. M. Bomberger, 47.597 pounds; Hollow-Hill Farm, 47.581 pounds; G. E. Trigg, 47.108 pounds, and Floyd Beebe, 40.709 pounds.

F. W. WOLL,
Berkeley, Sept. 14, 1917. Superintendent of Dairy Testing.

Hayden Smith, Woodland; H. P. Eakle, Woodland; W. J. Fulgham, Visalia; J. E. Thorp, Lockeford; Fred M. Johnson, Napa; Allen Thompson, Tulare; Conejo Ranch, Newbury Park; Slocum & Son, Willows; A. A. Trueblood, Sacramento; Henry Cummins, Tulare; M. Rucker, Fair Oaks; C. L. Nielson, Fowler; V. F. Dolcini, Davis; A. J. Welch, Redwood City; E. J. Weldon, Sacramento; J. H. Minto, Patterson.

Grand champion boar: De Vilbiss, Crimson Monarch II. Grand champion sow: Johnson, Cherry Chief Lady. Junior champion boar: Johnson, Johnson's Defender. Junior champion sow: Johnson, Kings Lady III. Champion boar bred by exhibitor: Dolcini, W. B. Model 1st. Champion sow bred by exhibitor: Thorp, Starlight. Herd over one year: Johnson, Conejo Ranch, Eakle, Eakle. Herd under one year: Johnson, Thorp, Slocum & Son. Herd bred by exhibitor: Thorp, Slocum & Son, Smith. Get of sire: Thorp, Brookwater Fashion 2nd; Slocum & Son, Uneeda Wonder; Smith, Uneeda Wonder. Produce of dam: Thorp, Brookwater Lass 2nd; Johnson, Cherry Chief Lady; Slocum & Son, Grand Lady. Fat barrows: Slocum & Son, two prizes. Pen, three barrows: Slocum & Son. American Duroc-Jersey Swine Breeders' Association Special Herd, under one year, bred by exhibitor: Slocum & Son, Thorp, Weldon. Boar, two years or over: De Vilbiss, Crimson Monarch II; Smith, Uneeda Wonder; Eakle, Oregon Defender; Fulgham, Col. Chief; Thorp, Brookwater Fashion 2nd. Senior yearling: Johnson, Bondholder's Thirteen; Thompson, Orion's Golden Cal.; Conejo Ranch, Model Triumph; Slocum & Son, Crimson B's 2nd; Thorp, Happy Heinie. Junior yearling: Conejo Ranch, The Councilor; Trueblood, Ruckers Model G.; Smith, Q's Model Colonel; Cummins, Tulare Defender. Senior pig: Johnson, Johnson's Defender; Conejo Ranch, Golden Model 32nd; Rucker, Kings Col. Dulex; Slocum & Son, Uneeda Crimson B 3rd; Thorp, Brookwater Regulator; Nielson, Defender's Model. Junior pig: Dolcini, W. B.'s model 1st; Johnson, Cherry Critic; Dolcini, Straight Crimson; Thorp, Queen's Volunteer; Thorp, Searchlight of M. Sows, two years or over: Conejo Ranch, Lady Wonder; Johnson, Model Defendress; Eakle, Belle's Good E Nuff 6th; Johnson, Col.'s Queen Dagmar; Trueblood, Model Lady 2nd; Thorp, Long Wonder's Queen. Senior yearling: Johnson, Cherry Chief Lady; Smith, H. S. Alberta 1st; Smith, A. S. Alberta 2nd; Welch, Crimson Bess 3rd; Thompson, Merry Critic; Thompson, Angiolo's Wonder. Junior yearling: Slocum & Son, Uneeda Betsie's; Conejo Ranch, Golden Bess; Smith, University Queen B; Johnson, Critic's Bell; Conejo Ranch, Golden Mae; J. H. Minto, De V.'s Crimson 3rd. Senior pig: Johnson, King's Lady 3rd; Thorp, C. U.'s Pride's Lass; Smith, Uneeda Wonder; Slocum & Son, Queen B; Conejo Ranch, Anabelle; Conejo Ranch, Jane. Junior pig: Thorp, Volunteer's Queen; Dolcini, Model Queen 1st; Thorp, Delight; Johnson, Miriam Critic; Johnson, Peggy Critic.

Hampshires. — Exhibitors securing awards: Conejo Ranch, Newbury Park; L. A. Denker, Saugus; J. W. Henderson, Berkeley; C. Eugene Gaddis, Martinez.

Grand champion boar: Conejo Ranch, Duke's Allen. Grand champion sow: Conejo Ranch, Elmyra II. Senior champion boar: Conejo Ranch, Conejo Chief. Junior champion sow: Denker, Pretty Butterfly. Fat barrows: Three prizes to Conejo Ranch. Boar and three sows, over one year: Conejo Ranch; Conejo Ranch; Henderson. Boar and three sows, under one year: Conejo Ranch; Denker; Henderson. Boar and three sows bred by exhibitor: Conejo Ranch; Denker; Conejo Ranch; Henderson. Get of sire: Conejo Ranch, Conejo Chief; Denker, Zodiak; Denker, Zodiac; Henderson, America. Produce of dam: Conejo Ranch, Leading Wave; Denker, Hazel; Denker, Wasser Maid; Henderson, Lonis. Boars, two years or over: Conejo Ranch, Conejo Chief; Denker, Direct Messenger; Denker, Zodiac; Henderson, Valley Boy. Junior yearlings: Conejo Ranch, Chief's Marvel; Henderson, Matson; Gaddis, Romeo; Gaddis, Somar; Henderson, Kenwood 1st. Senior pig: Conejo Ranch, Duke's Allen; Henderson, King Belle; Henderson, Pollard's Star. Junior pig: Denker, Zodiac Wonder; Conejo Ranch; Conejo Ranch; Henderson, Homer; Henderson, Jonas. Sows, two years or over: Conejo Ranch, Leading Wave 3rd. Senior yearling: Conejo Ranch, Elmyra 2nd; Conejo Ranch, Perfect Quality. Junior yearling: Conejo Ranch, Mary Pickford; Conejo Ranch, Jennie Messenger; Henderson, Netawan; Henderson, Kernwood Sister. Senior pig: Denker, Pretty Butterfly; Denker, Romping Girl; Conejo Ranch, Wavelet; Conejo Ranch, Wavelet 2nd; Henderson, Model Dame. Junior pig: Denker, Little Mesa; Conejo Ranch; Denker, Beauty Mesa; Conejo Ranch; Denker, Crown's Alpha.

Yorkshires.—Exhibitors securing awards: Riverina Farms, Modesto; A. L. Tubbs Co., Calistoga; Lloyd & Tointon, Santa Rosa.

Grand champion boar: Tubbs on Lake Park King. Grand champion sow: Riv-

Grand Champion Shorthorn Bull, owned by T. T. Miller.

Prize Winning Young Holsteins shown by J. H. Harlan Co.

PRINCE GELSCHE WALKER

LEADING A. R. O. SIRE OF THE WEST

Consider these facts—

The records of his ancestors for production and prepotency are unsurpassed by any other sire of the breed.

His first seven sires have each produced a 30-pound daughter and all but one have sired two or more.

Five of his first seven dams have 30-pound daughters and the other two have young ones that promise to exceed that mark.

Five of the seven are 30-pound cows, the seven averaging 29.60.

His dam, 30.56 pounds, is from a 31.81-pound cow who in turn is from a 32.91-pound cow, one of the few instances of three generations of thirty-pound cows and the only one in which two appear in the third generation.

And better still he is making good

With only fifteen tested daughters to date—

He is the only bull in California with two that average over 35 pounds butter in seven days and these are both under mature age.

He is the only sire in California with two 2-year-old daughters that average over 25 pounds and 98.75 pounds in thirty days.

His daughters have broken fifteen state records for milk and butter before any have reached mature age.

His sons already head a number of western herds and their first daughters now coming in milk are showing remarkable production. His career is only well started. He will be given a greater opportunity than ever before.

A Son of this Great Sire at the Head of Your Herd will bring Fame and Fortune.

We have several mighty nice ones and will be glad to tell you about them. Write us today.

A. W. MORRIS & SONS CORPORATION
WOODLAND, CALIFORNIA

Three Times Grand Champion Percheron Stallion, Owned by M. Bassett.

erina Farms on Deer Creek Nema 8th. Junior champion boar: Riverina Farms on Riverina Pioneer. Junior champion sow: Tubbs on Montelena Nema 100th. Boar and three sows, over one year: Riverina Farms. Boar and three sows, under one year: Riverina Farms, Tubbs. Boar and three sows bred by exhibitor: Riverina Farms, Riverina Farms, Tubbs. Get of sire: Riverina Farms on Oak Grove Lad, Tubbs on Miner's 3591. Produce of dam: Riverina Farms on Deer Creek Nema 8th, Tubbs on Riverina Duchess 2nd. Boars, two years or over: Riverina Farms, Riverina Laddie 5th; Tubbs, Miner's 3591. Senior yearling: Lloyd & Tointon, Riverina Admiral. Junior yearling: Tubbs, Lake Park King; Riverina Farms, Riverina Pilot. Senior pig: Riverina Farms, Riverina Captain 3rd; Riverina Farms, Riverina Bobbie. Junior pig: Tubbs, Montelena Duke 30th; Riverina Farms; Riverina Farms; Tubbs, Montelena Nema 100th. Sows, two years or over: Riverina Farms, Deer Creek Nema 8th; Tubbs, Riverina Nema 10th; Tubbs, Riverina Lady 2nd; Riverina Farms, Riverina Lady. Senior yearling: Riverina Farms, Riverina Nema 16th; Riverina Farms, Riverina Miss 2nd. Junior yearling: Tubbs, Montelena Nema; Riverina Farms, Riverina Topsy 5th; Tubbs, Montelena Nema 2nd; Riverina Farms, Riverina Topsy 6th. Senior pig: Riverina Farms, Riverina Nema 22nd; Riverina Farms, Riverina Long Girl. Junior pig: Tubbs, Montelena Nema 100th; Tubbs, Montelena Duchess 30th; Riverina Farms; Riverina Farms.

Chester Whites.—Exhibitors securing awards: Highland Stock Co., Fair Oaks; C. B. Cunningham, Mills; Mrs. L. M. Yore, East Auburn; Hiram Hendee, Fair Oaks.

Grand champion boar: Cunningham, Royal Billiken. Grand champion sow: Cunningham, Lady Wonder. Senior champion boar: Cunningham, Billiken. Champion boar bred by exhibitor: Cunningham, Royal Billiken. Senior champion sow: Cunningham, White Eagle's Fancy. Champion sow bred by exhibitor: Cunningham, Lady Wonder. Fat barrows: Cunningham, all prizes. Chester White Record Association Specials on aged herds: Cunningham, both prizes. Boar and three sows, over one year: Cunningham. Boar and three sows, under one year: Cunningham, Cunningham, Yore. Boar and three sows bred by exhibitor: Cunningham, Cunningham, Yore. Get of sire: Cunningham, Billiken; Cunningham, Chief Modeller; Yore, Sire Teddy; Highland Stock Co., Benito Boy. Produce of dam: Cunningham, Cunningham, Highland Stock Co. Boars, two years old or over: Highland Stock Co., Benito Boy. Senior yearling: Cunningham, Billiken. Junior yearling: Cunningham, Wildwood Boy; Senior pig: Cunningham, Royal Billiken; Cunningham, Wildwood Billiken; Yore, Grizzly Bear Boy. Junior pig: Cunningham, Highland Stock Co., Cunningham. Sows, two years old or over: Cunningham, Gussie; Cunningham, Wildwood Lady; Highland Stock Co., Gem Topsy 2nd. Junior yearling: Cunningham, Juanita's Model; Cunningham, White Eagle's Fancy. Senior pig: Cunningham, Lady Wonder; Hendee, Wonder Bernice; Cunningham, Billiken Bells; Yore, Ester's Lady; Yore, Ursula. Junior pig: Cunningham, Cunningham, Highland Stock Co.

SHEEP AND GOATS.

Hampshire Sheep.—Exhibitors securing awards: Calla Grove Farm, Manteca; Robert Miller, Davis; Kaupke Bros., Woodland; Wray Bros., Davis; McInnes & Salz, San Francisco; Bullard Bros, Woodland. Champion ram: Miller. Champion ewe: Kaupke Bros. Ram, two years or over: Calla Grove Farm. One year and under two: Miller, three prizes. Under one year: Kaupke Bros., three prizes. Ewes, two years old or over: Kaupke Bros., two prizes. One year and under two: Wray Bros; Calla Grove Farm; Kaupke Bros. Under one year: Kaupke Bros., three prizes. Flock: Kaupke Bros. Pen: Kaupke Bros.

American Hampshire Sheep Association Special.—Kaupke Bros.

Calf Scours

This Treatment is Saving Many Calves

Scouring calves indicate a germ infection that is likely to run through your entire herd with serious losses.

The loss of one calf is bad enough, but nothing compared to your loss when the infection spreads, as it will unless checked. Then your year's work in building up your herd is wasted and your profits lost.

Our method of handling calves will promptly stop scours and finally banish it from the premises. One good calf saved will repay the expense of protecting your stock for a long time against the disease. This plan is simple and practical.

Our germicide and disinfectant is especially adapted to this work. It is called Bacili-Kil (B-K for short). The remarkable germ-killing strength of B-K is plainly marked and guaranteed on every package. B-K contains no poison, acid or oil. When used internally it destroys germs, heals inflamed membranes, relieves irritation, restores healthy action. B-K may be given freely in the milk and drinking water.

B-K is convenient. Just add water as directed, and you have your treatment for calves, bulls and cows and also your disinfectant for general use.

B-K is used so successfully by leading breeders that it is now sold over the entire world and the demand for it has increased five hundred per cent in three years. A well-known breeder of registered stock says:

"We found vaccines of no value in stopping calf scours, but the prompt, efficient treatment with B-K checked the trouble quickly and saved us the loss of many valuable calves."

Clean and clear as water

Awarded Gold Metal Pan.-Pac. Expo.

B-K is sold by dairy and farm supply houses, druggists, general stores, etc., everywhere. Dealers wanted in every town.

Write us for more evidence from users and for our bulletin No. 136, "How to Save Every Calf."

GENERAL LABORATORIES

3402 S. Dickinson St., Madison, Wis.

B-K·B-K·B-K·B-K·B-K·B-K·B-K

Sensational Winnings

HOLSTEIN AWARDS
California State Fair, 1917

Grand Champion Bull	Grand Champion Cow
Jr. Champion Bull	Sr. Champion Cow
First Sr. Yearling Bull	First Aged Cow
First Sr. Bull Calf	First Sr. Heifer
First Calf Herd	First Junior Heifer

Breeders Young Herd and Seven other Awards

Exhibited 15 Head

Young Bulls for sale of high quality, bred in the best blood, Holstein blood lines, and from dams with high A. R. O. records.

BRIDGFORD COMPANY

KNIGHTSEN CALIFORNIA

DAIRYMEN—FARMERS WE ARE PREPARED

to supply your needs in

Dairy and Creamery Supplies

Milk and Cream Coolers
Milk Cans and Bottles
Cheese and Butter Salt
Minnetona Butter Churns
Gasoline Engines——Pumps
Boilers——Wash Sinks
Diabolo Separators

We carry a full line of Star Feed and Litter Carrier Equipment—Stanchions
Let us figure on your requirements.

Pacific Dairy Machinery Co.

58 CLAY ST. SAN FRANCISCO

Production and Show Quality

are combined in

GIBSON HOLSTEINS

Cows won First in both classes in the 3 days' butterfat contest of all breeds.

In the Show Ring, won 4 First prizes, 8 Seconds, and 3 Thirds.

IS NOT THIS THE BLOOD YOU WANT IN YOUR HERD?

J. S. GIBSON COMPANY

Box 97 Williams, California

The name GIBSON insures quality

EL PRADO WAYNE COLANTHA

FIRST PRIZE HOLSTEIN BULL
CALIFORNIA STATE FAIR, 1917

KOROBA ELECTA

THIRD PRIZE COW

If you want quality and production, write

JNO. BENOIT, Modesto, Cal.

SAVE YOUR CALVES

Raise Them Without Milk

Why throw away money by knocking them in the head or selling them for a dollar or two at birth when they can be raised or vealed WITHOUT MILK at a fraction of the cost of feeding milk. You profit both ways selling the milk and still have the calves.

The Best Milk Substitute to Use is

Ryde's Cream Calf Meal

the most successful milk substitute on the market—the standard of perfection Thousands of farmers are using it and cannot say enough for it. It is NOT a stock food—it's a complete food that long experience has proved to be right for rearing calves. It contains all the nutrition of milk prepared in the most digestible form and is sold on a money back guarantee to give results.

BOOKLET "MILKLESS CALVES" FREE

100 lbs. equal to 100 gallons milk—Try it on your calves.

GREAT WESTERN MILLS, LOS ANGELES

Shropshire Sheep.—All entries and premiums by McInnes & Salz, San Francisco.

Merino Range Sheep.—Pen of three rams, two years or over: Bullard Bros., Woodland. Three rams, one year and under two: McInnes & Salz; Bullard Bros. Three rams, under one year: Bullard Bros. Three ewes, two years or over: Bullard Bros. Three ewes, one year and under two: Bullard Bros. Three ewes, under one year: Bullard Bros.

STEYBRAE AYRSHIRES

Herd consists of 100 HEAD.
Stock of all ages FOR SALE.

Will. Robinhoo 32nd
My Herd Sire
Grand Champion 1916-1917

Will. Vista 4th

Grand Champion at State and County Fairs 1916 and 1917, and Blue Ribbon 3 year old at P. P. I. E. Has just broken World's record as a Junior 4 year old.

See her and my exhibit on the Fair Circuit

E. B. McFARLAND
Steybrae Farm
SAN MATEO

The Otis Herd of Milking Shorthorns

R. M. DODINGTON, Mgr.

WILLOUGHBY, OHIO

Bulls and females for sale, out of high record dams and by bulls of long milking ancestry. Herd numbers 150 head, including 20 imported sires in use. **Knight of the Glen,** whose half sister, **Rose of Glenside,** is World's record cow. **British Prince,** Imp, Dam **British Rose,** first at International 1916. **Royal Star** by **Royal Darlington,** Imp, the greatest milking shorthorn bull that ever left England.

Write for catalogue and full information to

MR. THOS. HARRISON
London Ranch,
Glen Ellen, Calif.,
our representative, who has stock for sale at present.

Grand Ch. Berkshire, purchased from Perkins & Co. before the judging, by A. B. Humphrey.

Middle Wool Range Sheep.—Pen of three rams, under one year: McInnes & Salz.

Long Wool Type.—Pen of three rams, under one year: McInnes & Salz.

Corriedales.—All awards to Ellenwood & Ramsey, Red Bluff.

Dorset Horns.—All awards to H. H. Schmitt, Davis.

Angora Goats.—All awards to Mrs. Charlotte Pierce, Isolate, Ore.

Milch Goats.—Doe Kid: Edwin W. Pritchett, Mojave, Topsy.

DRAFT HORSES.

Percherons.—Exhibitors securing awards: M. Bassett, Hanford; E. A. Ward, Tustin; Sonoma Valley Percheron Horse Co., Shellville; Ruby & Bowers, Davis; H. G. Learned, Stockton; California Polytechnic School, San Luis Obispo; N. W. Thompson, Patterson.

Champion stallion: Bassett, Ithos. Reserve champion: Thompson, Pion. Champion mare: Learned, Pink Julia. Reserve champion: Learned, Black Bess. Get of sire: Learned, Pink Paris. Produce of dam: Learned, Pink Julia. Stallions, four years or over: Bassett, Ithos; Ward, Drusus; Sonoma Valley Percheron Horse Co., Mercure Imp. Three years and under four: Ruby & Bowers, Roscoe; Learned, Bay Boy; California Polytechnic School, Director. Two years and under three: Thompson, Pion; Thompson, Penrod; Ruby & Bowers, Image. One year and under two: Ruby & Bowers, Woodland; Ruby & Bowers, Paris. Mares, four years or over, with foal at feet: Learned, Pink Julia. Four years or over: Learned, Patti; Learned, Fritzie. Three years and under four: Ruby & Bowers, Norma. Two years and under three: Learned, Black Bess. One year and

Grand Ch. Poland China, owned by J. H. Hansbrough.

under two: Learned, Black Beauty. Stallion or filly foals under one year: Learned, Jewell.

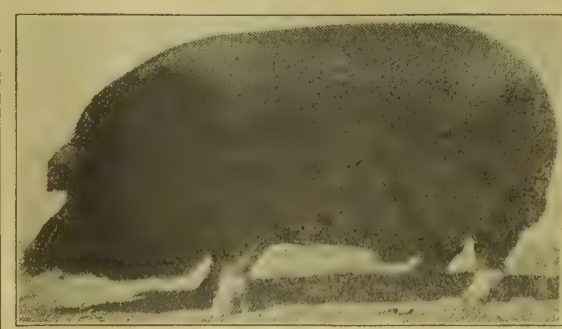
Shires.—Exhibitors securing awards: Easton & Ward, Diablo; Jack London Ranch, Glen Ellen.

Champion stallion: Easton & Ward, Blymhill Forester. Champion mare: London, Blackhawk Chessie. Get of sire: Easton & Ward, Anwick Arthur; Blymhill Forester. Produce of dam: Easton & Ward, Felicity; Rampton Mabel; Quanea Diamond. Stallions, four years or over: Easton & Ward, Blymhill Forester; Anwick Arthur; Mad Cap. Three years and under four: Easton & Ward, Blackhawk Gay Lad. Two years and under three: Easton & Ward, Salvador Conqueror; Blackhawk Rising Star; London Ranch, Mountain Lad. One year and under two: Easton & Ward, Blackhawk Senator; Blackhawk Forest King. Mares, four years and over, with foal at feet: Easton & Ward, Quanea Diamond; Lady Redlynch; Hawton Felicity. Four years and over: London Ranch, Cockerington Princess; Easton & Ward, Blackhawk Beauty; Hawton Bounce. Three years and under four: Easton & Ward, Blackhawk Chessie. Two years and under three: Easton & Ward, Blackhawk Delphine. One year and under two: Easton & Ward, Blackhawk Betty; London Ranch, Sonoma Lass. Stallion or filly foals under one year: Easton & Ward, Blackhawk Forest Queen; London Ranch, Sonoma Banker.

Clydesdales.—Exhibitors securing awards: Ruby & Bowers, Davis; O. H. Brandt, Shellville; California Polytechnic School, San Luis Obispo.

Grand Champion Duroc-Jersey, Owned by J. M. De Vilbiss.

BASSETT'S Poland Chinas



CHIEF'S VICTOR,
Champion and Grand Champion Sacramento, 1916; second at San Francisco, 1915. He is a half brother of Banker's Boy, my great boar that won first at San Francisco, and which I sold to Anita Baldwin for $1000.

Prize Winners Profit Producers Sure Breeders
Good Dispositions Splendid Mothers
Large Litters Healthy Pigs Quick Growers
Easy Keepers Money Earners
No better breeding in the world

Some of my best stock will be consigned to
Kings County Poland China Sale
—at—
HANFORD, OCTOBER 19

M. BASSETT HANFORD, CAL.

LAKESIDE STOCK FARM

Large Medium Poland Chinas
CALIFORNIA'S IDEAL MARKET HOG

WE HAVE A LARGE NUMBER OF FINE
Gilts for Sale—Also a Few Choice Boars

Geo. V. Beckman & Sons
LODI, : : : : : CALIF.

Uneeda Herd DUROC JERSEYS

Our sows are rich in the blood of Crimson Wonder, Colonel Golden, Model Perfection, the best blood of the breed. We are using Uneeda Wonder, second prize boar at Nebraska State Fair, 1916, whose sire was second at Iowa and Nebraska, 1909, whose grandsire was first and Grand Champion Iowa State Fair, 1906, and whose great grandsire was Champion at Iowa State Fair, 1904.

WE ARE NOW BOOKING ORDERS FOR PIGS

H. P. Slocum & Son
WILLOWS CALIFORNIA

DIGESTER TANKAGE

Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

Champion stallion: California Polytechnic School, Chief Guardsman. Champion mare: Ruby & Bowers, Victoria. Stallions, three years and under four: California Polytechnic School, Chief Guardsman. Two years old and under three: O. H. Brandt, Merbra. Mares, four years or over, with foal at feet: Ruby & Bowers, Lady Marcus. Four years or over: Ruby & Bowers, Jean Morrison. Three years and under four: Ruby & Bowers, Victoria; Trilby. Two years and under three: Ruby & Bowers, Cricket. Stallion or filly foals under one year: Ruby & Bowers, Jessica.

Belgian Horses. — Exhibitors securing awards: G. J. Luhrsen, Bethany; Ruby & Bowers, Davis. Champion stallion: Ruby & Bowers, Stevenot. Champion mare: Ruby & Bowers, Raby. Stallions, four years or over: Luhrsen, Vulcain de la Cabocherie. Three years and under four: Ruby & Bowers, Stevenot. Two years and under three: Ruby & Bowers, Brussell; Ruby & Bowers, Davis Lad. Mares, four years or over, with foal at feet: Ruby & Bowers, Raby; Ruby & Bowers, Judith. Three years and under four: Ruby & Bowers, Christobel. Stallion or filly foal under one year: Ruby & Bowers, Nadine; Ruby & Bowers, Sacramento. Produce of Dam: Ruby & Bowers on Raby.

Work Teams. — Exhibitors securing awards: Easton & Ward, Diablo; Ruby & Bowers, Davis; Burrell & Corey, Hanford; M. Bassett, Hanford.

Four-horse team: Easton & Ward, Ruby & Bowers. Two-horse team: Easton & Ward, Ruby & Bowers. Matched team of four California bred mules: Burrell & Corey. Matched span, California bred mules: Burrell & Corey. Special offer, California Stallion Registration Board: Draft stallion, any breed, and three of his get: Easton & Ward, Anwick Arthur, Blackhawk Beauty, Blackhawk Chessie, Blackhawk Gay Lad; Easton & Ward, Blymhill Forester, Blackhawk Forest King, Blackhawk Forest Queen, Blackhawk Maybelle; Bassett, Ithos; Roch, Beauty, Hugo.

Grades and Crosses, any draft breeds: Geldings, three years and under four: M. Bassett, Hanford, Rock (Percheron). Mares, four years and over: Ruby & Bowers, Davis, Kate (Belgian); Floss (Belgian); George J. Luhrsen, Bethany, Ruth. Mares, three years and under four: George J. Luhrsen, Belle. Mares, two years and under three: Bassett, Beauty; Hugo.

Grand Ch. Hereford Bull, owned by H. H. Gable.

Jack Stock. — Exhibitors securing awards: J. P. Yost, Fair Oaks; F. A. Kingsbury, Sacramento; Burrell & Corey, Hanford; Frank Hart, Modesto. Champion jack: Burrell & Corey on Wonder Boy. Champion jennet: Yost, Califa. Jacks four years or over: Yost, Pay Down; Kingsbury, Mack Giant. Three years and under four: Kingsbury, Blue Giant. Two years and under three: Burrell & Corey, Wonder Boy; Hart, Blue Dick; Hart, Crown Prince. Jennets, four years or over: Yost, Califa. Two years and under three: Yost, Mary. One year and under two: Yost, Maud. Foals, jack or filly, under one year: Yost, Sacramento Girl. Produce of Dam: Yost, Produce of Califa, Mary and Maud.

Grand Ch. Shorthorn Cow, Hopland Stock Farm.

As a war time conservation measure England and Wales plan to use more than 2,000,000 acres of grazing land for the planting of grain. This indicates that cattle are to be sacrificed for grain in the present emergency.

Frederick M. Johnson

Duroc Jersey Swine

At the State Fair

Johnson's Defender

Made

JUNIOR AND RESERVE GRAND CHAMPION

Other awards include

Junior, Senior, Grand and Reserve Grand Champion Sows.

First Aged Herd
First Young Herd
Four Futurity Awards
Eleven Other Awards

Twenty-three Ribbons on Eleven Head.

Frederick M. Johnson
NAPA, CALIF.

W. A. Young J. A. Clark

Young & Clark
LODI, CAL.

Poland Chinas

With 4 entries won First and Second in the Futurity, Third on litter of 4 pigs, and Reserve Champion in Under Six Months class.

Write for Pedigrees and Prices.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

RHOADES & RHOADES
Expert Livestock Auctioneers
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
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MONTELENA HERD of
Large Yorkshires
Headed by

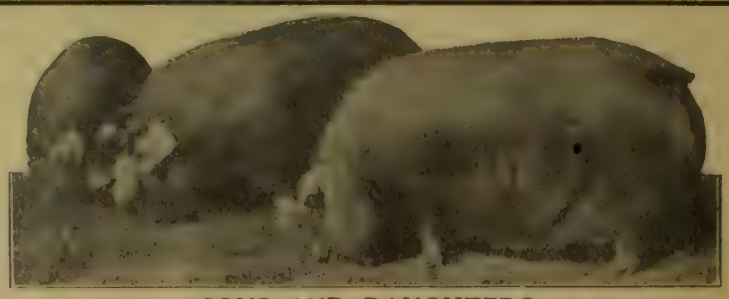
Lake Park King, 25211

Senior and Grand Champion Boar at California State Fair, 1917.
Won 21 prizes with 11 entries, including six Championships and four firsts.

SPRING PIGS, BOTH SEXES

Booking orders for fall pigs sired by Lake Park King.

A. L. TUBBS COMPANY
CALISTOGA, CALIFORNIA



SONS AND DAUGHTERS
of the type of sows you see here are the kind we are offering for sale. 12 of the best tried sows, 8 of the finest gilts, and 2 of the grandest boars ever offered will go into the
GREAT SALE OF POLAND CHINAS
to be held at
Hanford, Kings County, October 19th
These include some of the prize winners at Sacramento.
SEE OUR STOCK AT THE FAIRS
BERNSTEIN'S RANCH HANFORD, Kings Co., Cal.

The World's Grand Champion Hampshires

Pure-Bred Hogs give more weight for less money in the shortest time.

Sows, Boars, Gilts, bred and open, from the World's Champion Hampshire Stock. All ages for sale.

Write to
F. V. Gordon, or F. A. Langdon

Llano Vista Ranch Perris, Riverside Co., Cal.

Enterprise Stock Farm

DUROC JERSEYS
of all fashionable strains.
Weanlings, at prices that will surprise you.

H. P. EAKLE, Jr., Prop. Woodland, Cal.

CHAMPION PICTURES OMITTED BECAUSE CAMERA LOST.

Our plans for pictures of all the State Fair champions in this issue were spoiled by the fact that our camera was lost on the State Fair grounds and the official photographer could not get properly identified photos to us in time. The camera is a postcard size 3A Eastman autographic; and there were several State Fair pictures in it. Ten dollars' reward will be paid for its return.

Poland China Breeders, September 12

[Written for Pacific Rural Press.]

The California Poland-China Breeders' Association met at a well-attended banquet in Sacramento, September 12, and discussed matters of policy and actions that the organization might take. All the old officers were re-elected, as follows: President, W. Bernstein, Hanford; vice-president, O. L. Linn, Modesto; secretary-treasurer, R. H. Whitten, Los Angeles; directors, the above officers and M. Bassett, Hanford, H. I. Marsh, Modesto; Nate Hauck, Alton, and C. R. Hanna, Riverside.

The necessary twenty herd entries for a 1918 futurity were secured, thus assuring the breeders of the futurity promoted by the American Poland-China Record Association, with cash prizes amounting to $600.

It was decided to ask the members for cash donations for promotion work, and about $150 was immediately subscribed, with less than one-sixth of the members present. It is expected that this nucleus will be swelled to over $1,000, and the money will be used to give "the great American hog" the place he rightfully deserves in California.

It was decided to hold a meeting and banquet at Hanford, October 18, 1917, in connection with the annual sale of the Kings County Poland-China Breeders' Association.

Great enthusiasm was manifested at the meeting, and while the association is in a most flourishing condition the co-operation of every breeder in the State is needed, and all who are not already members are invited to send $1 to R. H. Whitten, 519 Marsh-Strong building, Los Angeles, to cover the annual dues and help along the good cause.

California Creamery Operators Meeting

To be Held at Petaluma, October 4, 5 and 6, 1917

A very carefully arranged program has been prepared for this event. Among those who are scheduled to participate in the program we notice such names as G. E. Trevert, dairy manufacturing specialist, U. S. Department of Agriculture, who will address the convention on "Creamery By-Products"; Dr. Wm. C. Hassler, health officer, San Francisco Board of Health, who will talk on "Production of Pure Milk and Cream"; Prof. C. F. Doane, cheese specialist, U. S. Department of Agriculture, "Dairy Industry"; Prof. Van Norman, vice-director and dean, University Farm School; D. O. Lively, "Dairy Livestock and Labor Problem"; H. J. Baade, "Cow Testing"; and other able exponents of the dairy industry. Exhibitors in the butter-scoring contest will be permitted to make but one entry, and will be entitled to compete for the special cash prize of $10 to the contestant coming closest to the judge's score.

While the commercial and scientific aspects of the creamery business will be given primary attention, the social feature will not be neglected. The wives of the operators, such as are fortunate enough to have them, will be out in large force.

GRAND CHAMPION POLAND-CHINA.

The grand champion Poland-China boar Major Hadley Wonder, owned by J. H. Hansbrough of Modesto, was sired by Model Major, owned by H. I. Marsh of Modesto.

Grand Champion DUROC BOAR

Crimson Monarch II.

First Prize State Fair, 1916. First and Grand Champion, 1917.
Dam: Crimson Elizabeth, Grand Champion Sow, P.-P. I. E.
Her sire a Grand Champion and the sire of his sire a Grand Champion.
Sire: Monarch of the Nook won Get of Sire at P.-P. I. E.

Young Stock Sired by Crimson Monarch

J. M. DE VILBISS
PATTERSON, =:= CALIFORNIA

RIVERINA PIONEER 25957
Junior Champion, Reserve Grand Champion, Champion Boar Bred by Exhibitor.
10 Months Old.

Large Yorkshires

PROLIFICACY INSURES PROFIT

We own the Grand Champion Sow at Sacramento this year (she has farrowed 84 pigs in 6 litters), Grand Champion Boar and Sow, 1916. Every time shown our herd has won a large majority of the ribbons, and on individuals that we have bred ourselves for quick maturity, which means quick money. Quoting special prices on bred sows and boars ready for service.

RIVERINA FARMS
Route C, Box 384, MODESTO

Hauser's Digester Tankage

GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.

Hauser Packing Co. Los Angeles

Duroc Jerseys

WINNING

Fresno, 1915—5 firsts, 2 seconds
Fresno, 1916—6 firsts, 2 seconds
Visalia, 1916—4 firsts, 2 seconds
and 2 champions.

Young stock and bred sows for sale; most popular strains.

See my hogs at the Fairs

Allen Thompson

Route A, Tulare, Cal.

Rincon Farm Berkshires

at California State Fair, were awarded
JUNIOR AND RESERVE
Grand Champion Boar
on **Rincon Rival**, a son of **Ames Rival 102**, by Lady Rookwood 102. He was also Champion Bred by Exhibitor.
Senior and Reserve Grand Champion Sow
20 awards including 6 Championships and 6 Firsts

Grand Champion Sow just added to our herd

BRUSH BERKSHIRES are selected and bred with the greatest care from the best blood lines. Young boars that are clean and straight, with splendid heart-girth, backs, hams and pasterns, offered for sale.

F. A. Brush Santa Rosa, Cal.
C. E. BARROWS, Manager

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
GEO. P. ROBINSON CO.
426 J Street,
Travelers Hotel Building, Sacramento.
LIVESTOCK BROKERS.

Enthusiastic Livestock Meetings

[Written for Pacific Rural Press.]

The meetings of livestock men at the State Fair were more numerous, spirited, and largely attended than ever before. It is a practice that may well be elaborated, for it is most convenient to meet at a central place when many breeders are there any way. The bonds of friendship and common interest are there cemented into the means of enabling producers to control their product and its marketing, and to have their due influence in legislation, etc. An instance came to our notice where one livestock breeders' association most heartily thanked the State Fair Association for its co-operation not only during the Fair, but all through the year. Another association complained of neglect by the State Fair. It was brought out that the State Fair officials had neglected them because they thought the breeders so poorly united, that their complaints did not have due weight.

Our regret is that we could not attend two or three of the meetings at once. Another regret is that space forbids full reports in this issue. We hope to print more of the good things said and the action taken in a later issue.

SHORTHORN BREEDERS, SEPTEMBER 10.

A banquet and moving pictures of the International Shorthorn parade preceded a meeting at which steps were taken toward an exhibit and sale at the San Francisco Land Show and a San Francisco Livestock Show to be worked up later.

HOLSTEIN BREEDERS, SEPTEMBER 11.

The California Holstein Breeders' Association, re-organized last December, had $127.73 in their treasurer's report at the meeting, had held five meetings in various parts of the state and approved the plan proposed to provide a man to look after dairy interests in the next Legislature, received with applause the suggestion of E. C. Voorhies of University Farm that Holstein breeders might well lay more stress on yearly records, held a spirited free-for-all debate on whether high or less high prices should be sought for purebreds, considering the need of introducing them to those who now use grades or less, noted that world's records have cropped out of many families and small herds, endorsed efforts of city milk producers to get higher prices, suggested greater efforts to help small breeders to market their stock, and emphasized the first purebred Holstein sale in the orange belt to be held at Santa Ana October 16 and 17. All old directors and officers were re-elected except that M. H. Tichenor takes the place of K. W. Abbot, who is of draft age.

HEREFORD BREEDERS, SEPTEMBER 11.

At the banquet of the Pacific Coast Hereford Breeders' Association it was pointed out by a long-time Missouri breeder, C. B. Harris, that though California is known as a Shorthorn State he believed that 75 per cent of the bulls now being imported by stockmen are Herefords. Prof. G. H. True also noted the large number of white-faced range cattle in the State. D. O. Lively said he was converted to Herefords by seeing an experiment with three breeds on a thousand acres each of Texas range. More Hereford calves were found than of either of the other breeds at the end of the experiment. The question of a sale, probably to be held in the spring at University Farm, was favored, but left to a committee. Prices of stock were here debated as at the Holstein meeting, Mr. Harris scoring W. D. Duke of Modoc county for selling so cheap. Mr. Duke believes in selling at prices range men will pay freely, in order to improve the livestock of that part of California, Nevada, and elsewhere. Representatives were at the banquet from Missouri, Utah, Nevada, Arizona, Los Angeles, Inyo, San Francisco, Alameda, Santa Clara, Contra Costa, Yolo, Sacramento, Sierra and Modoc counties.

GUERNSEY CATTLE BREEDERS.

The California Guernsey Cattle Club elected the following officers: President, W. H. Saylor, San Francisco; vice-president, A. J. Welch, Redwood City; secretary, D. O. Brandt, Owensmouth. Prof. H. H. Kildee of Minnesota, who judged the dairy cattle, was elected honorary member. To work out the proposition of offering prizes for the best records made by grade Guernsey cows, a committee was appointed consisting of D. O. Brandt and E. C. Voorhies of University Farm. The latter is insistent at all times on the value of testing cows to remove those that are eating too much in comparison to the human food they produce. The farmer may well be as insistent on cow testing, because it shows definitely the value of pure blood in a cow. If it doesn't, there is no excuse for the purebred. A rule was adopted whereby any member who sells a bull must pay the $5 membership fee in the club for his customer.

JERSEY CATTLE BREEDERS.

Jersey breeders who met on the State Fair grounds determined to boost just one year for the biggest kind of a banquet and meeting for Jersey breeders and their ladies at the next State Fair. A special committee was appointed to work out the plans. An exhibit at the San Francisco Land Show was discussed. Officers were elected as follows: President, Dr. H. W. Hand, Glenn; secretary, J. E. Thorp, Lockeford; treasurer, N. H. Locke, Lockeford; new directors, Guy H. Miller, Modesto; S. F. Williams, Orland; Dr. Gross, Eureka.

SWINE BREEDERS, SEPTEMBER 13.

The largest breeders' meeting and one of the most enthusiastic was at the banquet of the California Swine Breeders' Association. President C. B. Cunningham noted that about four years ago the association had about thirty members and a slogan "More and Better Swine." He had noticed at this State Fair that the number and quality are far better than four years ago, the number of members increased to 340, and the spirit of co-operation much better.

The big thing undertaken at the meeting was largely encouraged by what the Eastern judges said about the splendid quality of our State Fair and University Farm hogs. They urged participation by Western breeders in the National Swine Show at Omaha in October, saying

Marsh's
BIG TYPE
Poland Chinas

MODEL MAJOR

Won First at State Fair, 1916

First, Grand Champion Sweepstakes and Gold Medal at Fresno.

A SIRE whose get are of uniform excellence. He sired the Grand Champion at 1917 State Fair and the First, Second and Third Prize Junior Sow Pigs.

His descendants won more prizes than any other, proving his great prepotency.

His Pigs are in Great Demand

I. B. A. WONDER

I am using I. B. A. Wonder, Reserve Champion at P. P. I. E.

He stands on 11½ inch bone and scales 1000 pounds. One of the great A. Wonder's best sons.

SMOOTH ORPHAN,

An outstanding senior yearling, of close-up Hadley breeding, with great spring of rib, heavy ham and prolific strain. Makes a wonderful cross on gilts sired by Model Major.

THREE GREATEST BOARS IN AMERICA.

My 14 sows averaged 8 pigs to the litter raised this year. Big litters of uniformly good pigs are my hobby.

BREEDING STOCK SOLD ON
A MONEY BACK GUARANTEE.

Only a few head left for sale. Write me immediately or see me on the Fair Circuit.

Hale I. Marsh

MODESTO, CAL.

Southern Pacific
and Santa Fe Railways

Visitors always
Welcome

that our breeders would return with many of the best prizes.

At the suggestion of Toastmaster W. W. Everett of St. Helena, expressions were brought out from leading breeders on the advisability of holding a Western hog show. Mr. Everett believes that is the best way to interest the whole West, perhaps holding it annually in different cities. M. Bassett of Hanford heartily endorsed it and promised to do his part. A. D. McCarthy of Modesto endorsed it as the finest kind of advertising. E. H. Murphy of Perkins suggested that the association might finance a carload of selected hogs to be exhibited at Eastern shows, with a man in charge, as the best way of bringing Western hogs to the notice of the East. Will Bernstein of Hanford believes that now, while everybody is talking greater food production but many people are raising hogs that dress only 65 per cent, a Western hog show would be the best thing that could be done to show that purebreds make better hogs and more meat from the same feed. C. B. Cunningham of Mills expressed the belief that the association as a whole would stand back of such a show.

Prof. Gordon H. True pointed out that the best agriculture for war is the best agriculture for peace. Those spots on earth where animal industry is highest developed are the most prosperous. People are being urged not to eat lamb, veal, or pig. If such meat can be raised most cheaply, it ought to be. Breeders ought to raise early maturing stock. The earliest maturing stock is the purebred. The highest production will be gained by breeding the best. It is believed of the utmost importance to give our high-priced feeds to only the best animals. Purebreds will increase faster from now on. What proportion of concentrate feed, such as grain, is most economical to feed per live hundredweight is being tried out at University Farm, where one lot is on self-feeders and three lots are getting concentrates in proportion of 1, 2, and 3 per cent of their liveweight, respectively. In November the carcasses will be shipped to several hog centers of the State as demonstrations. The University always wants suggestions on how to serve the livestock men.

Other speeches will be reported later.

CHANGING TO REGISTERED SHORTHORNS.

The Thos. B. Dibblee Estate, operating Rancho San Julian in Santa Barbara county, bought the senior yearling Shorthorn bull Hallwood Flash at the State Fair to head the sixteen registered cows they have bought this summer. They have about 1,500 purebred unregistered Shorthorns on the ranch, besides about thirty registered bulls, twenty of which were brought from Iowa last spring, according to Manager Thos. W. Dibblee. The herd has been on the same estate since 1865, having been originated by Thos. B. Dibblee.

MILKING MACHINES AT STATE FAIR.

The dairyman's labor problem has forced his attention to the milking machine. The State Fair offered a good opportunity to compare the various makes. The Calfway Milker was shown in operation on a model cow. Other types shown were the Sharples, Perfection, Empire, and Hinman.

Star Leader

Reserve Grand Champion Berkshire of the World

and some of his get

will be exhibited at the

Glenn County Fair

Orland, Sept. 26-30

Send for the Illustrated Story of Anchorage Farm

When in Orland, pay this Farm a visit

Diamond Fairfax

JUNIOR HEREFORD CALF

Made

Junior and Grand Champion

BULL

EXHIBITED BY

Diamond G Ranch

H. H. Gable, Manager ESPARTO, CAL.

A Carload of High Grade Bulls Fifteen to Eighteen Months Old now Ready for Sale

ROSELAWN STOCK FARM

Registered Shorthorns

You are invited to visit our farm and inspect the choice young bulls and heifers we offer for sale. They are sired by bulls of national reputation, such as *Ringleader*, *Gibson's Goods*, *Roan Victor*, Etc.

HENRY M. ELBERG, Manager
Woodland Yolo County California

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED.
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

T. B. Purvine & Son of Petaluma will put about 15 Jersey cows on official test this fall.

The University Farm is looking for a $1,000 Holstein bull with yearly records behind him.

Elliott & Brant of Owensmouth recently imported 72 purebred Guernsey cattle from the Atlantic Coast by express.

Frank Van der Poel of El Centro reports that his Jersey cow, Fern Silver Ray, is beating her former big year's record.

J. W. Benoit of Modesto received word at the State Fair that another of his registered Holsteins had just dropped twin heifer calves.

Humboldt county creameries paid 51¾ cents a pound for butter fat last Saturday, which is the highest price ever paid in that county or in the state.

The Lewis Company of San Jose is replacing their grade herd of 60 cows on 320 acres at Hollister with registered Holsteins. Fourteen head are already there.

A. J. Welch of Redwood City took several first prizes on young Guernsey stock and on get of sire. This indicates a fine foundation herd. He is a new exhibitor.

Escalon is to have a community fair September 28 and 29 like that at Ripon last year. A. B. Humphrey and Gotshall & Magruder will be among the exhibitors.

Guy Miller sold the first prize senior Jersey bull calf at the State Fair to B. B. Holgate, second prize heifer to Soren S. Hadley, and a bull calf to Wallace G. Sinclair.

The N. H. Locke Company of Lockeford recently sold a fine show and producing Jersey cow to A. J. and Nellie Morey of Orland, and one to C. B. Neal of Menlo Park.

The Preston School of Industry of Ione bought 30 Ayrshire cattle last July from the Steybrae Stock Farm and took some of the ribbons away from McFarland at the State Fair.

The J. H. Harlan Company of Woodland, showing for the first time at the State Fair, captured senior Holstein championship on their two-year bull, Prince Butter Boy Walker.

B. E. Nixon of the Revada Farms, Napa, led in the Guernsey awards, though he has exhibited only once before. He took both bull and cow grand championships, and first on produce of dam.

The Toyon Farm Association of Los Altos keeps their dry registered Holstein stock and calves on their ranch near Santa Clara. They have some fine young stuff there, including six daughters of 30-pound cows.

Gotshall & Magruder of Ripon have noticed that people in their community have taken more interest in purebreds since the Cow Testing Association has proved its superiority in both fat and milk production.

W. F. Holt, the father of Imperial valley, plans to install 200 registered Holsteins for dairy purposes only, on his 600-acre ranch near Los Angeles. He was one of the most interested questioners at the State Fair.

If some dairymen could sell four or five grade cows and use the money to buy one good purebred, they would make more money next year, said E. C. Voorhies of the University Farm at the Holstein Breeders' meeting.

The Stanislaus Livestock Show and Exposition will open at Modesto September 17 for the week. Already 125 head of Holsteins, many of them winners at the State Fair, have been entered. The showing of dairy stock will probably reach 400 head.

J. W. Benoit of Modesto took first prize for his Holstein bull, El Prado Wayne Colantha. The average record of his dam and his sire's dam at four years is 415.5 pounds milk testing 5.01 per cent fat. His own dam made 31 pounds butter in seven days.

The J. S. Gibson Company of Williams, who made their first Holstein showing at the 1917 State Fair, were awarded 20 prizes on 21 entries, including six firsts and nine seconds. They also won first in two classes of the three-day butter fat contest of all breeds, conducted during the fair.

The Steybrae Stock Farm of San Mateo exhibited the world's record four-year Ayrshire, Willowmoor Vesta 4th, which completed a year's record September 2, 1917 of 17,800 pounds milk, testing 4.46 per cent fat and totaling 942½ pounds butter. During her lactation period she was shown at five fairs, and gained 260 pounds in flesh. She was four months along with calf and was still giving 25 pounds of milk per day at the State Fair.

The Bridgford Company of Knightsen, new exhibitors, took grand championship on their senior yearling Holstein bull, King Segis Alcartra Prilly, and grand championship on the cow, Miss Korndyke Mercedes 2nd. The cow had been fresh nine months, was over four months along in calf, and was giving 75 pounds of milk daily during the State Fair. She was calved in February 1909 and has never been dry but two weeks. She made 25 pounds of butter in seven days last January.

Beef Cattle.

The Ormondale Ranch of Redwood city took first prize on the two-year Shorthorn heifer, Mayflower 4th in a class of ten.

Roselawn Choice, the roan Shorthorn bull owned by the Jack London Ranch, again took first prize and became reserve grand champion.

The Western Meat Company's carload of steers at the State Fair was a uniform lot of solid red Shorthorn rangers, averaging 1,350 pounds and not particularly fat.

A beautiful little curly haired Hereford bull calf, Diamond Fairfax, dropped March 4, 1917, and owned by a new exhibitor, H. H. Gable of Esparto, won grand championship.

T. S. Glide of Davis won the much coveted first prize for Shorthorn breeders' young herd. The herd was sired by his bull, Knight Perfection. Mr. Glide won a number of other prizes including first prize heifer.

T. T. Miller of Los Angeles, new in the Shorthorn game, has evidently started on the right lines, for his stock won grand championship on the senior yearling bull Greendale Sultan, and reserve grand championship on the senior heifer calf, White Mayflower.

Hopland Stock Farm captured grand championship on the 1,700 pound Hopland Lass, a Shorthorn cow about as broad as her body is long, with a thrifty seven-weeks calf at her side, marked exactly the same as its mother, a solid red with white stockings behind.

Swine and Swinemen.

Poland-China hogs will be one of the big attractions at the Kings County Fair this year.

Howard C. Peterson of Reedley won first prize on his Boy's Club pig, which was the largest of the bunch, though not so fat as some. Fast growing to make the most meat on a good frame was Judge W. T. Gatton's chief reason for this award.

The Conejo Ranch of Newbury Park took reserve senior championship on the Duroc sow, Lady Wonder.

H. L. and E. H. Murphy sold the grand champion Berkshire sow at the State Fair to F. A. Brush of Santa Rosa for $500. They report a goodly number of sales of both Berkshires and Shorthorn bulls at the Fair.

Lloyd & Tointon of Santa Rosa bought the first prize senior boar pig, Riverina Captain 3rd, from Riverina Farms at the State Fair, expecting to sell their senior yearling Riverina Admiral, which took first prize.

JACK LONDON RANCH

Neuadd Hillside.

Roselawn Choice 408816. Won 2 Firsts, 2 Gold Medals, and Senior Champion at State Fair 1916 and 1917.

Stud Colts and Fillies of all ages from

REGISTERED SHIRE MARES

and sired by NEUADD HILLSIDE.

Also imported Brood Mares for sale.

PRIZE WINNING SHORTHORNS

of all ages for sale.

A FINE LOT OF DUROC-JERSEY HOGS.

ELIZA SHEPARD, Mgr. Glen Ellen, Cal.

Grand Champion Shorthorns

Won 12 Prizes, including 3 Championships and 3 Firsts at Sacramento

GREENDALE SULTAN

First Prize Junior Champion and Grand Champion Bull; Herd combines some of the strongest blood lines of this country and Great Britain.

THOMAS T. MILLER

314 South Normandie Ave., LOS ANGELES, CAL.

SHORTHORNS BERKSHIRES

Hopland Stock Farm

HOPLAND, CAL.

Shorthorns awarded 10 prizes, including 5 firsts, at Sacramento.

SENIOR AND GRAND CHAMPION COW
HOPLAND LASS, 179542
BRED ON HOPLAND FARM.

FOR SALE—Registered Range and Herd Bulls. Berkshire Gilts and Boars by Iowana Rival Majestic, 194736.

San Francisco Office: 1210 Flood Building

M. Bassett and his son, A. L. Bassett of Hanford won a very large share of the $600 Poland-China futurities.

J. E. Thorp is emerging with first prizes on both get of sire and produce of dam Duroc classes. The old stock must also be good.

H. P. Eakle of Woodland sold two Duroc sows to H. M. Bryan of Fort Jones, Siskiyou county, and a boar to G. F. Atterbury of Woodland.

R. L. Robinson of Fair Oaks has been introducing registered Chester Whites among his neighbors in a way that we shall describe soon.

W. A. Young and J. A. Clark of Lodi have formed a partnership in the breeding of Poland-Chinas. The firm will be known as Young & Clark.

O. W. Dalglish recently had a fifty-ton silo installed on his ranch northwest of Exeter. He is stocking the place with purebred Guernsey cows and purebred Berkshire hogs.

Hayden Smith, breeder of registered Durocs at Woodland, has made a hog weigh 420 pounds in 10 months, 21 days, on common farm feeds as we shall describe later.

Senior and grand champion Yorkshire boar and reserve junior champion boar were awarded to A. L. Tubbs Company, St. Helena. The grand champion is Lake Park King.

C. R. Hanna of Riverside recently shipped to a breeder in Iowa a pig sired by P. P. I. E. grand champion Poland-China boar, Superba, and out of a Blue Valley sow.

E. Miner, whose Poland-China, Molly Giantess, took third in a class of 27, is a new breeder who, with his partner, H. S. Van Vlear, has only a few purebreds. They are starting right.

J. E. Thorp of Lockeford won reserve junior championship on the junior Duroc sow, Volunteer's Queen. He has been improving his herd on the basis of former show ring experience.

F. A. Brush of Santa Rosa took home a large share of the Berkshire prize money. His determination to get the best stock there is, was shown in his purchase of the grand champion boar.

Junior and reserve grand championship on Berkshire sows was won by H. L. & E. H. Murphy, who had bought the sow, Mayfield Laurel 16th, from Carruthers Farms after she was entered.

H. I. Marsh's aged boar, I. B. A. Wonder, bought from W. A. Young of Lodi two months ago for his Poland-China herd at Modesto, has a heart girth of 82 inches and stands on 11¼ inch bone.

C. B. Cunningham sold the reserve grand champion Chester White at the State Fair to Mayor James Rolph, Jr., of San Francisco, and the second junior yearling sow to F. N. Woods, Jr., of Menlo Park.

Eighty-four pigs in six litters have been farrowed by the grand champion Yorkshire sow at the State Fair, Deer Creek Nema 8th, born October 30, 1913, and owned by Riverina Farms, Modesto.

Said Will Bernstein of Hanford, winner of senior and reserve senior champion Poland-China sows: "Kings county breeders are making our district famous for Poland-Chinas. We get lots of good advertising, and it makes animals easier to sell."

J. H. Hansbrough of Modesto, whose Poland-China boar, Major Hadley Wonder, won grand championship, is rather new in the ring, but a comer. The boar weighed about 900 pounds and was not fat.

F. D. Ross of Hanford took first prize on a litter of four spring pigs in the Poland-China futurity. He realized the value of State Fair publicity by posting large cards over his exhibits, telling his name and address and other cards telling names and ages of the exhibits of both hogs and cows.

Elmer Lamb of Ceres plans to sell his 1914 State Fair grand champion Duroc sow, American Beauty, also Ceres, champion sow bred by exhibitor in 1914, a litter mate of American Beauty, this winter. He is saving litters from them. Ten litters came during Fair week, bred to beat everybody in their classes at the 1918 State Fair.

The grand champion Duroc boar, Crimson Monarch 2nd, owned by J. M. DeVilbiss of Patterson, was measured at the State Fair grounds by Fred Johnson. He had a 70-inch heart girth, 78-inch flank girth, 71 inches from between the ears to root of tail, and stood on 9¾-inch bone. He was farrowed March 21, 1915.

Sheep.

T. S. Glide of Davis has been selling bucks as fast as he can grow them.

Bullard Bros. of Woodland sold 60 Rambouillet rams at the Salt Lake sale, receiving top prices.

Bishop Bros. of San Ramon recently sold six Shropshire ewes to A. J. Moliso of Monterey at $40 each.

Andrew McInness sold to Sol Chandler of Lakeview, Ore., six yearling Rambouillet rams at the State Fair.

Anthrax has broken out among sheep on the Rindge ranch, Los Angeles county, and 200 died before it was discovered. The remaining are being treated.

Draft Stock.

A beautiful Shire mare, Cockerington Princess, belonging to the Jack London Ranch, took first prize, and the colt at her side took second.

H. G. Learned of Stockton, who has been a persistent exhibitor of Percherons, has gradually come up so that he won championship on stallion, bred and owned by exhibitor, and champion stallion in the state class.

Burrell & Corey of Hanford took grand championship on the two-year jack, Wonder Boy, bred by themselves; first on a four-mule team that excited admiration wherever it was driven; first on a two-mule team, and first on a single mule over three years.

Easton & Ward, with a magnificent exhibit of Shires, took most of the prizes, not only on their Panama-Pacific winners, but also on young stock foaled since then. They are to be congratulated also on the attractive appearance of their horse quarters, part of the decorations having been patterned after the Royal Show in England.

SCOTCH SHORTHORNS

We have just purchased the entire herd of shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 3 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

CARRUTHERS FARMS, -- MAYFIELD, CAL.

City Address: Hearst Building, San Francisco, Telephone Sutter 1311

SHORTHORNS

Herd combines some of the strongest blood lines of this country and Great Britain.

THOMAS T. MILLER 314 So. Normandie Avenue LOS ANGELES, CALIFORNIA

Shorthorns

12 Choice 2-yr.-old, heavy-meated Bulls

Excellent bone and quality—all solid red

Also 10 Weanling Roan Bull Calves

PRICES RIGHT

Visit Brighton Farm

The Home of the Grand Champion Berkshire Sow

H. L. & E. H. MURPHY, Props.

PERKINS, SACRAMENTO CO., CAL.

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop. DAVIS, CALIFORNIA

BREEDER OF

SHORTHORN CATTLE

AND

Shropshire and Merino Sheep

Shropshires sired by rams imported by me from England

The Famous Glide Merinos

Rams and Bulls for sale in individual or carload lots.

A few choice yearling and 2-year-old Shorthorn Bulls.

First Prize Breeders Young Shorthorn Herd at Sacramento

Your Opportunity

I shall leave for the Middle States again within the next two weeks, prepared to purchase, on a strictly commission basis,

Shorthorns and Herefords

or any other live stock. Let me know your requirements and I will guarantee to satisfy you.

Address R. M. DUNLAP

HOTEL LAND SACRAMENTO

Pacheco Cattle Co.

HOLLISTER, CAL.

SHORTHORNS

At this year's State Fair, 11 head of our own breeding in 13 classes and groups, won 5 Firsts, 5 Seconds, and 5 Thirds.

Get of Sire—Truedale—Won First and Third this year. Also won First last year.

Grazing Restrictions in Forest Areas

The number of livestock permitted on the National forests this year is limited in order to prevent damage to timber growth, water supplies, and the range itself. Exceptional weather conditions have combined with the general food situation to create an unusual emergency, calling for special provisions to take care of the stock. A severe winter and late spring exhausted the hay supply and forced use of the spring ranges before they matured. To lessen the losses which the Western livestock industry faced, the National forest ranges were opened early. At the same time, the number of stock permitted for the present season was raised to the maximum consistent with safeguarding future productiveness.

It is fully recognized that the increases which have been made in the allowances of stock on the National forests involve danger that the range will be depleted through overgrazing, but it is believed by the grazing experts of the Government that the emergency increases made can be taken care of, at least this year, without material sacrifice of future usefulness. The condition of the ranges is, however, being carefully watched. Reliance is placed also on the special efforts being made to secure the most intensive utilization consistent with sustained productiveness, by improved methods of handling the stock. Better salting methods and the development of new watering places are among the means employed for this purpose.

At the close of the grazing season a careful examination will be made of the range on each forest to determine its condition and to find out how many cattle or sheep it will support next season. On areas which are found to be overgrazed, the surplus stock will be shifted to range which can stand the strain better.

While the grazing officials do not think that the increase could be carried indefinitely without serious damage to the forage, regulated grazing has brought about a steady improvement of the range and some areas will probably be able to support the larger numbers permanently.

SILOS IN THE UNITED STATES.

About 400,000 silos are believed to be in the United States, with a total capacity of about 31,000,000 tons, an average of nearly 78 tons per silo. About ten tons of silage can be obtained from one acre. No census has ever been made of the number of silos, therefore the crop reporters of the Bureau of Crop Estimates have made estimates for their respective localities. Silos are on about 6 per cent of the farms of the United States; they are most numerous in the dairy sections of the North and East. Their number is increasing rapidly. Ohio assessors' returns indicate 11,380 silos in that State in 1913, 15,068 in 1914, and about 19,632 in 1915. Indiana assessors' reports indicate 20,306 in March, 1915, and 25,631 in 1916. It is reasonable to believe that the number of silos is increasing in the United States at a rate of 10 per cent or more a year.

DAIRY AND BEEF SHOW AT SAN FRANCISCO.

A dairy and beef cattle show of 150 head of each, to include only the prize winners of other shows, is proposed for the California Land Show to be held at San Francisco October 13 to 28, the dairy cattle to be shown one week and beef cattle the other. Jos. E. Painter of Denver, extensive cattleman and experienced in the conduct of shows, has recently been appointed director in charge and has interviewed many of the State Fair exhibitors to learn their attitude. Mr. Painter says that none have refused and all seem inclined to favor it.

DRY CORN FODDER.

[Written for Pacific Rural Press.]

Cows accustomed to alfalfa would not eat dry Indian corn fodder after the ears were hard enough to husk, for Sam Robinson of Imperial county, though he would run some of it through a silage cutter and some through a grinder. They would pick out the grain and leave the rest. This corn had been green and frosted in December.

A notable feature of the Percheron Show at Sacramento was the five two-year stallions shown by N. W. Thompson of Patterson and awarded first prize. One of them, Pion, was also awarded reserve grand championship. Judge Carlisle was especially enthusiastic in his comments on this group.

Mr. Farmer:

You can't get along without a Pull, so buy a good pair of mules from

Burrell and Corey

Breeders and Importers

OF

JACKS and JENNETS

Hanford, Cal.

500 One and Two-Year-Old

SHROPSHIRE RAMS

By Imported Canadian Sires and Purebred Ewes. For further particulars call or address:

C. E. BARNHART

Phone No. 251-F-2

SUISUN, CALIFORNIA

Blackhawk Shires

AGAIN DEMONSTRATE THEIR SUPERIORITY OVER ALL BREEDS BY

Winning the Great California Registration Board's Prize, Stallion and His Get

All breeds of draft horses competed for this great honor and the Blackhawk won first with Anwick Arthur and his three colts, Blackhawk Chessie, Blackhawk Gay Lad, Blackhawk Beauty.

Blymhill Forester won second with Blackhawk Forest King, Blackhawk Forest Queen, and Blackhawk Maybelle.

Champion Stallion, Blymhill Forester.
Champion Mare, Blackhawk Chessie.
1st Prize four horse team.
1st Prize two horse team

In all Blackhawk Shires won 25 first prizes, 13 second prizes, 3 third prizes, and four championships, 5 gold medals, 3 trophy cups.

Two Silver Medals given by English Shire Horse Association of London, England, for Champion Stallion and Champion Mare.

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BULLARD RAMBOUILLETS

Won first in every class shown.
Start breeding with this kind.

BULLARD BROS. WOODLAND, CAL.

VETERINARY QUERIES

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

[Subscribers wishing an immediate reply should send money order for $1.00. No charge for questions answered through this department. Name and address of subscriber must accompany each query.]

Infectious Mammitis.

To the Editor: Last year, when one of my cows freshened, her udder was somewhat swollen, but I did not think much of it. After her milking season was about over her udder began to get larger, and considerably caked, and one teat gave nothing but water.

I dried her up and when she freshened last spring her udder was badly caked and very large. I let the calf run with her and after about six weeks the calf began to get poor. She was not giving enough milk for the calf, so I sold the calf and intended to try and fatten the cow for beef, but it was but a few days until she lost her appetite and finally died.—H. G. B., Arcata.

This is an infectious mammitis. Give the affected animals one ounce of formalin in one quart of milk once a day for four or five days.

Ram Has Snuffles, Etc.

To the Editor: My Shropshire ram has a discharge from his nose most of the time and snuffles as though he had a cold. Can you tell me the cause of this and give me a remedy? A colt had the distemper and the glands between the jaw bones are left hard and enlarged, though do not seem to be sore. What can I do for a horse that continually rubs the root of his tail?—J. C., Livingston.

Rub pine tar on the ram's nose and give internally the following: Beechwood creosote, 2 drams; spirits camphor, 1 ounce; raw linseed oil, enough to make 8 ounces. One tablespoonful three times a day. Paint colt's glands with tincture iodine daily until reduced. Rub root of horse's tail with sulphur ointment daily.

Drops Heavily in Milk Production.

To the Editor: I have a Holstein cow that recently gave birth to twin calves. She was poor in flesh at the time of calving, having been on short Bermuda grass pasture. She had a long rest. She gave forty pounds of milk a day for three weeks. She then dropped to twenty pounds a day, and then to a gallon at a milking.—T. J. S., Visalia.

Your cow probably has a chronic inflammation of the uterus which will require local treatment by a competent veterinarian. A good tonic is also indicated. Give her the following: Fluid extract nux vomica, 8 ounces; Fowler's solution, enough to make 1 quart; dose, one tablespoonful three times a day.

Cow with Tuberculous Symptoms Does Not React.

To the Editor: I have a ten-year-old cow that has been tested for tuberculosis twice and doesn't react. She coughs ten or fifteen times a day and has a kind of a grisly knot under her throat about the size of your fist. Is this tuberculosis test sure and do you think she has it?—R. W. D., Puente.

The tuberculin test is approximately 90 per cent efficient. Surgical removal of this lump is indicated.

Sterility of Young Cows.

To the Editor: Have a couple of young cows (first and second calves) which do not conceive when bred. Have examined them and found the os in both cases closed tight. I opened it before service each time. Have used the soda solution without favorable results. Should it be injected in the womb? Can you suggest a practical book on cattle and hog diseases?—W. S. G. N., San Jose.

Sterility is probably due to Bang's disease. Have your veterinarian treat their uteri.

Interval Between Heats.

To the Editor: How often and at what intervals should a cow come in heat? Cow freshened last January and has not "come in" since.—J. E. H., Nipinawasee.

Cows come in heat every twenty-one days until with calf. If the heat is mild turn her with the bull for a month.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

Poland-Chinas.

EIGHT SPLENDID FALL BOARS ready for service. Twenty spring boar pigs for sale at private treaty. Twenty of grandest Poland China sows ever sold in California go in the breeder's sale held October 19, Hanford, from the "100 head sell." W. Bernstein, Hanford, Cal.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

SLATTERY MAMMOTH POLAND CHINAS. —Bred right, Fed right, Priced right. Pedigree and registration given with each animal. W. J. Slattery, Finley, Lake county, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE — Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES—I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES—Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED—the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend Sts., San Francisco.

A-1 BERKSHIRES.—Herd boars Winona Royal Champion and Charmers Star Masterpiece. Best blood lines. Immunized stock. Ayrshire cattle. Arlington Smith, Visalia.

REGISTERED BERKSHIRES—Young stock for sale, sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Lawe, Cal

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition: 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 third. Prices $20 and up. Haden Smith, Woodland.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

RANCHO RUBIO DUROCS—Nothing to sell at present; a fine bunch of gilts and a few extra good service boars for this fall. Elmer Lamb, Ceres, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

HEAVY BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class purebred hogs, both sexes, any age.

DOS HERMANOS DUROCS—A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

DO YOUR BIT. MEAT BY THE HOG ROUTE.—Produce more and better swine. The demand for pork far exceeds the supply. Get some of these Billiken Brand of Chester Whites: 3 bred sows farrowed in April, 1916, due to farrow in September and October; 18 October gilts bred to farrow in October; 3 October boars ready for service. All first-class in every respect and good enough to fit and show at the different fairs this fall. All are cholera immune and will be registered free. Write for price list and booklet. C. B. Cunningham, Box J, Mills, California.

Hampshires.

BELLA VISTA HAMPSHIRES.— Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS—Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

J. H. HARLAN, WOODLAND, CAL.—Breeder of Registered Holsteins. Sold out at present. Watch for announcement on King Valdessa.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

WANTED — Unbred Holstein heifers not over 18 months old. State price. Box 740, Pacific Rural Press.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chico, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN CATTLE—E. B. Freeman, Route B, Modesto, Cal

BREEDER OF HOLSTEIN-FRIESIAN CATtle—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATtle—Duroc swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves T B Purvine, Petaluma, Cal

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

FOR SALE—Young pure-bred Guernsey bull sired by the famous Raymond of the Preel Box 750, Pacific Rural Press.

Ayrshires.

NORABEL FARM AYRSHIRES—Pure young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DUROCS — Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

VERAMONT STOCK FARM — Pure-bred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

BREEDERS OF REGISTERED SHORThorns—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORThorns, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM — Registered Shorthorns Prices on application. Hopland, Cal

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder registered Herefords. Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS—Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

WANTED—75 to 100 high-grade Angora goats, not over three years old. J. A. Swall, Bishop, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers Shropshires

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL. Breeders, Importers of Hampshire Sheep.

HORSES AND MULES.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P.-P. I. E., 1915. John Matley, Reno, Nevada

STOCKTON FOR PERCHERONS—Best by State Fair test. Winners for the last five years. H. G. Learned, Stockton.

REGISTERED SHIRES—Black Hawk Stock Ranch, Importers and Breeders. Diablo, Contra Costa county, Cal.

FOR SALE—16 horses and mares; in their prime. Address Thos. C. Still, La Panza, Cal.

MISCELLANEOUS.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal—the best California calf raiser. Geo. H. Croley Co., Inc., 8th and Townsend Sts., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FREE FEED FOR STOCK—Acorns for hogs, grass for cattle and sheep; get State and Government land; new booklet free. Joseph Clark, Sacramento.

California State Fair Poultry Exhibit

[Written for Pacific Rural Press by Harry Mortenson.]

The poultry display at the State Fair this year was one of the outstanding features of the Agricultural Park. All available space had been taken long before the show opened. As the visitor passed through the main entrance his first impression was that pigeons constituted the bulk of the exhibit. Several hundred of these birds were shown, including all conceivable and some inconceivable varieties, of many fantastic shapes and colors. The displays of the King Lofts, N. C. Jorgenson, F. M. Washburn, and A. G. Curry, seemed to attract the principal attention, though there were other excellent and interesting exhibits.

PLYMOUTH ROCKS.

Proceeding down the main aisle, one came face to face with that prime favorite of American birds, the Barred Rocks. Prominent among these was the "Aristocrat" strain of Cameron Brothers, Sacramento. This exhibit won the prize for the best male bird in the show—an enviable honor, considering the large number of birds entered. Other exhibits in this class that drew out much favorable comment were those of Mrs. C. W. Presher and Geo. D. Lubbin. Three ribbons were carried off by Ed Ellis. The awards in White Plymouth Rocks were allotted to Pleasant Valley Farms and Mrs. Geo. R. Winslow. A number of decidedly classy White Rocks were in evidence.

WYANDOTTES.

In the White Wyandotte class the entries were not as large as this handsome and blocky breed deserved. This was offset in a measure by the superior quality of the birds shown. The competitors in this variety were Jas. J. Whyte and W. O. McCubbin. In the Columbian Wyandottes all awards went to Mrs. P. H. Chansee, and in the Silver Wyandotte class the ribbons were carried off by Wm. A. French and J. L. Harrison.

RHODE ISLAND REDS.

Rhode Island Reds are popular, and are always well represented in poultry exhibits of consequence, and the State Fair proved no exception. A number of notably meritorious birds were shown. The McCartney Farms took the ribbons, Joseph Fowler four, Brookdale Ranch two, J. L. Harrison three, and Mrs. J. R. Porter one. In the Rose Comb Rhode Island Red class all the awards but one went to Harold Matthew.

THE ASIATIC CLASS.

The Asiatic classes brought forward some fine specimens. Light and Dark Brahmas, White and Black Cochins and Black Langshans were worthily represented.

THE LEGHORNS.

As was to be expected, the White variety of this class was most numerously represented. Henry Sharp of Selma had a dandy bunch of well-trained birds, which carried themselves in superb fashion—the result of several weeks' training. His pen of Leghorns was the second best in the show, Williams Brothers of Fullerton winning the best pen. Sterling Farm of Sacramento entered a string of high-class birds, winning four ribbons. All awards but two in the Brown Leghorn class were carried away by Williams Brothers, William A. French winning first hen and Kenneth Starr second pen. The awards in the Single Comb Buffs went to Manuel Roberts, Mr. and Mrs. William McGee and W. L. Bartholomew.

MINORCAS.

There were fourteen entries in Black Minorcas, and all but three won ribbons. The single comb Buff Minorcas as a whole were excellent. The honors here went to W. B. Williams and L. M. Ericson.

ANDALUSIANS AND ANCONAS.

Mrs. Kate Hamilton entered a fine lot of Blue Andalusians and proudly carried away all prizes. Single comb Anconas must be coming to the front, judging from the number of entries and high class of birds exhibited. There were more Anconas in the show than any other breed or variety. As may be imagined, competition was keen. The honors were carried away by Mrs. Cora Bamford, Hocking Farm, Pleasant Valley Poultry Farm and Quality Ancona Yards.

ENGLISH AND FRENCH CLASSES.

Orpingtons, all varieties — Dark Sussex, Dark Cornish, Houdans and Silver Campines—were shown, and they were splendid birds, too.

BANTAMS, ETC.

The bantam and ornamental classes attracted, as usual, considerable attention, especially from the juvenile contingent of the attendance. The various classes were pretty fully represented. In the Golden Sebright Bantam class won first and third prizes for best cock shown, and Mr. and Mrs. Eugene Hinds second prize.

TURKEYS.

No poultry show could be called complete, or even respectable, without a fair representation of the great national Thanksgiving bird, and he attended the State Fair as a matter of course. The Bronze, Bourbon Red and White Holland families—that is, the foremost families in their class—turned out in good number and in fine feather. The most numerously represented was the Bronze class. J. Will Blockman won first on yearling tom and John G. Mee second. In the Bourbon Red class the Ferris Ranch won first on yearling tom. In the White Holland variety Mrs. B. Hocking won all the prizes.

The prize for the largest and best display of rabbits was awarded to Hale Prather of Ukiah, Mrs. Leroy B. Hackett winning second. These meat producers are rapidly forging forward and we need them in these war times. Every one should keep a few rabbits. A partial list of winners follows:

Largest and best display of poultry—William A. French.

Second largest and best display of poultry—J. Will Blackman.

Third largest and best display of poultry—R. G. and G. E. Baxter.

Fourth largest and best display of poultry—McCartney Farms.

Best male in show, excepting Bantams—Barred Plymouth Rock cockerel, 25 — Cameron Brothers.

Best female in show, excepting Bantams—Rhode Island Red pullet, 100—Goodacre Bros.

Best pen in show, excepting Bantams—S. C. Brown Leghorn, 94—Williams Bros.

Second best male in show, excepting Bantams—S. C. Rhode Island Red cockerel—McCartney Farms.

Second best female in show, excepting Bantams—S. C. Ancona pullet, 40—Hocking Poultry Farm.

Second best pen in show, excepting Bantams—S. C. White Leghorn—Henry Sharp.

Best male Game Bantam—Black Breasted Red Game Bantam cockerel, 3 — Arthur J. Dixon.

Best female Game Bantam—Black Breasted Red Game pullet, 56—Arthur J. Dixon.

Best pen Game Bantams—Black Breasted Red Game—R. G. and G. E. Baxter.

Second best male Game Bantam — Black Breasted Red Game cock, 61—Arthur J. Dixon.

Second best female Game Bantam—Black Breasted Red Game hen, 10 — McCartney Farms.

Second best pen Game Bantams — Black Breasted Red Game—R. G. and G. E. Baxter.

Best male Ornamental Bantam — Black Cochin Bantam cock, B9267—J. Will Blackman.

Best female Ornamental Bantam — Silver Sebright pullet, 42—Wm. A. French.

Best pen Ornamental Bantams — Black Cochin Bantam—Mr. and Mrs. Eugene Hinds.

Second best male Ornamental Bantam—R. C. Black cock, 4—Billy Hocking.

Second best female Ornamental Bantam—Black Cochin Bantam—Mr. and Mrs. Eugene Hinds.

Second best pen Ornamental Bantams—Silver Sebright—Wm. A. French.

Best pair of turkeys—Mammoth Bronze—J. Will Blackman.

Best pair of ducks—White Pekin—Wm. A. French.

Best Pair of geese—White Embden—Mrs. John Mee.

ATTEND THE SHORT COURSE AT DAVIS.

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

In order to get a profit from our hens this season, we must use up-to-date methods. The University Farm at Davis is in a position to teach us such methods. The writer attended the short course at the Davis Farm during 1915 and the information obtained from the poultry experts there, free, would cost dollars and dollars to one beginning the game. Prof. J. E. Dougherty, who has charge of the poultry department, is an expert in his line. Since he has been at Davis the poultry department has increased from just a few hens to in the neighborhood of four thousand at the present time. Several experiments are now being conducted along the line of egg production. Electric lighting of hen houses was tried out last year with marked success. The effects of hatching chicks at different seasons was also experimented on and interesting results obtained. Dr. J. R. Beach, the poultry veterinarian, has demonstrated to the public that vaccination will stop chickenpox. He will show you how to do it during the short course.

DAVIS FARM FAVORABLY LOCATED.

Davis, the home of the California University Farm, is located on the main line of the State Highway. The train service is excellent, being a junction point of the Southern Pacific. All the hotels are modern; their rates are reasonable. Many students obtain rooms in private homes when hotels and dormatories are full. Of course, the rates are higher now than when the writer attended the short course, but it is safe to say that one could keep his expenses within seventy-five dollars for the entire six weeks.

WHO MAY ATTEND.

Any person who has passed his eighteenth year may attend the farmers' short course. There are no entrance examinations. The entrance fee is two dollars in most cases. Send to the University Farm at Davis for their bulletin giving all the details; or, if there is a farm adviser in your county, he has a supply. The number of students in the poultry division will be limited this year. Don't get left. Enroll now.

CURE FOR EGG-EATING.

To the Editor: A subscriber asked a cure for egg-eating. Mrs. Swaysgood recommends cutting beak and darkening nests. We have, I think, a simpler way. Here it is: Cut egg in two with a sharp knife. Fill up one-half with mixture of mustard and cayenne pepper, thoroughly mixed in water. It resembles somewhat the yolk of egg in color. Lay near nest boxes. The egg thief takes one taste and cries enough—no more trouble with that particular hen!

Years ago Mrs. Swaysgood recommended us to use sharp sand as a cure for soft-shelled eggs. We tried it and found it to be a perfect cure. In addition we found it to be a worm knocker. The morning after using the sand, dropping boards in all houses were covered with worms. Since that time we have dissected birds and still find worms, but not in serious quantity. We have worked with the Davis people and have used their remedy (tobacco). It does the work, but believe in our case it does not pay.

Will some one who has wormy chickens try feeding 10 per cent beach sand in the soft feed and report results? We feed 5 per cent sand the year round. Do not fail in sending in your report to this paper.—Chas. Blom, Napa.

UNUSUAL ACTIVITY IN EGG PRESERVATION.

There were several times more eggs preserved by consumers in San Francisco and vicinity during the spring of 1917 than at any former time. Most of them were put down in water glass and the demand for containers was so great that every dealer in earthenware jars sold out his stock completely. The manufacturers are now several months behind with orders to replenish the dealers' exhausted stocks. There is no way of making a reliable estimate of the number thus preserved but the guesses of those who have been noting the activities of the consumers run from one million to three million dozen eggs. This unusual reserve of consumers is likely to affect the price of eggs during this fall by preventing an extraordinarily high price of fresh eggs, but the producers will be benefited by the education afforded many users of eggs who now think that a preserved egg cannot be really good, no matter how well it is done, whereas a properly preserved egg is still good and wholesome, even if not as desirable as a perfectly fresh egg.

SHORTAGE OF BREEDING COCKERELS.

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

The writer visited a large poultry farm near Sacramento last week and found, instead of having a couple of hundred of cockerels for next year's breeders, only two dozen were now on the place. The manager stated they intended to purchase their stock this winter. But where in the wide world are they going to get them? There will be no surplus male birds. They were all sold as broilers or small fryers. The wholesale poultry dealers reported an extraordinary amount of broilers were shipped last spring and summer. Feed was high and the young male birds had to help foot the bills. Some should have been kept, but we cannot bring back to life after having been on cold storage.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

POULTRY AS FOOD.

Under the head of poultry, which may be used "as food," may be classed all domesticated poultry, consisting of chickens, ducks, geese and turkeys, including even pigeons, squabs and quail, pheasants and peafowl, and guinea fowl. These are all more or less used at the present time, though we rarely hear of peafowl being eaten, as they are kept chiefly for their feathers, but they are good to eat, and that is the main reason for classifying them as "poultry."

POULTRY VS. BACON.

Now, with bacon at from 35 to 50 cents a pound for real choice sliced meat, it would appear to me that the poultry raisers ought to be making better from their flocks of chickens, ducks, etc. "Sunny Jim" undertook some few years ago to pay a very large sum in newspaper advertising to educate the people to eat "Force." He made good, too. "Force," after all, is but a cereal food gotten up in a specific form and made attractive. At one time oranges sold in these southern counties for a dime a bucketful, but they don't now. I question whether you cannot buy oranges as cheap or cheaper now in the Eastern States than you can right here in Pomona. What makes the difference? Advertising, that's all—spreading the fact that these southern oranges are sweet, sunkist fruits, that are wholesome and nourishing food.

TRUE FOOD ECONOMY.

Mr. Hoover, of the department of agriculture, is boosting substitutes for wheat, meat and other things that are scarce, but it seems to me nobody is boosting eggs and poultry as the best substitutes for meat.

In the matter of protein and digestible nutrients, food values differ greatly, and in these times every housewife should feed her family that food that gives the most value for the money. That is the only true test of economy.

AN INTERESTING COMPARISON.

Roasting chicken costing 25 cents a pound gives 7 per cent protein, 3 per cent fat, and 255 calories of energy. In one dozen of eggs, there is 7 per cent protein, 6 per cent fat, and 385 calories of energy. In one pound of salt pork or fat bacon, costing not less than 30 cents, there is 2 per cent protein, 68 per cent fat, and 2,950 calories of energy.

It will be noticed that fat increases the calories, which are really heat units. It is the proteins that build up the broken-down or wasted bodily tissues that come from labor and exercise. So we may say that the chicken is the cheaper article.

RAISE POULTRY AND EAT BACON.

And there are lots of people who sell their chickens and eat bacon themselves, which is very poor economy. If the poultrymen and ranchers would get up some advertising scheme, I believe they could educate the people to eat more poultry and eggs, and also to see that by making eggless cakes, or one-egg cakes, such as the baking powder companies are sending out recipes for, they are not economizing at all. What they are doing is filling their own and their children's stomachs with an extra amount of strong alkali and robbing the bodily tissue of its accustomed and necessary protein.

Only the other day I bought a package of oats; on the top was a paper telling how much more food value there was in oats—or, rather, in that amount of oats—than there was in eggs. All this is considered fair by milling companies, and every baking powder company tells you that instead of eggs add more baking powder. Sharp business. But it's business, and if poultrymen would strike out on the same lines I believe it would pay big interest.

BEST MONTHS FOR POULTRY.

September and October are the best months in the year for certain classes of poultry, among which are large fat hens, ducks and geese. The cause of this is the Hebrew holidays and all Hebrews are particularly fond of fat poultry.

PREPARE FOR WINTER.

Another idea that is good for this time is to look after the leaky roof and the big cracks that let in wind.

I'm not one who is afraid every little crack is death to a chicken, because if hens are kept in good condition they will stand drafts in reason, but the wide-open crack that just about catches a hen's head when she is on the perch is going to do mischief. And a leaky roof just means misery to both hens and caretaker, if nothing worse. Little repairs now are cheaper than medicine later, and less work. Incubators and brooders that are done with for the season should also be put by after being well cleaned. Never leave a dirty incubator, for germs will breed at such a rate that you never will be able to get it sweet and clean again.

Sunshine is a good germ killer and if the machine is set so that the rays can drive right into the egg chamber it will be cleaned and purified better than any spray can do the work. But it would be all the better for a spraying out first.

I went to a poultry plant a few days ago where the man had just been around the orchard picking up little brood coops, and he had a wagonload of them, all made "A" fashion. In the spring he uses them for a hen and chicks, then later for breaking up broody hens. He sets a coop over a piece of soft moist ground so that the hen can enjoy a bath, sets a dish of water and another of feed in the coop and tells the gen to go to it.

CANKER IN PIGEONS.

To the Editor: I am a new beginner in the pigeon business and my squabs have the canker. What is the remedy? Where can I get some books or papers on pigeons?—F. A. N., Wheatland.

Canker in pigeons can be treated about like chickens. But it is far better to kill any old pigeon that you find with it, because the old bird will surely communicate the trouble to the squabs as often as she hatches them. A little bluestone in the drinking water, just enough to give it a slight color, will help. If the birds are valuable, catch each one and apply the following remedy: Mix equal parts of boracic acid, powdered camphor and subnitrate of bismuth; mix well. Blow this into the mouth and throat of the birds through a glass tube, or a soda fountain straw. For internal treatment give one tablet each day, to each bird, of 1-100 grain of mercury pretiodide. If this is given omit the bluestone. Send $1.00 to Press office for copy of "California Poultry Practice." It tells you all about pigeons that you can get from books.

DIAGNOSIS TOO MEAGER.

To the Editor: I would thank you to advise me about my chickens. I have lost two now. They eat little, drink, but sit around and move only slowly and finally die. They don't seem to be in any pain and their combs appear healthy. Feed scratch and Surelay with some greens. Plenty of run and clean house.—G. R. S., Colfax.

It's almost impossible for me to judge correctly from such meager information what ails these chickens. Even clean houses have mites in them unknown to the owner; better look it up. For the appetite give ten drops tincture of nux vomica in a quart of water for several days in succession. This will help both appetite and digestion and if there is no disease, apparent from the comb, and no mites in the house, the digestion must be the faulty place.

POULTRY NOTES.

The U. S. Post Office Department has issued a fraud order against the Majestic Squab Company and its officers and agents at Adel, Iowa.

A bulletin of great importance to every poultry raiser has just been issued by the Department of Agriculture, making comment on the value of buttermilk and its relation in the prevention of white diarrhoea in chickens. This bulletin is number 162. Write to Berkeley for this important bulletin. It is free.

Poultry Breeders' Directory

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

FOR SALE—Buff Orpington and Buff Leghorn hatching eggs, $1.50 per 15. Splendid breeding hens, Buff Leghorn pullets and cockerels. The Ferris Ranch, Rt. 2, 144D, Pomona, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; fall chicks; eggs; cockerels. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W Park st., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

MAMMOTH BRONZE TURKEY HENS—Two years old, $5 each. Toulouse geese, $3 to $5 each. Mrs. Coghlan, Walnut Creek, Cal.

BRONZE TURKEYS — Albert M Hart Clements, Cal.

Classified Advertisements

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

MISCELLANEOUS.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero st., San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

APPLES DIRECT FROM PRODUCER — Fancy Bellfleurs, $1 per box; No. 2 grade, 70c; Newton Pippins at same prices; bulk pack. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smith's Cash Store, 106 Clay st., San Francisco.

ALL SIZES OF PIPE and screw casing, both new and second hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard street, San Francisco.

SECOND-HAND PIPE—Absolutely first class. Write for prices. San Francisco Iron & Metal Co., 256 North Point St., San Francisco, Cal.

WANTED—An engineer's 2nd hand transit, in good order, cheap. Address, P. O. Box 101, Atascadero, Cal.

FOR SALE—1 Holt Caterpillar, 1 Beet Plow. Good work stock. Prices right. E. Morris, Owensmouth, Cal.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal Course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market st., Stockton, Cal.

WANTED—Energetic young married man to take charge of herd of 140 registered Holsteins; must be an all-around practical dairyman, competent to do anything connected with a dairy and breeding establishment, including the making of weekly and yearly records. Geo. A. Smith, Corcoran, Cal. Phone 241.

WANTED—Position as herdsman; understand testing, scientific feeding and treatment of disease; good references. Box 780, Pacific Rural Press.

COUNTRY LANDS.

IF YOU WANT 160-ACRE FARM in the best climate and above the fog belt, Lake county is the place; land values are based on what they will produce; ideal for chickens and fruit; good for stock and grain; 18 acres walnuts, interset with prunes, besides 50 acres wheat land; 3-room cottage, 4-horse barn; 1 mile to school, 3 miles to town; price $7,500; no exchange. Address Box 71, Kelseyville, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

FOR SALE—40 acres, 1½ miles from town, Mendocino county; new house and barn; all fenced; running water year round; price $2500. For further particulars address Box 790, Pacific Rural Press.

20 ACRES—13 bottom; fenced; 5 acres young trees; 2 alfalfa; barn, well; 3 miles Anderson; $3500; half down. W. Rupe, Anderson, Cal.

HUMBOLDT STOCK RANCHES—1700 acres $8 with stock cattle. Long lease; additional land. C. E. Robertson, 105 Montgomery St., San Francisco, or J. E. Wilson, Carlotta, Cal.

SEEDS, PLANTS AND TREES.

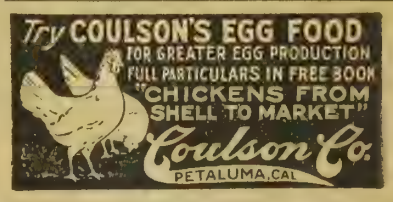
ALFALFA PLANTERS, fill your fall requirements now with Green-Gold seed; high quality because of personal field selection; low price because of direct dealing; send for samples and prices. Bomberger Seed Company, Desk A, Modesto, Cal.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

WE BUY WEED SEEDS—Mustard, rape, anise, bitter clover, etc.; send samples; write us stating quantity and price. Globe Mills, Los Angeles.

SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar sts., Oakland, Cal.

AGRICULTURAL BLASTING—Tree planting. Experienced. Fruit Trees. Panama Nursery Co., Concord, Cal.



Mrs. Best's Letter.

MILLINERY A LA MODE.

The millinery stocks are so complete now that you may feel perfectly safe in selecting a hat for wear through the winter. The very early showing of hats are liable to be novelties that may or may not continue to be worn as the season advances. The tam-o-shanters this year are a good illustration of that; the first hats shown were largely of that type; and now, at one of the largest millinery stores in the city, these hats are being closed out and no more are to be ordered.

THE DRESSY HAT.

For dressy hats the large hat is always good; some of them are perfectly plain large sailor shapes, while others have a roll at one side. These hats are made of shirred panne velvet combined with metal laces or fur. The trimmings are simple, feather bands of various styles leading in popularity. Ostrich is seen in narrow bands on the edge of the brim and ocasionally in a hat with a rolling brim, there will be used a long plume that curls over the edge in the old Gainsborough style. But on the whole, ostrich is not as popular as the stiffer feathers.

THE TAILORED HAT.

The smaller, more tailored hats are shown in a great variety of styles, from close-fitting turbans to the hat with quite a brim turning up all round, quite sharply at one side. These hats are in satin beavers and velvets and can be found in black, purple, gray and combinations of tan and black. If there is feather trimming, it quite frequently is out at the edge of the brim and the crown has only a simple ribbon band around it. Mole gray is the new color of the fall, and you see it in both dressy and street hats, usually with trimmings of the same color, but purple is very much shown, too.

WORSTEDS, CHENILLES, VELVETS, FELTS.

One of the very exclusive shops has quite a line of worsted hats made of yarn. They are small and in combinations of colors—pink with a black band, or taupe with blue. They make a very striking window display, and we can only wait to see if they prove popular.

The chenille hat in bright colors is with us again, and makes a very pretty informal hat for a girl.

The hats for girls' school wear are in velvet, some with stitched brims and others with the brims covered with draped velvet. They are soft and the brims can be turned to be becoming to any face. The trimming is a plain band of ribbon the same color as the hat.

Felts are not popular this year, except in the soft crushers, and it is rather too bad, for they stand hard wear beautifully.

VEILS STILL FASHIONABLE.

Veils continue to be worn. With the small hats, they extend over the face and fasten snugly in the back, if worn for utility—if worn for style, they are bordered and hang straight from the brim of the hat all around. When the hat is too large to fasten a veil over, the veil is put on first, and extends barely over the nose and is pulled back snugly to confine the hair. They are usually the color of the hat.

ROSABELLA BEST.

THE HOME CIRCLE

APPLE RECIPES.

Apple Jelly.—Wipe apples, remove the blossom and stem ends and cut in quarters. Put the fruit in a porcelain-lined kettle, add water to almost cover the apples, and cook over a slow fire until the apples are soft. Mash and drain through a coarse sieve; let drip through a jelly bag. Measure the juice and put an equal amount of sugar into flat pans in the open oven to heat. Boil the juice 20 minutes, then add the hot sugar; boil another 5 minutes and pour into glasses. If apples are pared, a lighter jelly will result. If the jelly does not seem firm enough, set in the sun for 24 hours under glass. Cover with paraffine and store in a cool, dry place.

Apple Jam.—Pare, cut in quarters and core tart apples. Put parings and cores in a sauce pan, cover with water and boil ½ hour. Drain and pour the liquid over the apples, cooking until the apples are soft. Strain through a sieve, add ¾ pound of sugar to each pound of fruit, and cook until thick and clear. The addition of lemon adds a good flavor. Boil the grated rind and juice of 2 lemons to each quart of apple juice.

Gingered Apples.—Select tart apples, pare, core and cut in small pieces. To 5 pounds of chopped apples, allow an equal amount of sugar, 5 ounces of ginger root, 3 lemons and 1 pint of water. Bruise the ginger root, add to water and simmer until there is a strong extraction of the ginger. Wipe the lemons, grate the rind and extract the juice. Tie ginger in cheesecloth and put ginger water, lemon juice and rind, sugar and apple on to cook until the pieces of apple look clear.

FIFTY-FIFTY BISCUITS.

One of the latest ideas for the saving of wheat flour in hot bread is the use of cornmeal, finely crushed peanuts, rice flour or home-ground soy beans in a fifty-fifty ratio with white flour.

Fifty-fifty muffins may be made with 1½ cups of cooked and mashed sweet or Irish potatoes, or cooked cereal or ground soy beans and an equal amount of flour.

For fifty-fifty biscuits, take 2 cups corn meal, ground soy beans, rice flour or other substitute, 2 cups white flour, 4 teaspoons baking powder, 2 teaspoons salt, 4 tablespoons shortening, from 1 to 1½ cups of liquid. Sift together the flour, meal, salt and baking powder twice. Have the shortening cold and cut it into the mixture with a knife, finally rubbing it in with the hands. Mix quickly with the liquid (milk preferred) to a soft dough that can be rolled into a sheet not over ½ inch thick. Cut into rounds, place in floured pan and bake 10 to 12 minutes in hot oven. If peanuts are used, the roasted and shelled nuts should be finely crushed with a rolling pin and added to the other dry ingredients after they have been sifted together.

DRYING CORN.

Editor Home Circle: I presume that Mrs. D. C. S., Carson City, is inquiring about drying sweet corn. Pull the corn when it is right, and boil it just as for immediate consumption. Cut off the kernels and dry on a fruit tray in the sun, watching that it doesn't get black. When using it, soak in water over night, boil for about one hour, pour water off, and stew in milk with a little flour thickening and little salt and it is ready to serve. It is very good and some people like it better than canned corn. We dry every year 20 to 30 pounds in that way.—R. Lindleck, Denair.

ANOTHER.

Editor Home Circle: I saw your request in the Rural Press of September 8 for a recipe for dried corn, and you will find this the best and easiest, and the corn will be the most delicious you ever tasted. Steam the corn for 15 minutes, cut from the cob and put in a cloth flour sack; tie it in the middle, dividing the corn so part will be on each side, and throw the sack across the line, shaking it up to separate once in a while. This glorious California sun dries it in a few days, and the flavor is much finer than the old way, and it is perfectly clean and free from insects.—Ella F. Cornelius, Atascadero.

THOUSAND ISLAND DRESSING.

Thousand Island dressing is nothing more than a variation of mayonnaise, and many times it is just a mixture of mayonnaise and chili sauce. Finely chopped tomatoes in French dressing may be added with much the same effect as the chili sauce, and if more piquant flavor is desired, add finely chopped green peppers and pimiento, the sifted yolk of a hard boiled egg, a little paprika and finely minced onion. Add to this either catsup or Worcestershire sauce in small quantities; blend thoroughly with ½ cup of whipped cream and add gently to the same amount of mayonnaise.

"Do you ever run across any of your old friends on your automobile trips?" "Not if they have sense enough to get out of the way."—Baltimore American.

"Did your husband die a natural death?" we asked Mrs. Malaprop. "Oh, no," she replied. "He had a doctor."—Credit Lost.

When Earth's Last Picture is Painted

When earth's last picture is painted and the tubes are twisted and dried,
When the oldest colors have faded, and the youngest critic has died,
We shall rest, and faith, we shall need it—lie down for an aeon or two,
Till the Master of all good workmen shall put us to work anew!

And only the Master shall praise us, and only the Master shall blame;
And no one shall work for money and no one shall work for fame,
But each for the joy of the working, and each in his separate star,
Shall draw the Thing as he sees It for the God of Things as they are.

—Rudyard Kipling.

Good Health.

[By H. E. Pastor, M. D.]

Hops As Viewed by the Profession and the Laity.

Have hops any medicinal value? Yes; but they stand much higher in popular estimation than in professional repute. True, they have a minor place in the materia medica of all schools of medicine, and have definite physiological and therapeutic properties. They are credited with promoting the appetite and facilitating digestion. They predispose to sleep, and are pain-relieving. But the professional man believes they possess these powers in a rather feeble way. The efficacy of a hop pillow to soothe a distracted mind or to induce sleep in the restless is looked upon as more or less imaginary by the man of medicine. There can be no doubt, however, that hops possess the attributed powers in a mild degree, and that the popular faith in the hypnotic and anodyne properties of the hop plant are not altogether an illusion. There are thousands of laymen and more especially laywomen, who will testify to the soporific comfort of a hop pillow. Another popular use for hops is to sew a quantity of them in a muslin bag, dip the bag in hot water until thoroughly saturated, and lay it on the abdomen when there is inflammation present or internal pain of any kind. And its usefulness is not altogether due to the application of the heat and moisture, as some modern medicos skeptically insinuate. The recommendation of the old family doctor to some of his convalescing female patients, or to nursing mothers, to use moderately one or other of the liquid derivatives of hops can hardly be regarded as misplaced confidence, though the political atmosphere has become so arid of late that the average practitioner is a trifle timid about making such a recommendation, though he probably shares the confidence of his predecessor in this form of hop medication. Doubtless the widespread belief in the efficacy of the various forms of hop treatment has some basis in fact, even if looked at askance by the "profession."

Fruits for Breakfast.

Fruit juices taken early in the day on an empty stomach are converted into alkalis and help to keep the blood current alkaline, as it normally should be, thus checking the accumulation of uric acid in the system, and warding off such ills as rheumatism, gout, and kindred ailments. Fruit juices whet the appetite, augment the flow of gastric juice and stimulate bowel movement, so essential to the counteraction of constipation. Have some form of seasonable fruit on the table for breakfast—oranges, grapefruit, cantaloupe, berries, grapes, etc. Where fruit is eaten regularly early in the day the process of digestion proceeds more satisfactorily. The brain and eye are clearer, and a general good feeling is experienced. There is no excuse for Californians neglecting this salutary practice.

Parents, Do Your Bit.

It is often said that we are all the creatures of our environment. Environment does much to bring out the latent possibilities of character in the child and to direct its energies into a right or wrong course. But character is inherited, and can-

Mayo is the only medium-priced underwear that's actually knit in the dollar way—10 ribs to the inch instead of 8.

10-Rib Knitting brings to Mayo Underwear added warmth and coziness. Turns men's winters into June. It's plain common sense to see that a closer-knit fabric is bound to be a warmer fabric.

Buy 10-rib Mayo Underwear for ease and comfort. For, truly, never did you feel before such easy stretch and "give" as comes from 10 ribs to the inch instead of 8.

And, yes! Buy 10-rib Mayo Underwear for economy. For 10-rib knitting *does* mean longer wear.

Get 10-rib Mayo Underwear before winter *gets you.*

Mayo

Made from Mayo Yarn

WINTER UNDERWEAR for MEN and BOYS

The only medium-priced underwear that's "actually knit in the dollar way".

Men's winter Shirts and Drawers
Men's winter Union Suits
Boys' winter Union Suits

All dealers either have or can quickly get for you 10-rib Mayo Underwear

THE MAYO MILLS, Mayodan, N. C

Good to the shoulders great for wear

President Suspenders for comfort

Tell your dealer you want *President*. If they prove unsatisfactory—in any particular—just mail them to us. We will repair, replace, or (if requested) refund your money.

President

Look for the *President* buckle and guarantee on every pair. Accept no others. All dealers.

PRESIDENT SUSPENDER CO.
Shirley, Mass.

Specialists in Specimen Stock for Landscape Work.

Hardy Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.

WRITE FOR PRICES

COTTAGE GARDENS NURSERIES, INC.

EUREKA, CALIFORNIA

not be created, though it may be modified by the associations of environment. After all, however, each heredity is little else than the accumulated result of many generations of environment. If you who read this paragraph are parents and you wish to transmit to your posterity a better heredity than they now possess the one sure way to do it is to secure to your children the best possible environment your circumstances and immediate surroundings will permit. Do your bit in your generation, and trust to posterity to do its wholesome bit in their turn.

Salads in Summer.

Don't forget to garnish the table and at the same time stimulate the appetite in a healthful way at this season of the year with some form of salad. Lettuce, celery, cabbage, onions, cucumbers, water-cress, etc., are all wholesome and furnish valuable mineral constituents to the system. Raw green food of any suitable kind is an appetizing and wholesome dish, and safe, unless the digestive tract is out of order. If this line of vegetarian diet were more generally used there would be less illness that cannot be accounted for.

WOMEN AND GIRLS TRAVELING ALONE.

The Young Women's Christian Association is again cautioning parents about letting their daughters go to any city alone, or without the company of some responsible older person. This caution is especially timely now. Boys from the farms and small towns, as well as from the cities, are in camps in various parts of the country, and before winter many thousands more will be in the training camps. Naturally the girls will want to see their brothers and friends. At such times as these, it is all the more dangerous to make friends with strangers, either men or women, no matter how pleasant and courteous they may be. If you need information or help, ask it of someone in authority.

The Young Women's Christian Association in the East has gotten out a card which should be put in prominent places in every town, and in every railroad and interurban station, and should be read by every woman and girl, whether she is planning a trip for pleasure or in search of work. We quote it in full:

"Do not start to a strange city or town without information about a safe place to stay.

"Do not leave home without money for an emergency or for a return ticket.

"Do not ask or take information or advice except from officials.

"Do not accept offers of work either in person or by advertisement, without investigation."

ARSENIC SYRUP FOR ANTS.

Poisoning by a syrup that contains from ¼ to ½ of 1 per cent of arsenic has been found to be a most satisfactory way to rid the pantry of ants. The most convenient way is to use a jar or can with perforated cover and to place within it a sponge saturated with the ant solution. The ants enter through the perforations, fill themselves with the ant solution, and carry it to their nests.

California Vegetable Crops of 1917 Worth $60,000,000!

Home Gardens Multiplied Ten-Fold! Next Year Will Be Still Greater! Important to Start Now and Start Right! A NEW BOOK TO INSURE BOTH:

"California Vegetables in Garden and Field"

By E. J. WICKSON

Editor of Pacific Rural Press

Author of "California Fruits and How to Grow Them," "California Garden-Flowers, Trees, Shrubs and Vines," etc.

A Manual of Practice

WITH AND WITHOUT IRRIGATION
FOR ARID, SEMI-TROPICAL COUNTRIES

Fourth Edition---Revised! Extended! Beautified!

Ready September 25, 1917

Contents by Chapter Titles

Vegetable Growing in California.
Farmers' Gardens in California.
California Climate and Vegetable Growing.
Vegetable Soils of California.
Garden Irrigation.
Garden Drainage in California.
Cultivation.
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525 Market Street, San Francisco, Cal.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, Sept. 19, 1917.

WHEAT.

In a jobbing way small sales are being consummated at prices ranging from $2.30 to $4.25, with inferior stocks selling below these figures. Any arrivals from the North go direct to the mills.

Sonora wheat .....No quotations
Northern Club .....No quotations
California Club .....No quotations
Northern Bluestem .....No quotations
Northern Red .....No quotations
Russian Red .....None offering

BARLEY.

Light receipts have had a tendency to advance the price of choice feed slightly. Small lots will fetch an advance over quotations. No transactions have taken place lately in brewing and shipping. The yield is good and, according to the best information, above normal, but prices are very firmly held.

Shipping, per ctl. .....$2.37½@2.40
Brewing ..... 2.37½@2.40
Choice feed, per ctl. ..... 2.35@2.37½

OATS.

There is very little inquiry for feed oats and no white feed is offering. There is some call for seed oats but not sufficient to cause any change in the quotations set last week.

White Feed, per ctl. .....None offering
Red Feed, per ctl. .....$2.90@3.00
Red Seed, per ctl. ..... 3.00@3.25

BEANS.

The market is firm, though merely on account of the small offerings. While demand is fairly good it is not accountable for the advances in pinks and limas. A few whites are in the market but no supplies of magnitude may be expected before next week. Experts report a heavy crop—the largest ever known in California—which is accounted for by an increased acreage in beans of 70 per cent.

Bayos, per ctl. .....$ 8.00@ 8.25
Blackeyes ..... 7.00@ 7.50
Cranberry beans ..... 8.50@ 9.50
Horse beans ..... 3.50@ 4.00
Small whites (south) ..... 11.00@11.50
Large whites ..... 10.00@11.00
Limas (south, reclaned) ..... 11.50@12.00
Pinks ..... 8.00@ 8.75
Red kidney ..... 9.00@10.00
Mexican reds ..... 8.00@ 8.25
Tepary beans .....None offered
Garbanzos ..... 4.50@ 5.25

CORN.

Farmers are harvesting milo maize in the Imperial Valley but none, as yet, has reached this market. No eastern yellow is offering here, and the unsettled condition of the eastern corn market indicates that none may be expected in the immediate future. The stocks of California corn being shipped to this market show up very poorly, as they are of very inferior quality, and connot be expected to realize quotations.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk....None offering
California, sacked .....$4.00@4.25
Milo Maize ..... 4.00@4.25
Egyptian .....None offered

HAY.

Quite a decrease in receipts of hay is noted, caused no doubt by the fields becoming more or less cleared. Though a trace of rain was in evidence during the past week, no damage was done to hay; but it had the effect of making farmers a trifle nervous and more careful. The market has been firm, and although local trade has been dull, prices have been well maintained; and, in some cases, hay has sold at top figures. Advances may be expected before long, as soon as the outside hay has been moved to market or in the warehouses. Alfalfa of the fourth cutting is now moving in from River districts, in fairly good volume. Very little hay being exported. Receipts of straw have been heavy with light trade.

Wheat, No. 1 .....$19.00@21.00
No. 2 ..... 16.00@18.00
Tame oats ..... 19.00@21.00
Wild oats ..... 16.00@19.00
Barley ..... 16.00@19.00
Alfalfa, new, first cut..... 16.00@19.00
Stock hay, new ..... 14.00@16.50
Straw, per bale .....50@90c

FEEDSTUFFS.

The small offerings of rolled oats and an increased demand have advanced prices. Alfalfa meal feels the stimulating effect of the high prices on alfalfa hay, and has advanced also. Otherwise there has been no change in values.

(Per ton, San Francisco.)

Beet Pulp, per ton.....$38.00@40.00
Alfalfa meal, per ton ..... 28.00@31.00
Bran, per ton ..... 41.00@42.00
Oilcake .....None offering
Coconut cake or meal..... 40.00@41.00
Cracked corn ..... 84.00@85.00
Middlings ..... 52.00@53.00
Rolled barley ..... 53.00@54.00
Tankage .....None offered
Rolled oats ..... 58.00@59.00
Rice middlings .....None offered
Rice bran ..... $39.00@43.00
Shorts ..... 43.00@45.00

POTATOES, ONIONS, ETC.

Probably, the demands of the canners have caused values of tomatoes to rise. Sweet potatoes are much more plentiful and are cheaper in consequence, selling at 3c. Summer squash are a little overstocked in this market. Salinas potatoes remain unchanged, but Rivers have advanced, owing to increased shipping. Onions are stronger, owing to shipping demand, and garlic shows considerable advance from same cause.

Asparagus .....None
Peas, per lb. .....4@4½c
String beans, per lb.....2@4c
Wax beans, per lb. .....2@4c
Hubbard squash, per sack.....None
Summer squash, per box .....40@75c
Cucumbers, per box .....40@60c
Celery, per lug .....Nominal
Tomatoes, per lug box.....75c@1.00
Potatoes, Salinas .....$2.75@3.00
Oregon .....None
New, Rivers, per ctl.....$2.25@2.50
Sweets, per lb. 3c
Onions, yellow, per sack.....$1.50@1.85
Reds .....None offering
Garlic, per lb. .....4½@5½c

POULTRY.

Reaction from the Jewish holiday might have been expected to produce a slump in the poultry market, but this has not occurred. On the contrary, extremely small receipts, caused by the lack of increase on the poultry ranches, has brought about advances on almost all lines. The demand here is a little above supply, and the same condition applies to Belgian hares, which show an advance on young stock of one cent.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb., young.....30@32c
do, dressed, old.....22@25c
Broilers, 1½ to 2 lbs. .....30@32c
do, 1¼ lbs. .....30@32c
do, under 1 lb. .....30@32c
Fryers .....28@30c
Hens, extra, per lb., colored.....25@26c
Small leghorn .....19@21c
Smooth young roosters, per lb. (3 lbs. and over) 28c
Old roosters, per lb. .....13@15c
Geese, per lb. 18c
Squabs, per doz. .....$2.50@3.00
Ducks .....15@18c
Old 12½c
Belgian hares (live) .....14@17c
do (dressed) .....16@18c

BUTTER.

An extremely active demand during the last few days has not been satisfied with the small receipts and values have advanced again. The market is very firm and there is street talk of 50-cent butter before long. On the other hand, some dealers are of the opinion that present prices cannot be maintained for many days.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43½	45½	45½	44½	45½	45½
Prime 1sts	42	43½	43½	43½	43½	43½

EGGS.

Eggs have been advancing steadily all week. The production seems to be falling off, shown by a decrease in receipts here during the week of 800 cases. Indications point to a coming decrease in flocks in the poultry runs of the country. Yesterday was the annual election of directors of the San Francisco Wholesale Dairy Produce Exchange. The new officers will be elected by the board within the next few days.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	46½	47	47	47½	49½	49½
Extra 1sts	44½	46	46	46	49	49
Extra pullets	43	43½	44	44	46	46
Extra 1st pul.	41½	43	43	43	45	45

CHEESE.

The same conditions apply to cheese, as are manifest in butter and egg markets. Light receipts and very little shipping leave the market controlled by purely domestic needs. Local demand, while able to absorb incoming stocks fairly easily, have not had the effect of raising values.

Y. A.'s 24½c
Fancy California Flats, per lb.....22½c
Monterey cheese .....8@18c

FRESH FRUITS.

All supplies of fresh fruits move off well, in spite of their abundance. Values are held at quotations of last week, excepting on watermelons. These are becoming scarcer, and the close of this month will see them practically off the market. They command a rather wide range of prices, selling for $2.00 up to $5.00 per dozen. Seedless grapes are a trifle stronger.

Apples, Gravenstein, per box...$1.50@2.00
Pears, per box .....75c@$1.75
Cantaloupes, per crate.....50c@$1.00
Apricots, per box.....None
Peaches, per box .....50c@$1.00
Nectarines .....50@75c
Figs, per box .....40@75c
Plums, crates .....40@75c
Watermelons, per doz. .....$2.00@5.00
Grapes, Malaga .....60@75c
do, Seedless .....75@90c

CITRUS FRUITS.

It is a matter of comment how lemons manage to hold the present level of prices, with a decreasing eastern demand. While they no longer fetch the extreme prices of a few weeks ago, yet they have not made any material declines. Valencias have declined 25 cents, but other lines are well-maintained.

Oranges:
Valencias, fancy $3.25
Valencias, choice 3.00
Lemons:
Fancy, per box 7.50
Choice 6.50
Standard 4.50
Lemonettes 5.00
Grapefruit, fancy 3.50

DRIED FRUITS.

There is very little doing in the dried fruit market. With the exception of prunes, government orders have been insignificant. Values remain as noted last week. The fact of dealers not having been able, as yet, to obtain export licenses has served to dull the market and limit trading.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop .....10½@12 c
Apricots, per lb.....13 @16½c
Figs, black, 1917 ..... 5½@ 6 c
do, white, 1917 ..... 6½@ 7 c
Calimyrna, 1917 .....11 @12 c
Prunes, 4-size basis, 1917..... 6 @ 6¾c
Prunes, 1916 basis .....None
Pears .....8@7c
Peaches, 1917 .....8@9c

BERRIES.

Berries were very scarce in the market Wednesday, and published quotations are hardly to be closely relied on.

Strawberries, Bauners, chest....$5.00@$5.50
Longworths .....None
Blackberries, per chest .....$4.00@$4.50
Raspberries, per chest .....8.00@10.00
Gooseberries .....None

HONEY.

The honey market is firm, because of short supplies. Nearly all the activity in honey seems to be in the country, where producers are shipping direct to the east and to Great Britain. Texas has a short honey crop and is drawing heavily on California.

White comb .....13@15c
Lt. amber comb .....10@12c
Amber comb .....8@10c
Extracted, water white .....12@14c
do, Lt. amber .....10@11c
do, Amber .....8@10c

HOPS.

The market is strong and advancing. Nearly all of the crop is now out of first hands. It is estimated that only about 10,000 bales of California hops remain unsold. Reports from the Oregon hop districts show that their crop has been oversold by 15,000 bales—sales amounting to 40,000 bales against an actual crop of only 25,000 bales.

Baled, per lb.....35@37½c
do, Oregon and Washington....35@37½c

WOOL.

There is little doing in wool just now. A number of small lots of the spring clip are still in the hands of growers, but there is a difference in the viewpoint of buyers and sellers of somewhere between 10 and 15 cents. As a result, little trading is done. Quotations are nominal.

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Sept. 18, 1917.

There has been a decided improvement on all varieties of fruit in practically all markets during the past week. This is due to several reasons, the principal being that the quality of fruit has been better and competition from Eastern States considerably less, and favorable Eastern weather conducive to more active demand.

There has been a noticeable improvement in the quality of the Malagas during the past week and we look for prices to remain firm on this variety throughout the season.

Though Tokays are hardly up to standard in some districts, extra care has been given to the packing and grading, and though the shipments have not been very heavy the result is that the markets have shown an upward tendency even under fairly heavy offerings.

Bartlett pears that have arrived in sound condition and displayed keeping quality brought highest prices for the season. Weak stock, selling fairly well. Northwestern Bartletts have been arriving in very heavy supply, but the keeping quality is poor, and though they have had some effect upon the market on California Bartletts our stock has been superior and has met demands of the best class of trade.

Late varieties of peaches during the past week have done remarkably well, but we look for market to ease off on Freestones from now on on account of shipments from Colorado and Utah. Clings, however, will remain firm throughout the season. Quality this season is above the average and sizes favorable to the trade.

There has been a threatened car shortage for the past ten days and the situation has become strained. Unless the situation improves during the next two weeks, some of the fruit districts will suffer, as the warm weather is ripening fruit very rapidly.

Averages for the week have ranged as follows:

New York: Bartlett pears, $2.13 to $2.57; Buerre Hardy, $2.00 to $2.45; Malaga grapes, $1.06 to $1.27; Cornichon, $1.50; Tokay, $1.28 to $2.34; Muscat, $1.34; Giant plums, 90c to $1.02; Kelsey, $1.02 to $2.60; Gross, $1.10 to $1.44; Grand Duke, $1.30 to $1.56; Orange Cling peaches, 75c to $1.13; McDevitt, $1.15 to $1.20. Fancy Bartletts sold as high as $3.60.

Chicago: Malaga grapes, $1.02 to $1.26; Tokay, $1.09 to $2.22; Black Prince, 92c; Kelsey plums, $1.00 to $2.50; Giant, 83c to $1.48; Grand Duke, $1.21 to $1.68; Bartlett pears, $1.78 to $2.11; Buerre Hardy, $1.78 to $2.09; Salway peaches, $1.12 to $1.19; Phillips, $1.18 to $1.21.

Boston: Bartlett pears, $2.05 to $2.35; Cornichon grapes, $1.35; Tokay, $1.50 to $2.55; Malaga, $1.10 to $1.15; Grand Duke plums, $1.35 to $1.60; Gross, $1.00 to $1.65; Giant, 90c to $1.25; Kelsey, $1.75.

Total shipments by cars from September 7 to and including September 14: 86 peaches, 32 plums, 160 pears, 954 grapes.

Total shipments to date, 1917: 15,302 cars. Total shipments to date, 1916: 11,533 cars.

LOS ANGELES.

Los Angeles, Sept. 18, 1917.

BUTTER.

There has been a sharp advance in this market the past week. Prices advanced 3c on extras on Friday and this improvement has been maintained ever since. There was no butter taken into cold storage during the week, but 8,201 pounds were withdrawn, showing that the trade took care of the receipts, notwithstanding the increased consumption of oleomargerine, encouraged by the high prices of butter.

We quote:

California extra creamery.....44c
California prime first 43c
California first 42c

Daily quotations:

	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
1917—						
Extra	41	41	44	44	44	44
1916—						
Extra	31½	31	32	31	31	30

EGGS.

A fairly active market was had the past week and under very light receipts values advanced 1c on extras and pullets and 2c on case count up to Monday. There were no eggs taken into cold storage during the week, but 4,749 cases were withdrawn against 2,831 cases the same week last year, showing that the trade is taking cold storage eggs freely at the difference in price and the cold storage holdings here have been reduced 8,026 cases the last two weeks. The holdings of cold storage eggs in Los Angeles is still 11,122 cases greater than this time last year. Tuesday, under light receipts, the market held up on extras and case count, but pullets, under fairly good receipts, lost 1c. But at this decline there was a very good demand.

Daily quotations:

	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
1917—						
Extra	47	48	48	48	48	48
Case count	45	47	47	47	47	47
Pullets	39	40	40	40	40	39
1916—						
Case count	37	37	37	37	37	37

POULTRY.

Receipts continue to run light for all classes of poultry and demand holds up well, both for young stuff and hens, and there was a general advance the past week. High prices of meats make poultry now about as cheap as anything else, which is encouraging its consumption.

We quote from growers:

Broilers, 1¼ to 2 lbs.....27@28c
Fryers, 2½ to 3 lbs.....25c
Hens over 4 lbs.....22c
Hens under 4 lbs.....18@20c
Ducks .....18@19c
Geese 12c
Roosters, 3 lbs. up (soft bone).....25c
Turkeys, heavy, 12 lbs. and up.....29@30c
Turkeys, light .....24@25c
Squabs, live, per doz.....$3.00@4.00
Dressed ..... 3.50@4.50

VEGETABLES.

All good fresh stuff in fair demand and what few changes during week were generally upward. Potatoes and onions remain unchanged and were dull under free offerings. String beans steady and in fair demand. Peas firm under light supply. Tomatoes selling a little better. Cucumbers and summer squash both higher. Corn steady and firm, and the same may be said of sweet potatoes. Lima beans coming in less freely and higher. Okra is steady and so is cabbage. Peppers slow sale and lower and garlic hard to move.

We quote from growers:

Potatoes, Northern, per cwt.....$2.60@2.75
do, local ..... 2.40@2.50
Peas, Northern, per lb.....7@7½c
Onions, Yellow Danvers, cwt...$1.35@1.40
do, Australian Browns ..... 1.35@1.40
do, White Globe, per cwt..... 1.50@1.60
Garlic, per lb.....3@4c
String beans, per lb.....2@4c
Tomatoes, No. 1, local, per lug....25@30c
do, No. 2.....20@25c
Summer squash, per lug.....40@50c
Cucumbers, per box of 2½ to 3 dozen .....15@25c
Green corn, per lug .....40@50c
Cabbage, per 100 lbs.....40@50c
Lima beans, per lb.....3@4c
Okra, per lb.....5@6c
Bell peppers, per lb.....1@1½c
Chile peppers, per lb.....1c
Celery, per crate .....$2.25@2.50
Egg plant, per lb.....2@2½c
Sweet potatoes, per cwt.....$3.00

FRUITS.

There was a little more life to the market the past week; offerings not so heavy; what changes made were upward. Apples remain steady and sold fairly. Peaches higher and best of them sold fairly well. Figs in good supply and weaker; demand fair. Grapes meeting with a little better sale; market steady. Quinces coming in less freely; good demand and selling higher. Pears in fair demand and market firm.

We quote from growers:

Apples, Gravenstein, per 4-tier box...$1.40
Bellefleur, 4-tier 1.05
do, 3½-tier 1.10
do, 4½-tier ..... .90
Peaches—
Freestone, local, per lug.....90c@$1.00
Clings, per lug .....50@75c
Figs—Black, 2-layer .....50c@$1.00
Figs—White Smyrna, 2-layer.....60@75c
Figs—White Pacific, 2-layer....90c@$1.00
Grapes—
Malaga, per lb. .....2@2½c
Muscat, per lug. .....75@80c
Tokay, per lug .....$1.25@1.40
Black Hamburg, per lug.....70@75c
Plums—
German prunes, per lug.....90c@$1.00
Satsuma, per lug .....60@65c
Pears, per lb.....3½@4c
French prunes, per lug.....50@60c
Quinces, per lug .....40@50c
Local apples, per lug.....40@50c
Hungarian prunes, per lb.....4@4½c

MELONS.

Not so many in the past week and the best of the crop has been marketed.

Cal. Almond Growers Exchange Sets 1917 Prices

San Francisco, Cal., September 16, 1917.

To the Pacific Rural Press: In accordance with your request, we beg to advise you the opening prices of the California Almond Growers Exchange, 1917 almond crop. The Exchange is selling on a delivered basis, so therefore prices in the various markets of the United States will vary according to the freight. Following are the prices:

Coast Nonpareil, 20½c. IXL, 18½c.
Ne Plus, 17½c. Drakes, 15c.

To this freight must be added, less ½c. per pound on subject to approval of price business, so booked if order is confirmed in full as booked. Terms, net less 1%, 10 days.

T. C. TUCKER, Manager.

Responses to our opening prices have been so generous that we now advance prices on all varieties one cent per pound.

T. C. TUCKER, Manager.

Cantaloupes—
Local, Pineapple and Tiptop, jumbo crate .....85c@$1.00
Columbia, jumbo crate.....85c@$1.00
Paul Rose, standard crate.....65@75c
Watermelons, per cwt.....75@80c
Casabas, per jumbo crate.....$1.00@1.25
Honeydew melons, box of 9-10.....80@90c

BEANS.

The market for past week was slow and weak. The uncertainty of the position that the Government will take in regard to bean prices makes the trade cautious and it is buying sparingly at quotations. Whites and blackeyes are a little lower.

We quote from growers:
Limas, per cwt $10.00
Large, white, old, per cwt..... 12.00
Small white, old, per cwt..... 12.00
Large white, new, per cwt..... 10.00
Small white, new, per cwt..... 10.00
Pinks, per cwt..... 9.50
Blackeyes, per cwt..... 7.50

HAY.

A firm and fairly active market is here for all good offerings.

F. O. B. Los Angeles:
Barley hay, ton .....$21.00@22.00
Oat hay, ton ..... 21.00@22.50
Alfalfa, northern, per ton..... 19.00@20.00
Alfalfa, local, ton..... 21.00@22.00
Straw, ton ..... 9.00@10.00

Special Livestock Market Report

San Francisco, September 19, 1917.

CATTLE.—Most of the cattle arriving at this market at the present time are coming from the North. The quality is very good. Nevada is being held for a higher market. Figures following are reliable:

Grass Steers—
No. 1 weighing 900@1200 lbs....8¾@9c
No. 1 weighing 1200@1400 lbs....8¾@9c
Second quality .....8@8½c
Thin undesirable .....6@7½c
Grass Cows and Heifers—
No. 1 .....7@7¼c
Second quality .....6¼@6¾c
Common to thin .....4@5½c
Undesirable .....4@5½c
Hay-fed cattle ½ to ¾c higher.
Bulls and Stags—
Good .....5½@6c
Fair .....5@5½c
Thin .....4@4½c
Calves—
Lightweight .....9@9½c
Medium .....8@9c
Heavy .....7@8c

SHEEP.—There is little change in the sheep market, the supply being light and the demand conservative owing to abnormally high prices asked. The market for sheep and lambs, therefore, is strong, with the prospect that it will continue so indefinitely.

Lambs—
Milk .....13@14c
Sheep—
Unshorn weathers .....10½@11c
Unshorn ewes .....8½@9½c

HOGS.—The receipts of hogs in this market have been a little shy lately, much stock of this class going north on account of the higher market. Though the market is strong, there are indications that the local situation will become easier.

Hard, grain-fed, 100 to 150.....14¼c
do, 150 to 300, averaging 180 or less. 15¾c
do, 300 to 400 .....15¼@15½c
do, 150 to 300, averaging over 180....16c

DRESSED MEATS.

Steers—
No. 1 .....14c
Second quality 13½c
Cows and heifers .....12@12½c
Calves, as to size, etc. .....14@16c
Lambs—
Suckling 21c
Yearling 20c
Sheep—
Wethers .....18@19c
Ewes 17c
Hogs .....20@21c

Los Angeles, September 18, 1917.

CATTLE.—There was a firmer tone to the market the past week. Offerings were not so free and markets elsewhere firm. But as killers were not needing many cattle, they were enabled to get what they wanted at old prices. California and Arizona continue to furnish the supply. No really well finished cattle arriving.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs.....$8.50@9.00
Prime cows and heifers ..... 7.00@7.50
Good cows and heifers ..... 6.50@7.00
Calves, per cwt ..... 8.00@9.00

HOGS.—A little more life in this market. The receipts were better than for some time and quality of hogs shows an improvement. The higher prices since the recent advance are encouraging more liberal feeding.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 250@300 lbs..$13.00@14.00
Mixed, 200@250 lbs..... 14.00@15.00
Light, 175@200 lbs. ..... 14.00@15.00

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP.—This market continues firm. Demand only moderate, yet killers are having to look further to get what few they want and bid up full quotations to get them. California, Arizona and Nevada all had a few sheep in, which were in fair flesh and sold without trouble.

Per cwt. f. o. b. Los Angeles:
Prime wethers .....$ 9.00@10.50
Prime ewes ..... 9.50@10.00
Yearlings ..... 10.50@11.00
Lambs ..... 13.00@14.00

Portland, Sept. 17, 1917.

Generally speaking, the supply of stock offered in the Portland Union Stock Yards this morning is complimentary to the producers. Some of the cattle, especially, were as pretty and as well bred as could be produced in any country. The conformation of some of the steers in the yard was almost perfect.

CATTLE.—Sales opened early and briskly on a market that was steady to strong. In the first hour of trading the flow of cattle started across the scales, and the first lot weighed changed hands at $9.75. Conditions are very satisfactory in the cattle market and trading brisk at following prices:

Best beef steers, $9.00@9.75; good beef steers, $7.50@8.75; best beef cows, $6.75@$7.50; ordinary to good cows, $4.00@6.75; best heifers, $7.00@8.00; bulls, $4.00@6.75; calves, $7.00@9.50; stocker and feeder steers, $4.00@7.25.

HOGS.—The hog market seems to be regaining consciousness and conditions are much more satisfactory to all concerned than during the past week. The hogs received this morning are mostly of a very satisfactory quality, being either choice block hogs or well finished prime lights and prime heavies. The current prices are:

Prime light, $17.75@17.85; prime heavy, 17.65@17.75; pigs, $14.00@16.00; bulk, $17.75.

SHEEP.—Nothing new developed in the sheep market this morning. The week's opening showed prices ranging about the same as the closing of the previous week, with very prompt movements at current prices, which follow:

Western lambs, $13.00@13.50; valley lambs, $11.75@12.50; yearlings, $10.00@$10.50; wethers, $9.75@10.50; ewes, $8.00@8.50.

EASTERN.

Chicago, September 18.—Hogs—Receipts, 7000; unsettled, 5c above yesterday's average. Bulk of sales, $17.50@18.55; light, $17@18.55; mixed, $17.05@18.65; heavy, $17@18.70; rough, $17@17.20; pigs, $13.25@$17.40.

CATTLE.—Receipts, 11,000; firm. Native beef cattle, $7.50@17.85; Western steers, $6.70@15.75; stockers and feeders, $6.25@$12.50; cows and heifers, $5.15@12.90; calves, $12.50@16.25.

SHEEP. — Receipts, 15,000; strong. Wethers, $9@12.75; ewes, $8.25@11.75; lambs, $12.75@18.60.

Kansas City, September 18.—Fifty-one steers selling at $17 per 100 pounds today established the highest price ever paid west of the Mississippi river. The cattle averaged 1,447 pounds.

Special Citrus Market Report

Los Angeles, Sept. 18, 1917.

Shipments of citrus fruits from Southern California from November 1 to September 16: Oranges, 38,084 cars; lemons, 7,415 cars. Same time last year: Oranges, 30,028 cars; lemons, 6,572 cars.

There was a little better tone to the markets East the past week, though prices show no improvement. Too much other fruit to be had for the good of the citrus fruit market and it is cheap. The shipments for the week were 374 cars, which is a falling off, causing buyers to bid up old prices for what they wanted. Lemons as well as oranges, while holding up in price, met with slow sale. Locally the market continues a mere name. What moving bringing old prices. Local buyers paying 2@2½c per pound for Valencias delivered; for grapefruit 2@2½c per pound delivered; and lemons 2@3c per pound delivered, for the best.

AUCTION SALES.

New York, September 17.—Sixteen cars oranges and one car of lemons sold. Market strong on good quality oranges, steady on balance. Lemons steady. Valencias averaged $1.55 to $5.60. Lemons averaged $3.00 to $3.75.

Boston, September 17.—Ten cars sold Market unchanged on Valencias, doing better on lemons. Valencias averaged $1.50 to $2.95. Lemons averaged $3.50 to $5.40.

Philadelphia, September 17.—Four cars sold. Market unchanged on both oranges and lemons. Valencias averaged $1.60 to $3.35. Lemons averaged $2.35 to $3.30.

Publisher's Department.

Our subscription list is still growing. This week we print 28,700 copies, all of which will be required to fill the regular demands of our list.

A well-known breeder tells us that several years ago we printed the statement that all breeders who amount to anything advertise in the Pacific Rural Press. We have looked through our files and failed to find this statement. It's sad but true that all good breeders do not advertise in the Pacific Rural Press. However, most of them do and all of them ought to.

The appearance of the fourth edition of "California Vegetables," by Prof. E. J. Wickson, announced for September 15th, has been delayed owing to non-arrival of the white paper from the East. The type is set and pictures all made. The paper is due to arrive this week. We expect to fill orders already received by October 1st. The new edition of this book will be much handsomer and larger than either of its predecessors. Price, $2 postpaid.

A new book on irrigation has just been received from the McGraw-Hill Book Co. of 239 West Thirty-ninth street, New York, which sells for $2.50 per copy net. The book is written by Prof. S. T. Harding of the University of California, under the title of "Operation and Maintenance of Irrigation Systems," and chapters cover general maintenance, organization for operation, methods of delivering water, measurement of water, rules and regulations, construction and operation charges, general operation, accounts and rules and regulations. The book is well illustrated and will prove valuable to those interested in general irrigation companies.

WEEKLY WEATHER AND CROP REPORT.

U. S. Department of Agriculture Weather Bureau, San Francisco, September 18, 1917.—During the first half of the week local rains occurred in the northern counties which were beneficial to pastures and late crops. The last half of the week was unusually warm north of the Tehachapi and this hot weather hastened the ripening of corn, rice and fruit. Farmers have begun harvesting a good crop of corn and an excellent crop of rice. The bean harvest is well advanced and while this crop has suffered seriously from red spiders and in some places from lack of water, the losses will be more than made up by the increased acreage and a large yield is now an assured fact. The condition of the second crop of potatoes in the southern portion of the state has improved very little during the week. The new crop is not so thrifty and promising as expected and a large amount of reseeding has been necessary on account of that first planted having rotted in the ground. The sunny days and hot weather added materially to the sugar contents of beets not yet matured and the harvesting of this crop is being pushed as rapidly as possible.

Thompson's seedless grapes have practically all been dried and the picking of Muscat grapes has become general. Some of the earlier picked Muscat grapes are now well advanced in the curing process. Peaches have nearly all been gathered, and prune and hop drying are drawing to a close. Both of these crops turned out better than expected. A large acreage of the winter varieties of cabbages and tomatoes is being planted in San Diego county. A fine crop of cotton has been seriously injured in portions of Imperial county on account of a shortage of irrigation water, and not only in this county but elsewhere in a number of places irrigation water has become practically exhausted and in consequence some of the late crops are not maturing as well as expected earlier in the season.

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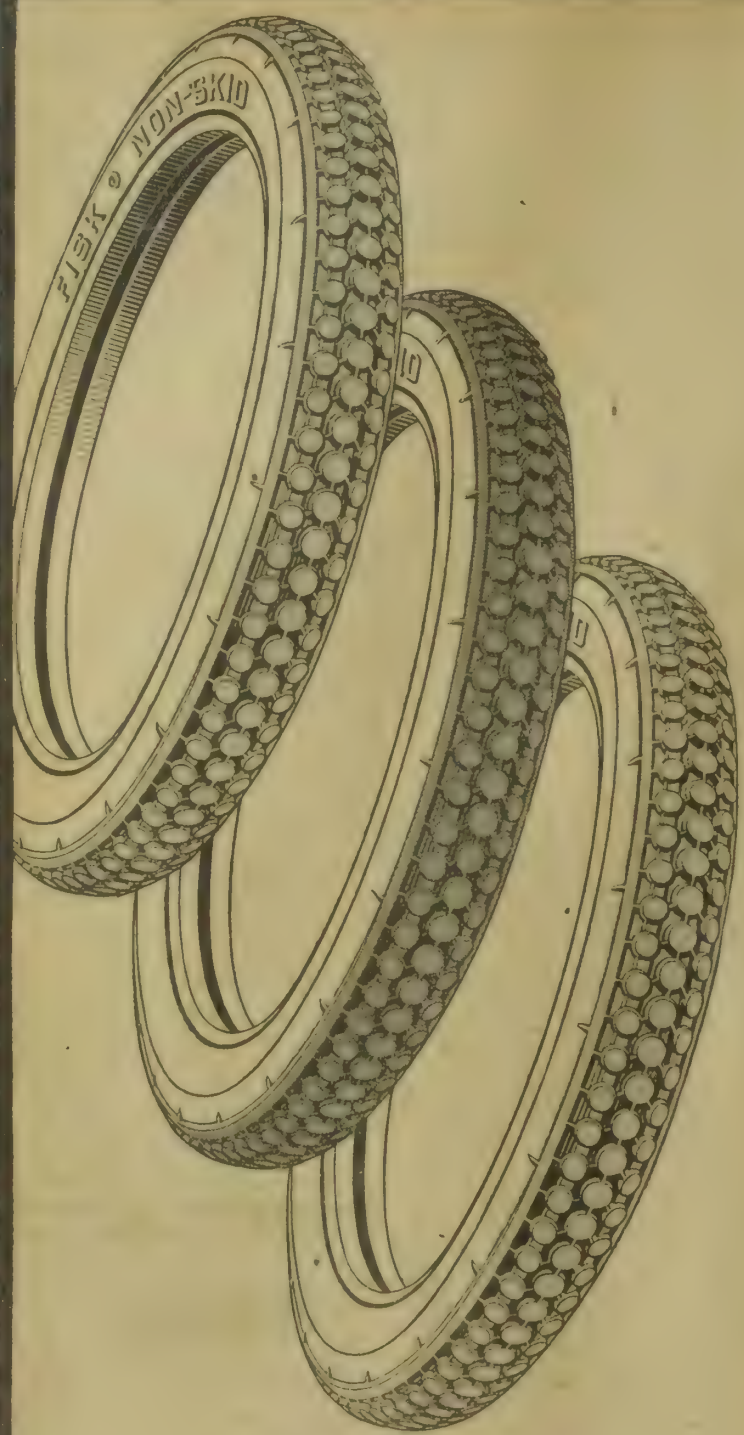

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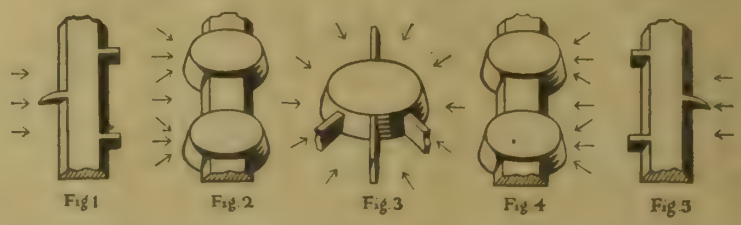

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Vol. XCIV—No. 13 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO SEPTEMBER 29, 1917 LOS ANGELES

Plant Grain Early on Summer Fallow

[Written for Pacific Rural Press.]

ALL EARLY-SOWN GRAIN made a big profit in this country last season where it was on well-prepared summer fallow. Late-sown grain was generally a big loss. All grain sowed early or late on poorly prepared ground scarcely paid expenses," said Benjamin Quigley of San Luis Obispo county and Capt. A. Clark, his neighbor. Mr. Quigley last season took 144 tons of hay and 341 sacks of barley, averaging 110 pounds, from 85 acres. He has been using a new car to get about the country to see the results of different practices. Mr. Clark farmed in that district for twenty years.

December-sown grain was better than anyone expected early last spring; because the spring proved to be long and cold until June, which so favored stooling that 40 per cent germinations made 80 per cent yields. Ordinarily people wait until December to sow grain, but in 1916 the cold, dry weather following the first rain rotted seed in the ground to a 25 to 50 per cent germination.

"Nine times out of ten," says Mr. Quigley, "big crops come from early sowing of clean seed on well-prepared summer fallow. Here is a field of 70 acres which lost the owner money because 50 acres were not well prepared. The other 20 yielded 12 sacks of barley per acre, having been fallowed."

"I've never known people to get a real crop in this country unless they cultivated," said Mr. Clark. "Here is a field left last spring in big clods and allowed to grow up to tocalote and weeds. He will have to work it down after the rains this fall. That will be as much work as to have cultivated thoroughly last spring, and it will make him late seeding. Yonder is a field of 300 acres fallowed last year and sowed in December. It made a fair crop on account of the good growing weather last spring, but not a third of what it ought if it had been planted in November."

Fifteen Acres Yielded Sixty-six Tons.

Mr Quigley's own experience is back of what he says; and while his loamy bottom soil helped, he is convinced that his crop could not have been made without application of the principles mentioned above. One level 15 acres produced 66 tons of first-class baled barley hay without a weed in it. The ground had been pastured at least three seasons and was foul with Napa thistle, alkali weed, devil grass, and wild oats. Late in March, after the last spring rains of 1916, this piece was double disked and plowed right away seven or eight inches deep and spike-toothed, leaving it in good condition. It was harrowed again in early summer to break up any crust that might have formed, and left until about October 20. After the first rain at the end of September, green growth started at once. About October 20 a Buckeye seeder was used as a cultivator. The first week of November the barley was drilled about two inches deep with a disk drill, using about 65 pounds per acre.

"I have found it better in this country, if the ground is in the right condition before seeding, to leave its surface in little ridges like a disk drill does," says Mr. Quigley. "If harrowed down level after sowing, rains would form a smooth crusted surface hard to break up satisfactorily. I tried it last year on some hardened granite soil. I weighted a vertical-toothed harrow with 4x4's before it would break the crust. Where ground is of the nature to crust, if it is left in the drill ridges they tend to prevent crusting and the grain can be harrowed any time after it comes up without damage until it begins to joint. My grain this year grew quickly and stooled freely, so it protected the ground by the time it would have baked and I didn't harrow at all after planting."

The average of Mr. Quigley's 85 acres was reduced because 40 of it was not sown until December. In February the stand on this was estimated at 25 to 40 per cent, but it tillered so freely in the cool long spring that it made 78 tons of hay, though it ought to have made 100.

Kern County Wheat Grower.

Across the hills from San Luis Obispo county on their eastern slope in Kern county is a grain district where some growers have made exceptional yields the past few seasons. One of these is J. Staffen, who grows 125 acres of wheat and about 25 of barley per year and does all the work himself. On his low sandy soil the yield last season was only eight or nine sacks per acre; but on the adobe nearer the hills it went 16 sacks. "Summer fallow is the only way to make anything," says he. "Plow six inches deep after vegetation is well started in spring for good results. Lots of people do not plow deep enough and the wheat is reddish with shrunken kernels. When the plowing gets weedy, disk and cultivate to kill the weeds and leave a surface mulch until fall. After the first rain, plant about two inches deep, 40 pounds per acre, with a Buckeye seeder, which is best for wheat. It has springs which hold the seed tubes at an even depth in uneven ground. Otherwise the grain might get too dry to grow if it germinated. Cultivators follow the tubes on this drill to cover seed; and a gauge tells the rate you are seeding and registers the number of acres planted.

"We seldom have any rust or smut and it has not bothered our markets. Rust is a foggy weather trouble; and we don't have much of that. The best plan to kill rust or smut is to fill the seeder trough nearly full of wheat, then throw three or four handfuls of dry sulphur over the top of it. Don't rub sulphured fingers in your eyes. This mixes as seeding progresses. I have done this way four years."

Good Seed and Best Varieties.

Mr. Staffen raises his own seed, keeping the best patch separate, and fanning out the light kernels; but occasionally gets new stock from different soil at least forty miles away. He has grown Sonora principally the past few years because it seemed easiest to raise in that dry country and it stools well. Last year Sonora sold better because of the demand for this variety for breakfast food. It is not a very good milling wheat. White Australian is becoming popular again in the Annette

(Continued on page 314.)

It may take a tractor to haul your grain if you fallow well and plant early; but late planting on poorly worked ground in San Luis Obispo county last year brought many failures.

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EDITORIALS

THE STAFF OF LIFE.

THE TIMBER from which the staff of life is to be hewn in this State has hardened and seasoned considerably since our last issue. The Food Administrators have made their proclamation fixing the price of wheat in California terminals and it is considerably better than the $1.90 per bushel at which price buyers proposed to get wheat on the claim that it was the local equivalent of $2.20 in Chicago. The basic price in San Francisco and Los Angeles will be $2.10 per bushel in bulk and $2.14 in sacks, and the details of transactions on this basis, the equivalence at local points and the relations of different varieties of wheat to the basic kinds and grades are given in the official declaration which appears upon another page of this issue. Since it was pretty well known that the local wheat price would be $2.10, there has been a reduction in the price of flour which will save the consumer one-fifth of a cent per pound. How the price-fixing of wheat will affect the price of bread does not yet appear. Our bakers have still to announce whether they will follow the lead of Maximilian Strasser, cut out bread profits and get even on pie prices. It seems to be largely a metallic question: whether they will give less weight for a nickel or add copper to the price of the old weight. But such speculative philosophy is not in our line.

OLD SPLINTERS IN THE STAFF TIMBER.

IT INTERESTS us to note that in hewing to the $2.10 line certain old defects in our California staff-timber not only come to light but are definitely measured in a commercial way. Thirteen years ago the University Experiment Station began its work for the development of better milling quality in California grown wheat. Our millers were then buying about four million bushels of wheat from beyond State lines, although California was at the time largely exporting wheat to Europe. The importations were therefore not because we did not have wheat enough of our own growing but because we did not have enough of the right kind to make fancy flour without blending. The distinctive character which made our wheat so desirable and high priced in Europe, because it improved European wheat flour, also made it necessary for our millers to import wheat, viz.: to get more starch into European flour and to get more gluten and other flouring characters into California. The details of this interesting problem are not to our present purpose. They may be found in large sheaves in the cereal publications of the University Experiment Station. The way this long recognized defect in much California grown wheat figures in the present statement of prices by the Food Administrator is seen when it states that Australian, Bluestem and Early Baart are hard white wheats taking the basic price of $2.14 per bushel in sacks, while all Club kinds and Sonora have a discount of 4c from the above basic qualities. The standing of some of our most popular California grown wheats is not defined, as we will set forth presently.

WHOSE FINGERS CATCH THE SPLINTERS?

SUCH IS THE REGULATION about wheat varieties and the market prices thereof, and the Food Administration defends itself from the attacks of kickers by announcing that no change will be made. Our readers know how sad it makes us to find fault with any gifts the gods bestow. They doubtless catch the sparkle of the tears between the lines of type whenever we feel forced to complain of anything in these columns. And we ourselves feel them starting now as we see no escape from saying that the penalizing at the rate of 4c per bushel of the wheats which so many California farmers delight most to grow, and of which the State is most productive, is not a good way to induce California to grow more wheat. It may be a reasonable commercial differential based upon the millers' requirements, but it strikes us as altogether too refined a distinction to make when the grand purpose is to induce California farmers to grow more wheat. And we feel the matter so deeply that we are willing to wager a nickel's worth of raw gluten that this fixing of a wheat price with a discrimination against a large part of the California product and a large area of the State which should grow more wheat, has been arrived at without consulting a single California wheat grower as to the growers' interest in the obligations which are laid upon them to produce and the regulations under which they are expected to do their patriotic job. If practical wheat growers had been consulted in the matter, they would have insisted that as the main purpose was to grow more wheat there should be no handicap placed on the wheats which produce best in large areas of the State, of which growers know the habits and requirements and of which they can most easily get the seed they need. Suppose these wheats do not put the gilt edge on flour or enable the baker to blow up his loaves to Zeppelins, are such things the crowning needs of the hour? Is it not rather a problem of not having wheat bread at all? Surely, too, if California is to come any nearer than she has for a decade to supply her own need of wheat, there should be no discount on the kinds of wheat she usually grows in considerable amount and can most easily increase and upon which in the past her reputation as a contributor to the world's wheat supply rested? That was counted good wheat and if we had as much of it now as we had in Septembers of a generation ago there would be much joy in it.

IS PROPO PENALIZED, TOO?

FROM THE announcements of the wheat-fixers which we have so far seen, we cannot be sure what has happened to Propo, one of the most productive wheats California has ever produced. It was formerly a great favorite in the Sacramento Valley, but has in recent years entrenched itself in the upper Salinas Valley. It has established its local reputation as a wheat very satisfactory to the millers who have sought for it. Does it now come under penalty or will it go with the others which are said to have "basic qualities"? No doubt many growers in the upper Salinas, who have a much greater capacity for wheat production than they have recently employed, would like to know where they stand and others might be interested in restoring Propo to something of its old valley popularity. In the course of an excellent circular on wheat culture, which has just been issued by the University Experiment Station, Professor J. W. Gilmore gives a very interesting tabulation of the yield of Propo as related to other varieties, as follows:

Variety—	Years trial	Yield, lbs. per acre
Propo	6	2,911.26
Early Baart	6	2,486.4
Defiance	5	2,448.6
White Australian	8	2,433.6

This shows that Propo in the lower Sacramento Valley yields about 500 pounds more per acre than two of the varieties credited with "basic qualities." And what happens also to Defiance, which is a favorite in the rusty regions of the southern coast? Are Defiance and Propo basic or under penalty?

The more we think about this grading of varieties for price fixing it more deeply impresses us that it is a product of commercial and milling and baking requirements and does not include basic requirements of those who are expected to grow more wheat. And possibly this is more the fault of the growers than the Food Administrator. Perhaps he has never been able to catch two of them together except in North Dakota.

THE FARMER'S NEW ALLIES.

THERE IS APPARENTLY a great joy coming to the farming interest out of the gloom of the world conflict in the way of the recognition of his indispensable service to mankind. We have descried many tokens of it, but none perhaps so effervescently refreshing as this, which was spoken by C. L. Pack, president of the National Emergency Food Garden Association at the convention of the American Bankers Association in Atlantic City, September 24:

"The farmer is the best friend the country has. If he is prosperous, you bankers and all the rest of us are prosperous. The thing for you to do is to get together and smash the cornerstone of high prices. Aid the farmer over the rough spots so that he can produce more foodstuffs than ever before. Three million emergency gardens by 'city farmers' have produced $350,000,000 worth of food 'f. o. b. kitchen door.' We must produce food as near the points of greatest consumption as possible, rout the middleman and cold storage men and thus relieve the railroads."

Of course we cannot directly see how the city man who grows his own food is helping the farmer whose business it is to grow food for him in return for the city productions which the city man furnishes for his need and comfort. If the city man produced his own food, he would have no time to make any city productions and the farmer would have to make his own pianolas, automobiles, etc., because he could not buy any. And then, if the city man were to grow his own food, his factories and other city things would be in his way and he would have to dynamite them. And if you keep right on in that line there would be no cities, no middlemen, no railroads, no bankers—nothing in the world but farmers and hunters, just as there were in Adam's time. The farmers ought to send Mr. Pack a prize pumpkin: he is surely starting everything their way!

FEDERATION OF MARKETING ASSOCIATIONS.

DELEGATES from seventeen marketing associations of California farmers assembled in Market Director Weinstock's offices in this city on Monday of this week and entered enthusiastically upon the preliminary work of affiliating their associations. The following special lines of production were represented at the meeting: peaches, raisins, prunes, berries, apples, olives, citrus fruits, pears, apricots, almonds, rice, dairy products, poultry, and beekeeping. These were not merely the personal lines of the delegates but of the associations which they represented, so there was a large constituency participating in the effort to get together. There was a universal declaration that affiliation is very desirable and it is intended to organize in such a way that the whole organization may act on matters of general interest and shall also act in co-operating parts on matters of special interest. That is, a group of local associations may have enterprises and problems which do not extend to the whole affiliating body and in that case the group will have initiative to undertake and provide for its own particular effort. There may thus be several groups at work on different matters with power to act in each case. The grouping will therefore be of associations which desire the same effort and an association will be represented at any time in all the groups to which its interests pertain. This should give the affiliation great mobility, directness and efficiency in particular operations and wide influence on all matters in which the interests of all associations combined. The next meeting will be held a month hence to give time to prepare details.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., September 25, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.63	.66	1.02	62	48
Red Bluff	.78	.78	.67	92	48
Sacramento	.51	.51	.25	90	50
San Francisco	.02	.02	.18	64	48
San Jose	.01	.01	.28	73	44
Fresno	...	...	.13	100	54
San Luis Obispo	...	.01	.35	83	52
Los Angeles	...	...	.01	78	56
San Diego	...	...	.01	72	66

By the Editor | QUERIES AND REPLIES | Inquirer Must Give Full Name and Address

Smut on Sweet Corn.

To the Editor: I have been farming in large and small ways for forty years, and have grown many crops of corn. This year I bought some Evergreen sweet corn and planted about an acre in my vineyard, where I had pulled out some dead vines. This corn has grown well and eared well, but about one-half has turned to smut. I also have 20 acres joining it of yellow dent corn, which has but a very little smut. Why should this sweet corn have so much smut? Would it be advisable to save any of the seed to plant another year?—Subscriber, Yountville.

We have no record that sweet corn is more susceptible to smut attacks than field corn is. Until such can be cited, we have to hold that for some reason unknown to us there were more smut spores floating in the air at the time the sweet corn was silking than when the field corn was in the same condition. It is believed that the only way the smut can get at the kernels is by the silk route. The fungus attacks the plant at moist points on the leaves and stalks at any time after it is a foot high and may thus produce spores to fall upon the silk when it appears, or the fungus may grow upon manurial matters in the soil and thus produce many spores to be blown from the earth surface to the silk. It is well established that the use of manure from animals which have been fed upon corn fodder is one of the most effective ways to fill the soil with smut infection for a following corn crop. If, therefore, you manured the old vineyard ground with the idea of giving the sweet corn a better chance of success, you may have planted the smut and thus subterrained your coming crop. All this is, however, conjecture on our part. You will have to reason out the abundance of the smut in one place and the absence of it in another from your superior knowledge of the conditions on your place. No treatment of seed corn has prevented occurrence of smut. You will be just as safe in taking for seed healthy ears from healthy stalks as you would be in using any other seed. Corn smut is not often seriously abundant in this State. Even in States where most corn is grown, nothing is usually done for it except to cut out and burn the stalks seen to be affected before the black powder has a chance to burst out and fly around. Such stalks should not be fed to stock nor allowed to lie around and ripen their spores.

Mr. Coates' Almond Pruning.

To the Editor: In "Queries and Replies" of September 15, I note your reference to the work of Leonard Coates in handling almond trees. Can you tell me what this work is and whether the results have been made public? I have had the idea that the almond tree should be pruned regularly, though lightly, but am open to conviction, and should like to get the benefit of any experiments or demonstrations that have been made.—H. C. M., King City.

Mr. Coates has believed for many years that the almond should be pruned like the peach—not only started like the peach, but annually pruned after it comes into bearing for the production of new wood, shortening the shoots of new wood and thinning out excess of such shoots to prevent the tree from becoming too brushy. When this is done, he has found for a number of years that trees thus pruned bring regular and heavy crops, while adjacent unpruned trees have a scanty set of nuts. Mr. Coates has stated his conviction several times in our columns and we have put in some time knocking it as of doubtful practicability, because of the extra cost of handling almond trees in that way. Meantime, Mr. Coates in his orchard at Morganhill has been growing some pruned and some unpruned trees, and the demonstration to which we referred is what we saw on his place early in August. The trees pruned, like peaches, were loaded with nuts; the unpruned trees, grown in the common fashion, had very few nuts. Many almond growers visited the orchard this summer and considered the demonstration very significant, and will probably be induced to repeat the experiment on their own places.

Threshing Floors for Beans.

To the Editor: I have some pink beans about ready to harvest and expect to thresh them by driving over them. Would it be advisable to strew planing mill shavings on hard ground and put the beans as they come from the field on the shavings?—B. C. B., San Dimas.

Formerly many beans were run out on such floors with teams and light wagons, but more recently teams and disks have been used and found to work better. As for putting on shavings, we have never seen it done, so have to give you a theoretical answer, and this would be against shavings, for several reasons: It is unnecessary, because if you put on rather a thick first layer of beans, as you should, there will be trash enough to avoid cutting the floor or crushing the beans. It is undesirable because it will give you a lot of fine stuff which will be very hard to blow out, and it may be dangerous, for it may give the beans a smell of resin, which will make it hard to sell them. Be sure the straw is thoroughly ripe and dry or you may stain the beans, and look out that you are not caught by rain on the floorful of beans. If the beans are dry and the weather good, keep on putting on layers and do not clean up until you get several tons of beans on the floor.

Rotten Fruit Is Beyond Use.

To the Editor: Can half-rotten, windfall and cull fruits be put into barrels and all the juice gotten out by simply letting the fruit rot? If so, what further process would be necessary to make a merchantable article of the juice? Would it have to be distilled? Would one be likely to get pinched by Uncle Sam for a moonshiner if he attempted to conserve the uttermost of his crop in this way?—W. H., Modesto.

Rotten fruit and rotten parts of fruits are only fit for burial or cremation. Juice resulting from rotting fruit is not merchantable for any purpose. All waste fruits taken before rotting can be crushed and the juice fermented to vinegar, or it can be stopped before that and distilled into alcohol by complying with the federal revenue laws. But it cannot be profitably done for sale at any time except with capacious and economical distilling machinery. We presume it cannot be done at all while war-laws are in force unless the alcohol is denatured under the federal laws, and possibly not in that way. The subject is not worth pursuing because a farmer cannot do it profitably in any such way as our correspondent contemplates.

Acorns for Fowls.

To the Editor: We have an abundant acorn crop this year. Could these acorns be utilized in any way for chicken feed?—G. H., Redwood.

Acorns are nutritious. In early California times they were used to make fat Indians and more recently to make fat hogs, though the product in neither case has been considered very high class. Dry and crush the acorns so the fowls can get the kernels in convenient fragments and they will serve a good purpose if not fed to excess and in connection with other foods. They resemble grain in composition, but may produce somewhat different results, and should therefore be used carefully and results watched for. Professor Jaffa of the University believes that it might be dangerous to feed much acorn to laying hens, though danger could be removed in this case by crushing and soaking the acorns for a few hours in water to remove the acrid principle by drawing off the water, just as the Indians sometimes treated them.

Woolly Aphis Parasite?

To the Editor: We have a considerable infestation of woolly aphis on one of our apple trees. If possible we wish to get some parasite which will kill them out.—D., Reedley.

We are very sorry we do not know of any. There are several predaceous insects (lady birds, etc.) which eat their fill of the bloody lice, but they never exterminate. Owing to nature's food administration laws, their appetites give out before they get to the last pair or the last pair is always to keep out of the reach of their appetites. Old Noah seems to be always around with his ark to save the species. But woolly aphis can be kept below the mark of much injury by spring swabbing of the colonies with coal oil or by summer spraying with nicotine washes applied with force, if the trees carry enough to make such treatment worth while.

It Has Bugs In It.

To the Editor: I read with interest your advertisement of your new book, "California Vegetables in Garden and Field." I see you have no chapter relating to the extermination of bugs, lice, and other garden pests successfully without injury to the plants themselves. This seems to be my trouble, and if your book has any thorough treatise on this subject I would be very much interested in it.—H. J. R., Beaumont.

One of the most carefully prepared chapters in the book is the one entitled "Garden Protection." The title is perhaps unfortunate, because it may have suggested to you only ways to keep the cow out. It is of course impossible to make a chapter in a book of general practice "a thorough treatise" on a special subject, but it considers all pests affecting vegetables and tells plainly what to do for each of them according to the kind of injury it is inflicting. If you follow it closely you will know at once what you have to do to protect your garden plants.

Bermuda and Johnson in Alfalfa.

To the Editor: Kindly state in your paper the best way to destroy Bermuda or Johnson grass, which is growing in our alfalfa field.—P. A. B., Wheatland.

We know none. Alfalfa is the best subjugator of these grasses we know of. It is up to you to boost the alfalfa. Give it plenty of lime and water and keep it growing to the limit. If the stand of alfalfa is too poor to make a good fight, break it up and get a better stand. That ought to begin in July with a deep plowing and harrowing or hogging out all the roots possible; replowing later to dry out and burn out more roots and keeping a clean fallow all summer and fall. It is too late to start the cleaning now to get the best results.

An Exclamatory Grub.

To the Biological Editor: I am sending you under separate cover some specimens of larvae which I found in some newly threshed beans. Will you kindly tell me through the columns of the Pacific Rural Press what they are and if they are a pest how to get rid of them?—F. J. F., Callahan.

They are the larvae of a gay, large, striped cousin of a horse fly belonging to the stratiomyidae—or, as you might say, an Oh my! idea of a fly. They do not belong in beans, either threshed or otherwise, and were accidentally gathered up from some manure or decaying vegetation. You do not need to worry about them.

Sowing Alfalfa.

To the Editor: How many pounds of seed are required to the acre of alfalfa? Would barley planted with it be a protection till the plants are strong? Do you think this favorable to plant that way?—D. G., Gardena.

Fifteen pounds drilled in on well prepared land ought to cover well. In broadcasting we should sow 20 pounds. Barley or any other grain is apt to be a dry-nurse for alfalfa. There is no possible protection which such growing grain will give to young alfalfa plants in our climate, which is equal to the danger of its taking moisture from them to their stunting or actual killing out.

Canning Pumpkins.

To the Editor: I wish to plant something between young trees. Do the canneries buy pumpkins to can? What do they pay for them?—Reader, Elk Grove.

Canners are learning to use some pumpkins or squashes. What kind they wish and what they will contract to pay, you should learn by conferring with the cannery manager nearest to you before you plant any for that purpose. From the point of view of the trees the squash family are good neighbors.

Smutty Wheat and Wheat Flour.

To the Editor: Can smutty wheat be cleaned by millers and be used for flour?—Subscriber, Bishop.

All flour mills have "smut machines" as a part of their cleaning outfit.

How a City Girl Found the Nature Cure

[Written for Pacific Rural Press.]

We found her in a paradise of fruit-crowned hills and little valleys; a slight little sun-tanned, springy-stepping girl whose age we would not have guessed had she not told us that for fifteen years she had made good pictures of people in San Francisco until she could not have walked across the ranch of 115 acres without resting. She had inherited the place, which her father planted to fruit and vines in Placer county forty years ago, but was not much interested, even in the $300 a year more or less which came from the tenants. She put that in the bank as it came and allowed the ranch to run down even as her health was running down. What both she and the ranch needed was for them to get together, but she did not see it that way until four years ago. A local fruit shipper told her something of the possibilities, and by long distance methods she planted 950 trees. Next spring 700 of these were dead. But Miss Jane Bannon, the city girl, ignorant of farming or fruit growing, had seen others in the neighborhood making good and she thought she could do as well.

Three years ago in October she quit her city work, took $500 from the bank, moved into the little old cabin on the ranch, fired the former tenants, found some new ones, hired some Mexicans to clear fourteen acres at $20 per acre, pulled out an eighteen-acre wine-grape vineyard, and planted 1,800 trees. Of these, only 108 died. She gave a three-year lease on a twelve-acre hilltop to a couple of Japanese, who were to plant trees she would furnish in holes to be dug at her expense, and who were to furnish water for the trees in return for the privilege of growing strawberries and vegetables between the rows. Those strawberries now scent up the whole countryside with most delicious perfume, and they are shipped to city markets in quantity all summer. The first crop was at least 1,000 boxes; the second over 2,500, and the third was still ripening vigorously when we were there in August. Fifteen acres of old Bartletts and canning peaches were planted forty years ago. The Bartletts were in miserable shape, for you couldn't walk across the ground in summer time without boots. They were thin-foliaged and dying. But they have done wonderfully well since that part was drained under Miss Bannon's plans and close supervision. A large spot where the vines had been, on a side hill sloping away from the house, was a perpetual marsh on account of two springs which the little lady discovered by digging to drain them. We walked over these marshy places with dry feet, for her drainage had been well done. Even in August more than a miner's inch of water was running from the 1,100 feet of drains she had installed. This was being used to irrigate about four acres of Tokay and Cornichon grapes.

PLANTED FOR SUCCESSIVE RIPENING.

In planting the new orchards better judgment was exhibited than many experienced fruit growers with plenty of capital observe. Not far away is a small ranch on which the harvesting is always an aggravation and often involves loss. It includes 500 Elberta peaches and 500 of other varieties ripening at the same time. Miss Bannon was to avoid this trouble by selecting varieties that ripen in succession. She was also to avoid varieties that would not pay commercially. She studied Pacific Rural Press market reports for the latter. She questioned all the neighbors and many fruit shippers about the other characteristics of the high-priced varieties and found herself bewildered and discouraged. But studying out her problems on the peaceful ranch as she never could in the city, she decided on cherries and plums, as noted below. The cherries were planted, fifty trees of each variety (Bing, Burbank, Royal Anne, Tartarian, and Black Oregon), with a different variety in each adjacent row, for interpollenization. The early plums were planted on one hill for convenience in irrigation and the late ones on another. They included 100 Beauties, 150 Formosas, 100 Climax (she feared their cracking tendency and the large plantings already in), 150 Santa Rosa, 100 Gaviota (a relatively untried variety), 100 Diamonds, 100 Grand Dukes, and 150 Giants. A hundred Triumph peaches and a lot of seedlings to be grafted later were also planted. There are twenty acres yet to clear, on ten of which cling peaches will be planted for the growers' co-operative cannery, which has been running three years; also Wickson and Tragedy plums. The late cherries may be grafted to one of the very earliest varieties, and the late plums are not numerous because they might interfere with harvesting the Bartlett pears, of which Miss Bannon has planted about 1,000 trees where the wine grapes were.

PRUNED CHERRIES HERSELF.

The pruning of the cherries has been done by Miss Bannon herself. She cut them properly at 20 inches above ground when planted, pruned them back too severely the next spring to 7 inches of the first year's growth, and last spring left about 24 inches of the 1916 growth. She put asphalt on every cut made, and has herself kept the trees well whitewashed from the beginning. She planted all the cherries herself and has lost only one. Personal attention has been paid to the trees and to the water. Whenever the bark seemed tight or gum formed, she slit the bark. These trees, two and a half years old, are two and three inches in diameter and made six feet growth before mid-August this season.

LOVES THE TREES.

"It is no use to try to raise trees unless you love them," says Miss Bannon. "I'm out among them a great deal. I think the reason an orchard just across the fence, planted the same time as mine but now containing a lot of dead trees and more that are sick, is because the man who cares for them does not love trees. Everybody told me I had an awful nerve to plant the orchard. One of our biggest growers said I was throwing away my money. He wanted to lease the place and said he could make it pay because he had a high-priced man to oversee the orchard work, a man who knew the best practices. I thought to myself that if he could make it pay I could, and while the young trees are not bearing yet the ranch has made all its expenses except the $500. Plenty of times I've wanted to give up, but I'm glad to stay by it now, and I don't owe a penny on the place. I'll build an up-to-date bungalow on yonder pine-crowned hill some day when I can get a housekeeper, but I intend to spend my time among my trees."

In the planning and cost counting, the studying to select the right varieties, to care for them by the latest approved methods, the drainage schemes for the various wet spots, the visions of the future, and the entertaining of a host of city friends, often for weeks at a time, the comfortable chairs under fine old oaks which shade the cabin and command a vista of orchard-carpeted valley and hillside, have been the seat of inspiration as well as rest. To the artist's soul, the gorgeous and prolonged sunsets beyond the western hills, and after dark the brightly lighted overland trains flitting high above the valley on their rugged tunneled and rock-cut sides, and the quiet, brilliant moonlight that crowns the nights make of the Bannon ranch a place to linger long, close to the heart of Mother Nature and Father God.

FACTORS THAT INFLUENCE CALIFORNIA ALMOND PRICES.

The schedule of prices recently announced by the Almond Growers' Exchange is reported to have given general satisfaction to California growers, though conditions justifying higher prices were hoped for by some. It is explained that the price of the California almond crop is largely determined by almond shipments from Spain and Italy, the former mainly coming in competition with the California product. As against California's production of 6,000,000 pounds for this year, it is reported that recent shipments of Spanish almonds to the amount of 60,000,000 pounds are now in the American market. This necessitated a lower price for this State's output, which it appears must be marketed before the holidays, after which the nuts become a drug on the market.

Forecast of the Walnut Situation.

We are supplied with some general information regarding the approaching California walnut crop by a circular issued by the California Walnut Growers' Association under date of September 21. It states that the crop is about two weeks late, of fair average quality, excepting as to size, which will be smaller than usual. The tonnage of No. 1's will thus be reduced considerably, the No. 2's running about 20 per cent as against 4 per cent last year. It is predicted that the crop will amount to about 27,000,000 pounds. For the five preceding years the California outturn has been as follows:

Year	Pounds
1912	22,024,000
1913	22,378,000
1914	17,778,000
1915	29,634,000
1916	27,410,000

The crop this year is about two weeks late, and the packing houses are expected to open some time during the first half of next month. The circular states that the opening prices will be announced next Monday (October 1). It is estimated that this year's crop has cost the California producer fully three cents per pound over last year's figures, due to higher prices paid for labor, stock feed, irrigation water, etc. Prices for the best grades of Italian walnuts in New York at the present time are about 17½ cents per pound. During the past four years the following prices per pound have ruled in California:

Grade—	1913	1914	1915	1916
No. 1 softshells	16	16½	13½	15½
Fancy budded	19	20	17	19
No. 2	11	12	10½	12½
Jumbos	17½	18½	16½	17½

This season's Italian crop of walnuts is reported to be 1,500 tons short of normal. The French crop has been badly damaged by adverse weather conditions and will be late entering the market. The latter crop cannot, it is thought, reach this country before January 1, while some early shipments of the Italian crop will arrive in time for the Thanksgiving trade.

NO SQUIRRELS ON THESE YOUNG ORANGE TREES.

When a man sets fruit trees in a new section, the grain farmers around him do not always sympathize to the extent of killing squirrels on their own land. The fruit grower soon finds it useless to kill his own squirrels, and he finds that as grain and grass dry up they have a special fondness for his orchard trees. Such was the experience of Frank Oliver, who has ten acres of his own young oranges in the El Mirador district of Tulare county, and takes care of 150 acres for F. H. Topham. The trees on all of this, as well as on many young orchards nearby, are protected from squirrels by paper pie plates about eight inches in diameter. A plumber's tool was borrowed, with which holes about one and a quarter inches in diameter were punched in the center of about fifty plates at a time, and a cut was made in each plate from center to circumference. One plate was put around each tree and the cut edges pinned together so the plate rests loosely on top of the tree protector. They have proved very effective in preventing the damage previously done by squirrels gnawing bark and girdling trees.

PLANT IMPERIAL LETTUCE NOW.

For one of the best lettuce crops in Imperial county, R. Malan worked the ground fine, smoothed it with a 24-foot leveler, made it into beds 14 inches wide on top, with wide furrows between, smoothed these with a light float, and planted September 15 a pound of seed per acre, by running a Planet Jr. along the edges of the beds.

Pruning refuse should be burned or buried.

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

LIQUID CYANIDE POPULAR, BUT CARE IS REQUIRED.

"Liquid fumigation is getting popular," says Prof. H. J. Quayle of the Riverside Experiment Station. "It kills the scale and does no more injury than the common way. But it has not yet been tried out in a very large commercial way. There is also grave danger of carelessness owing to the fact that it does not burn hands or clothing. It is safe to put your hands into the liquid, provided there are no cuts or scratches or raw places where it might enter the circulation. If it gets into your blood, it knocks you out."

Ventura County Horticultural Commissioner A. A. Brock tells about having taken some "boys" in an automobile with some cans of dissolved cyanide. One of the cans leaked and soaked the canvas covering. Meanwhile one of the "boys" had rubbed his leg against it until a blister formed and broke. He was asleep when discovered, and usual methods of restoration failed. For long hours under a doctor's care he scarcely breathed, and the source of trouble was not easily located.

SWEAT BOX TARES.

A raisin grower complains that the California Associated Raisin Co. is not weighing sweat boxes fairly. The practice is to take 30 pounds from the gross weight of full sweat boxes for the purpose of giving the grower credit on delivery. Then when the boxes are emptied they are weighed and the tare weights corrected, for the boxes vary several pounds. If they were emptied and weighed at once, this would be fair enough. But they are stacked until orders are to be delivered, when they are processed and packed. At the Dinuba warehouse last July there were still over 2,000 tons of the 1916 crop in the sweat boxes, according to Foreman M. O. Sager. When these were emptied, they probably weighed more or less than when stored, making either the grower or the company lose. If they had been taken out early in the spring, they would have weighed more and the grower would have been the loser. While raisins are hauled and stored in sweat boxes, however, a better way has not been found.

CANNING PEACH PRICES.

The Tulare County Canning Peach Association sold 3,500 tons of peaches this season at $50 for Phillips, $45 for Tuscans, and $27.50 for others, says J. K. Tuttle of Tulare county. Buyers were the California Packing Corporation and the Central California Canneries. Much of the fruit was canned at Visalia. The association would like to see other districts organized so buyers could not hold down the price with cheap fruit. They did buy from a few outsiders at much lower prices the past season and the one before.

ONE METHOD OF PEAR DRYING.

In ordinary pear drying outside of Lake county fruit for any reason unsalable to canneries or Eastern markets is piled on straw and covered with straw, and cut when ripe, coring wormy ones. Cut fruit is sulphured perhaps a third as long as in Lake Co., but burning sulphur faster in open holes in the ground. E. B. Anderson of Contra Costa notes that the pears require a certain amount of sulphur; and the faster it is put into them the better. One to three days in the sun and one to three weeks in the stack are enough here.

CORROSIVE SUBLIMATE VESSELS.

Use wood or glass vessels for corrosive sublimate to disinfect pear blight tools, says R. D. Stephens II of Sacramento county, who keeps his trees clean. Metal containers set up chemical action which destroys the disinfectant. Glass dishes break easily unless protected, so wooden buckets are used on the Stephens ranch.

RED SPIDER LIKES MORNING GLORY.

Morning glory patches furnish breeding grounds from which red spiders spread to fruit trees in all directions in the spring, says Geo. P. Weldon, deputy State horticultural commissioner.

EARLY DORMANT SPRAYING.

Fruit growers who spray for scale, moss, brown mites, etc., in the dormant season will be sure to get it done, and with the least labor, if they plan to do it just before the rains make mud and endanger the efficiency of spraying.

KEEP COVER CROPS AWAY FROM TREE TRUNKS.

Cover crops planted close to the trees protect mice and other rodents which gnawed four large trees entirely around for W. H. Neece of Tulare county last winter.

RAIN-WETTED PRUNES.

Prunes caught on the trays by rain will need ventilation, which is often conveniently given by placing a stick of stove wood under one end of the trays, using one stick for two trays.

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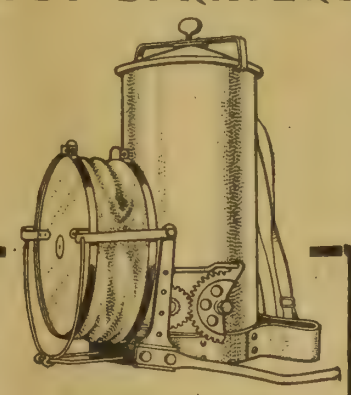

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

WANTS TO KNOW ABOUT WHEAT LAND.

California raised last year only one-fifth as much wheat as it did ten years ago. To help win the war, the United States Department of Agriculture has asked California greatly to increase its wheat acreage. To aid in this undertaking the University requests that anyone in California who knows of land suitable to wheat formerly used for this purpose and not now so used, or of other land available for wheat but not now so utilized, should send to Professor Charles F. Shaw, College of Agriculture, Berkeley, information concerning such land, specifying the range, township, section and quarter-section. If these are unknown, the location should be designated by distance and direction from town, with any other mark of identification. The object in view is that the College of Agriculture wants to be able to inform people who are looking for lands on which to grow wheat.

The United States Government expects California, as a matter of patriotism, to raise at least ninety thousand acres of wheat during the coming year over and above what would have been planted without this special appeal from the Government.

PLOWING UP ALFALFA.

[Written for Pacific Rural Press by J. M. Bomberger.]

I have noticed in the Pacific Rural Press of September 8th that Mr. Brown of Tehama county has found it easier to plow old alfalfa ten inches deep than four inches deep.

I, too, have come to the same conclusion when using an ordinary walking plow, as it is very difficult to guide a walking plow when plowing only four inches deep; but my experience has been that alfalfa plants with eight or ten inches of root left on, even though they are plowed under, are very apt to grow again. Indeed, I have seen alfalfa fields that seemed to have been thickened up by deep plowing.

I have secured very good results for some time on my Green Gold Ranch by using a 16-inch riding plow, plowing a furrow not over 14 inches wide, to insure cutting all the roots, and not over four or five inches deep, so as to leave but little root on the crown. By using a disc and spike-tooth harrow with the teeth slanting back, the roots have not bothered. In several instances, when time permitted, I replowed the same ground nine or ten inches deep, and by proper harrowing have secured ideal seed beds for following crops.

Green Gold Ranch, Modesto, Cal.

LIME SHOWED RESULTS THE SECOND YEAR.

Stock beets were grown the first year after a ton per acre of water-slacked lime was applied by J. J. Hansen of Humboldt county. After beets, the ground was sown to barley and clover. The results of the lime on that crop were distinct on a line to where it had been applied.

PLANT GRAIN EARLY ON SUMMER FALLOW.

(Continued from first page.)

district in which Mr. Staffen lives, after having been dropped sixteen years ago. It stools three or four stems and produces a white kernel that mills well. It is a better yielder than Sonora, but does not thresh well in damp weather. Galgarian wheat is doing pretty well, according to Mr. Staffen, but it has small heads and kernels. Propo used to be the wheat, but is running out and the seed are not plump. It has long, stiff beards. Bluestem does not yield well and does not stool, but has fine kernels and is the best milling variety.

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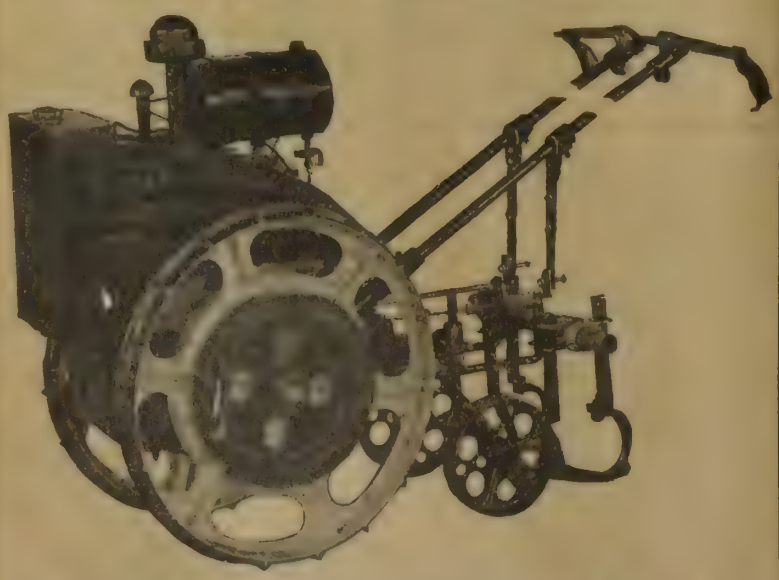

Beeman Garden Tractor cultivates all rowed crops from 12-inch rows to any desired width, also orchards, vineyards, etc. The cost of the Beeman Garden Tractor is about the same as one good horse. The expense of operating the Beeman Garden Tractor is much less than the cost of feeding one horse.

The Beeman Garden Tractor will do the work of a horse in field cultivation and many things a horse cannot do. For example—it will run the washing machine, the churn, the cream separator, the grindstone, the emery-wheel, the sickle grinder, the feed grinder, the fanning mill, the buzz saw; last, but not least, in sections where "water is golden," it will pump the water.

In cultivating rowed crops a horse in turning at the corners and ends of the row will tramp down many plants; the Beeman Garden Tractor Saves them all.

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CHOICE SEED WHEAT

Northern Bluestem

Sample and Price upon application

American Farms Company

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General Agricultural Review

Field Crops.

An offer of 37c a pound for hops is reported from Santa Rosa.

Farmers about El Centro, it is said, will plant wheat the coming season instead of barley.

Sutter county is to have the latest type of bean harvester to help in the harvesting of this year's bean crop.

Rice men are offering 3c to 4c for the rice crop, which is better than using it for hog feed, even at $15 per hundred.

Michigan's bean crop is forecast at 7,380,000 bushels; New York, 2,899,000; Colorado, 2,828,000; New Mexico, 963,000.

An experiment in winter rice is to be made this winter on the Phelan ranch by D. J. Murphy, its superintendent.

The Turlock Board of Trade refuses to accept the second premium for district displays of agricultural products at the Stanislaus Livestock Show and Exposition, held at Modesto last week.

Those who plant the Red Rose potato for the fall crop in Orange county are getting a poor stand. The seed rots. Most people attribute this to some unknown fungus disease rather than to the weather.

It is announced from Calexico that ranchers of the Imperial Valley have made arrangements to bring in 1,500 to 2,000 Mexicans to pick cotton and relieve the labor situation there.

According to a contract which was placed on file in the office of the Sonoma County Recorder, 25,000 pounds of hops have been sold by Mrs. C. P. Weyhe of Forestville to Theodore Rosenwald, the price named being 32c a pound.

The fall potato crop is now being harvested in some sections of this state. Reports indicate a smaller crop than last year, owing to decreased acreage in the Delta section. Oregon and Washington will each have a lighter yield than usual. Idaho will have a very heavy crop. Potatoes will probably bring good prices this season, but will hardly be as high as last winter.

Deciduous Fruits and Nuts.

Shortage of cars is still felt in some of the apple-growing districts.

Sutter county took first prize on peaches at the exhibit at the State Fair.

The Apple Growers' Union, Sebastopol, have installed a Cutler fruit grader for apples.

The prune crop in the vicinity of Chico is the best ever recorded. The almond crop of the district will probably fall to the lowest figure in local history.

We have been informed by reliable authority that in the Sacramento river district this year fully 60,000 boxes of pears were wasted owing to lack of help.

To insure peach growers of the Turlock district against loss of fruit the trustees of the high and grammar schools of Turlock postponed opening the schools until September 28.

The United States Government has requisitioned 15,000,000 pounds of California prunes. Dispatches from New York state that the Government will pay cost plus 10 per cent, but this is not authenticated.

The attorneys for the California Peach Growers' organization received from Washington news of a decision by the Patent Office by which the company is given a monopoly in the manufacture and sale of peeled dried peaches.

It is reported that scarcity of cans for packing fruit has forced the closing of the great plants of the Central California Canneries at San Lorenzo and of Hunt Bros. at Hayward. The American Can Company of San Francisco, which furnishes cans for these concerns, says that sufficient cans to enable the fruit canners to continue operations are en route.

Citrus and Semi-Tropical.

Citrus growers of San Bernardino county are forming an association to be known as the San Bernardino County Citrus Growers' Association.

The Delhi district near Turlock is coming into prominence as a producer of the Calimyrna fig. Fig orchards at Ceres, a few miles north, have proved successful.

Orange growers in the Pomona Valley are busy fumigating their groves for scale. Within the past two weeks 800 acres have been fumigated. Men engaged in fumigating make from $50 to $60 per week.

The harvest of the Calimyrna fig crop in Merced orchards is under way, while the White Adriatic figs are nearly gathered. Practically all the crop is sold by contract, with 11¼c per pound being paid for the Calimyrnas and 8c per pound for the Adriatics.

M. Mortensen of Los Angeles, trafic manager for the California Fruit Growers' Exchange, has completed a statistical estimate for the citrus fruit season with the freight traffic officials of the Southern Pacific, Santa Fe, and Salt Lake and Los Angeles railroads. It shows that the Porterville district in the San Joaquin country sold 300,000,000 oranges, or 5,000 cars. Southern California has to its credit for the season just closing 3,288,000,000 oranges, or 54,800 cars.

Grapes.

The picking of Muscat grapes is going on in many vineyards of Kings county.

The few raisin grapes not yet harvested have not yet reached the required sugar content.

The Hanford Winery is scheduled to commence crushing operations on contract grapes this week.

It is reported that the Migliavacca Wine Company of Napa is paying for red wine grapes $24 per ton spot cash.

The Atlantic Produce Company of San Francisco, it is said, has purchased most of the wine grapes in Sutter county and will ship about seven hundred tons during the season. Most of the grapes are of the Zinfandel variety. The general price is about $12 per ton for Zinfandels and Missions.

Miscellaneous.

Twenty-nine Boy Scouts of Berkeley picked 225 tons of berries for the Gold Ridge Orchard Co., Sebastopol, this season. The amount earned was $1,240—a good showing for their first experience with berries.

At a meeting in Walnut Creek, Contra Costa county, on the evening of the 13th inst., all Farm Bureau centers with one exception were represented. A short address was made by Prof. Essig on the Farm Bureau meeting at Sacramento. The directors congratulate themselves on the election of Mr. Frank T. Swett as president, who, after a few well-chosen words of acceptance, assumed the office.

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Isn't it worth a good deal to you to KNOW BEFORE YOU PLANT that your seed is free of all noxious weeds; that it contains no dodder, Johnson grass, star thistle or other foul seeds which will cause you serious trouble and losses in the future?

Wouldn't you feel safer, to run your hand into every sack, secure an average sample and have it tested, and then decide whether that seed was pure enough for YOUR FIELD, knowing all the time that you had the option of returning it if it didn't meet with your entire satisfaction?

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WE KNOW IT'S PURE. That's why we don't fear any test you may put it to. And because we handle nothing but alfalfa seed, buying and selling direct, IT COSTS NO MORE than the kind that may, or may not, be safe.

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"Trade name and firm name on every sack."

from same crop!

The Appleton saves *all* the feed value of corn—while husking ears, it cuts (or shreds) stalks, leaves and husks into fine fodder that gives *twice* better feeding results than shock feeding.

GUARANTEED TO DO MORE WORK WITH LESS POWER than any husker of equal size. Husks cleanest, shells least; has most efficient corn saver. Easiest, safest to operate.

FREE HUSKER BOOK

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besides its readily available precipitated lime value, contains organic matters of manure value.

For rates on car-lot shipments in bulk, address

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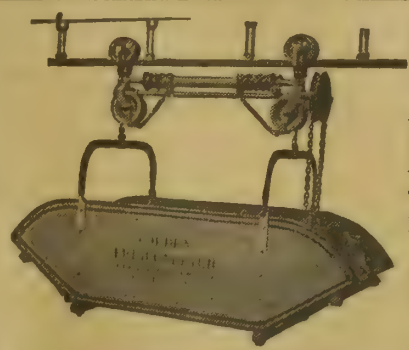

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SANITARY STEEL STALLS
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CENTRIFUGAL PUMPS — MOTORS — DISTILLATE ENGINES
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For Large or Small Tractor in Field or Orchard

"GROUND HOG" for heavy soils—(All sizes).
"AUSTRALIAN KING" in set or stump jumpers—
FOR LIGHTER SOILS.
REVERSIBLE HOP and VINEYARD DISC PLOW
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CUNNINGHAM LAND ROLLER and PULVERIZER
ALL SIZES

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HYDRATED LIME OR GROUND LIME ROCK
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429 DAVIS STREET, SAN FRANCISCO

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

THE SOUTHERN CALIFORNIA TRACTOR DEMONSTRATION GREATEST EVER.

[Written for Pacific Rural Press.]

A few of the tractors seemed to be making it their business to scrape off with their plows the three or four inches of dirt from the ten inches of hard clay plow-pan just to show what sort of work the other tractors were doing at the Los Angeles demonstration of tractors, tractor implements, accessories, and machinery, staged September 17 to 22 by the Traction Engine and Implement Dealers' Association of Southern California. A brick yard adjoins the property. It may have been hardly fair to the smaller tractors, for only a highly experienced plowman could keep his plows anywhere except above or below that plow-pan. The morning demonstrations, during which each tractor was under contract to plow a land proportionate to its rated mechanical draw-bar horsepower, were not so severe a test because there was nothing to prevent their turning over the top few inches as the plowing has been done through all the past on this level grain ranch. Some of the tractors, however, got under the hardpan even in their private demonstrations and turned up a beautifully uniform mess of clods, half of which wouldn't go into a water bucket. If the Vail ranch on which the demonstration was held does not produce the biggest crop in its history next spring, it won't be for lack of storage of winter rains, for a reservoir has been opened underground which, if properly worked after the rains, will hold several hundred per cent more moisture next spring than it has ever held before.

A Samson tractor driven by a lady proved a great attraction.

A WONDERFUL SHOW.

Never before in California have so many tractors been together. Never before has there been such a thorough exhibit of farm machinery at one place, not even excepting the Panama-Pacific. The demonstration field was truly a city of magnificent distances and magnificent aggregations of machinery in great tents of great dimensions. It cost something, too. Manager R. M. O'Neil stated that he had spent for the Association $10,000; and that did not include the expenses of exhibitors, who furnished their own tents and installed their own exhibits. That the cost of the latter was heavy is shown by the handbills scattered abroad by Dixon & Griswold, who had one of the biggest machinery exhibits, advertising a 20 per cent discount on all machinery used in the demonstration if bought and taken that day. E. A. Pope of that company figured that it would cost about 20 per cent of their value to take the plows, etc., back to town and fix them up for sale again.

SUCCESSFUL AND TO BE REPEATED NEXT YEAR.

That the liberal advertising of the Demonstration paid well was proved by the attendance and sales. Mr. O'Neil rather optimistically estimated a total attendance during the five days of well over 100,000. H. L. Marsh of the Samson Sieve-Grip Tractor Co. reported fifteen sales with cash deposits during the first four days.

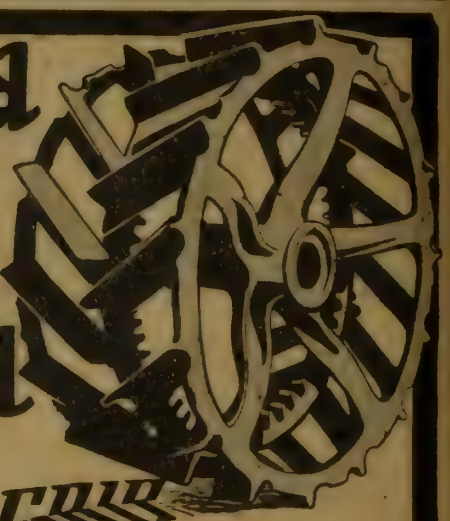
Another company reported sixteen, another seven, another eight, and so on.

Significant it was that many visitors were overheard remarking about one tractor or another that they had come to the demonstration to get a final look at it before buying, but had decided it was not the right one for them. Each visitor, of course, had to compare his own soil with that of the demonstration field, and to consider that a tractor which did poorly here might be the best one for his own conditions. But as a matter of fact most of the visitors did not fully realize the toughness of the soil here and were disappointed to see the machines plowing such narrow strips. Many times we heard people say that they were using as many as double the number of plow bottoms at home as tractors of the same make were using at the demonstration. While the field was not so spotted with varying soil as many of like size in California, and thus gave the fairest possible comparative test of different machines, yet some people who had looked favorably on tractors went away disappointed at their apparent lack of power. Nevertheless, the success of the demonstration as a whole made Mr. O'Neil emphatic in saying that there will be another next year besides the one to be held in Northern California in May.

TRACTORS AND EXHIBITS.

The great event of the week was the parade Saturday afternoon, in which the tractors were lined up, led by the biggest and graduating down to small machines, all plowing out the head lands and spaces between each day's plowing. There was a rule that none were to plow less than seven inches deep, and only a few failed to carry it out. This led almost every tractor to be equipped with just the number and character of bottoms it could handle in deep plowing. It was noticeable, however, that almost all of the motors were loaded to the limit, though seldom was an engine stalled. It seemed more a question of traction than of engine power; for half a dozen machines found themselves at various times spinning their wheels or sliding their tracks, and some of them had to be pulled out after "burying" themselves where they had hardily ventured onto the soft plowed ground.

-geared to the ground



SIEVE-GRIP -wheels won't slip

TRACTION SURE ON ANY SURFACE.

—Angular Sieve-Grip tread GRIPS THE GROUND more solidly than any form of spike grouser, acts as cultivator and clod smasher—broad tread—light weight, skeleton construction—CANNOT PACK THE SOIL.

—no parts to loosen or wear—cast in one piece of crucible steel—REVOLVES ON LUBRICATED ROLLER BEARINGS—no power lost moving heavy castings.

—powered direct from jack shaft by patented lubricated roller pinions—interchangeable bull gear bolted to inside center tread—direct drive—no side strain—minimum of friction with least wear.

THE SAMSON SIEVE-GRIP WHEEL is only one of the Exclusive patented Features of

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YOU NEED MORE FARMING POWER NOW FOR YOUR FALL PLOWING. Has your present equipment the endurance to stand the day and night drive of WAR TIME WORK. You can do more and better work this fall with a Samson Sieve-Grip Tractor. Ask us to tell you how one can help you. Copy of Tractor-Farming Magazine and latest Catalogue goes with the answer. Write Today—NOW Address,

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DEEP WELL TURBINES

No valves to pack or plunger to get out of order. For use in any well ten inches in diameter or over.

A complete line of irrigating pumps of all descriptions, horizontal, and vertical for belt drive or direct connection to electric motor.

Prices as low as are consistent with good quality and workmanship.

WRITE FOR CATALOGUE NO. 47.

BYRON JACKSON IRON WORKS, Inc.
SAN FRANCISCO.
LOS ANGELES, STOCKTON, VISALIA

If some of the tractors on the grounds had been perched on some of the others, it would have suggested nothing so much as a mosquito on an elephant. There were perhaps a dozen tractors here that have appeared nowhere on California farms, but which are to be tried out during the coming year. Many of these have been in use in the East, and their appearance in competition with the dozen or more manufactured in California is evidence of cheaper labor and raw material back East which overcomes their freight handicap. Nevertheless, we are impressed that California farming must have a hard name back East, for a number of more or less successful Eastern machines which have been tried out in California were conspicuous at the Los Angeles demonstration by their absence.

Most of the multiplied and varied farm machinery exhibits were of Eastern make, and inspection of all the tents, asking questions as to the best features of various machines, revealed an undreamed of variety of improvements and conveniences. For instance, the writer has pitched tons of manure into wagons over shoulder high, but here we saw a manure spreader whose bed almost dragged the ground, and we hankered to clean up some of the barnyards we see in our travels. In specialized tractor implements California, of course, led easily with the formidable Killefer subsoilers, chisels, heavy duty cultivators, and plow-pan plows. There was some rivalry among the makers of the biggest tractors to use these implements, for their work always attracted an admiring and exclaiming crowd. So they were used quite constantly and were to be seen at many points on the grounds—so much so that the Killefer exhibit was about as depleted as a hen molting.

One of the new machines shown by the Union Iron Works.

SOME TRACTORS WERE THERE.

The parade was headed by a Caterpillar 75 turning the bottom side of the plow-pan up in great chunks with eight John Deere moldboards. It had no trouble going wherever it started. A C. L. Best 75 came along equally well with the biggest four plows in the State, turning 64 inches of that tough soil 16 inches deep. This plow must weigh several tons and its platform was loaded with Killefer employees, all of whom were brought out on a holiday with ribbons flying. This plow rests on three wheels which are connected by arms so they turn correctly at the corners and avoid the need of plowing out headlands. A three or four-foot hand-wheel and screw raises or lowers the plow frame at each wheel. The big Caterpillar had been pulling this on the previous day. A wheelless Caterpillar 45 followed with three big moldboards, the frame of which rested on the land side on two wheels with an axle about three feet long between them. A Yuba 35 rolled smoothly along on its ball-bearing tracks and pulling easily its four big ball-bearing disk plows, which set so they plow deep in hard earth. A wheelless Best 40 followed with a four-gang Deere moldboard. A Sandusky 15-35 followed its traditional policy of pulling only what it can do deeply and without laboring the motor, doing a good job with two P. & O. moldboards. A Titan 15-30 and a Mogul 12-25 followed with similar equipment. Then a four-wheel Waterloo Boy 12-24 brought up a three-gang P. & O. disk, and a three-wheel Waterloo Boy of equal horsepower was driven by Mrs. H. H. Loose of Glendora, who drives her husband's machine while he attends to the subsoiler in their citrus orchard. A Sandusky 10-20 came along with a Davenport disk plow; then a Samson Sieve-Grip 10-25 with two P. & O. disks; and a Titan 10-20 with a Moline moldboard that is built to go 20 inches deep if necessary. A Case 10-20 pulled two P. & O. disk plows and a Case 9-18 did the same. A Lambert Chain-Tread 8-16, four feet tall and dressed up some since last year, was pulling a four-gang P. & O. disk. A Union Sure-Grip 12-25 handled two moldboards easily. The Bean Track-pull leveled itself by a lever with one wheel in the furrow to avoid side draft on its two-bottom disk plow. The 5-10 Avery orchard tractor has filled the needs of about fifty customers during the past year, its first in California. It was pulling a Newell-Sanders disk plow. The much-noticed Cleveland track type midget of 12-20 horsepower pulled two disk plows. The Moline Universal didn't care if it did get stuck with its single moldboard, for the operator could lift the plow from his seat and back out unless he buried his wheels first. Several Ford auto-tractor attachments were demonstrated.

3,000-POUND TRACTOR PULLS 3,250 POUNDS.

Farther along on the program a Wallis Cub Jr. Tractor, such as the Hyatt, roller-bearing people found on dynamometer test pulled 3,250 pounds on the drawbar, though it weighs only 3,000 pounds, got into the plowing after the eleventh hour. It would have made a good showing if people had not already gone home. Other tractors not in the parade were exhibited in tents along a line of over a half mile. The only one of its kind on the Coast, but with great possibilities, is the International Harvester Co.'s motor cultivator for two rows of corn, etc., per trip. The battery of shovels is in front. The driver sits where he can watch them. The engine is behind him and it has a vertical transmission to a skeleton wheel which is steered from a hand-wheel in front of the operator. Wm. Gregory of Los Angeles exhibited the three-wheel Buckeye tractor, which also is little known in this State. The Beeman Garden Tractor had its engine between two wheels. Another which will be described more in detail later has its engine within the wheel. The Cultimotor, having a total weight of 130 pounds, also has its motor between the wheels. Further notes of the exhibits and events will appear later.

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"Kero-Oil" Engines
Immediate Shipment—All Styles—
2 to 22 H-P.—No Waiting—Big Factory—Big Output—Prices most favorable. Write for my terms and prices—Cash, Payments or No Money Down.—ED. H. WITTE, Pres.
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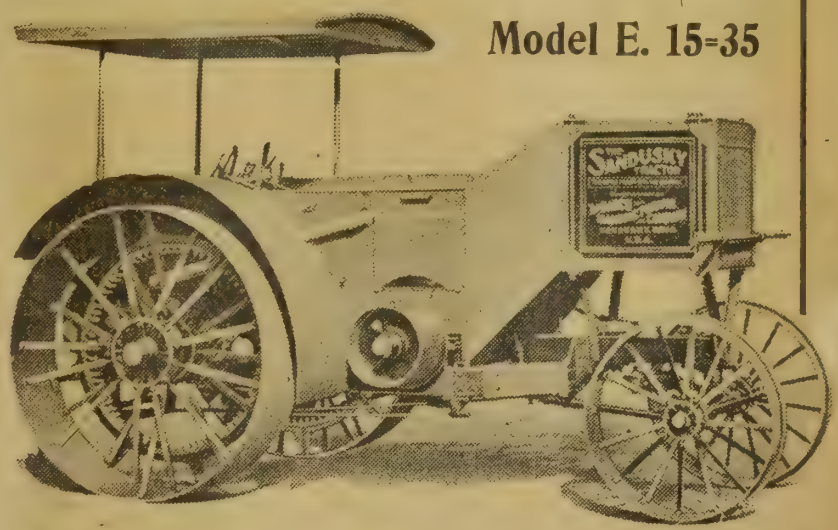
THE SANDUSKY TRACTOR
"THE LITTLE FELLOW WITH THE BIG PULL"
PLOWING
at Vail Ranch during the recent Tractor Demonstration, and in competition with all other makes and types of tractors on the field, the SANDUSKY TRACTOR, MODEL E, 15-35, using a "6c TOPS FOR FUEL," scored PERFECT, performing every operation with ease. Soil condition called for RESERVE POWER, and in this respect the SANDUSKY proved all that we claim for it. We fully guarantee the SANDUSKY TRACTOR for POWER (RESERVE POWER), WORKMANSHIP and MATERIAL—to do all that we claim. Our plan: "Try It Before You Buy," should appeal to you. You CANNOT buy a SANDUSKY TRACTOR unless you are SATISFIED. If you get TRACTOR FACTS, you will buy a SANDUSKY. "Ask the man who owns one."
Model E. 15-35



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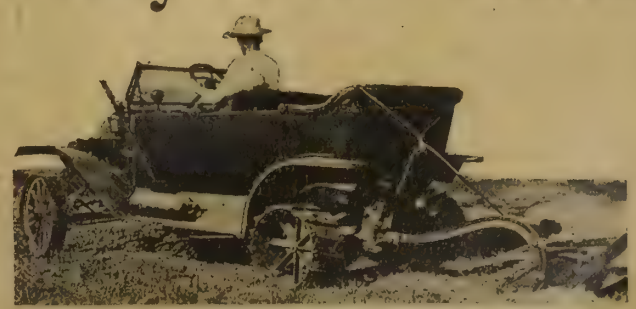
The Pony Tractor Attachment



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Direct drive, no gears or wearing parts, no oil or grease.
Attached to Ford, does work of four large horses.
Weighs 200 pounds. Installed by anyone.
Conserves power through elimination of weight and friction.
Guaranteed—More work per gallon of gasoline than any tractor built.
Auto to tractor in five minutes.
Imagine a tireless team working twenty-four hours every day if necessary, doubling the average horse speed in the field; a touring car for the road at will; eating nothing when idle; ready at an instant's notice day or night, and you begin to understand the efficiency and economy of The Pony Tractor.
PONY TRACTOR
1938-40 S. MAIN ST. LOS ANGELES, CAL.

Kings County Fair Largely Attended

[Written for Pacific Rural Press.]

More fortunate this year than last in having fine weather, attendance at the Kings County Fair at Hanford, September 17 to 22, the fifteenth held, was well over double that of last year. In livestock it was unfortunate that the Kings Fair came the same week as the one at Modesto and preceding the one at Fresno. There were a splendid lot of Poland-Chinas and quite a number of fine Durocs, but Berkshires and other breeds were absent. In Holsteins there was good competition, and a breeder who had never shown before carried away the grand championship on bulls. Several breeders entered Jerseys. No other breeds were entered, though John Montgomery had a 1,400-pound 25-months red Shorthorn bull there that might have won in strong competition.

DRAFT STOCK.

Of horses and mules there was a limited but fine display. M. Bassett's State Fair grand champion stallion, Ithos, became grand champion Percheron. L. C. Trewhitt of Hanford took four firsts on Percherons and A. E. Ward of Santa Ana took second on the aged stallion, Drusus. Shires were represented by a fine string of nine animals entered by Jas. McCord of Hanford. His gray aged stallion, Tule Patch, alias Snowball, took grand championship, and Prince Searchlight became junior champion. The blocky three-year black mare, Goodacre Model, raised by Mr. McCord himself, was pronounced the champion. She is within a month of foaling a colt sired by Snowball, and Mr. McCord says he wouldn't take $500 for the foal and let the buyer take all chances. Both she and Snowball are sired by International grand champions. Only one Belgian was entered, the stallion Calbrinca, by F. A. Andrews of Guernsey. In farm draft horses M. Bassett took four firsts on nine entries. Mr. McCord had the only registered saddle horse entered, the stallion Denvul, all of whose colts naturally take the five saddle gaits.

Kings county produces probably more jacks and mules than any other in California; and the finest kind of mules were to be seen at Hanford. Burrell & Corey had twenty entries. Grionima became champion over their California Wonder. Their beautiful four-mule team was shown hitched up as at the State Fair. Jas. McCord had three entries here also. J. W. Montgomery took first on a two-year red one.

DAIRY CATTLE.

F. D. Ross of Hanford took most of the prizes in this class, having won junior and grand championship on the senior heifer calf Rossmead Westpert Cornucopia, and first on breeder's young herd, calf herd, get of sire, and junior yearling. G. U. Clark of Hanford showed the cow Donna Marie 2nd, which became senior champion. He also took first on produce of dam, junior bull, aged cow, and yearling and two-year heifers.

L. Y. Montgomery of Hanford had a first heifer calf. A. B. Comfort took grand championship on Juliana De Kol King Segis, a long-bodied animal that is throwing a lot of fine calves. He was first senior yearling at the 1914 State Fair and his dam was grand champion. Mr. Comfort also took junior championship on a senior bull calf and first on a junior.

JERSEYS.

Church & Hubbs of Guernsey entered the cow Glory's Royal Comasse, which became grand champion, and the junior bull calf which became junior and grand champion. They also had the first calf herd, produce of dam, junior champion heifer, and first breeder's young herd. R. L. Waltz won first on the two-year heifer Gertie's Son's Favorite and first on aged herd.

SWINE.

The Bassetts and Will Bernstein won almost everything in Poland-Chinas with their State Fair winners. A. L. Bassett took four firsts; M. Bassett took two firsts and six

Mr. Farmer:

You can't get along without a Pull, so buy a good pair of mules from

Burrell and Corey

Breeders and Importers

OF

JACKS and JENNETS

Hanford, Cal.

Bassett's Poland Chinas

GRAND CHAMPION SOW
P. P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.

$30 UP.

WILL CONSIGN SOME OF MY BEST STOCK TO THE GREAT SALE OF POLAND-CHINAS, HANFORD, OCTOBER 19.

M. BASSETT Hanford, Cal.

BERNSTEIN POLAND CHINAS

(Big Type with Quality)

Won most of the championships at Kings County and State Fair.

Twenty of my best sows and 2 fine boars will go into the

Great Sale of Poland Chinas

to be held at

Hanford, Kings County

WM. BERNSTEIN Hanford, Cal.

PREPAREDNESS FOR PRODUCTION

¶ The man that has some good, big shire colts or young mules is equipped for work whether school keeps or not.

¶ If you want stock of the best breeding, raised under farm conditions and absolutely guaranteed as breeders, write or call

J. W. McCORD

HANFORD, - - - - - CALIFORNIA

You Want Real Horses

ITHOS
Grand Champion Percheron at Hanford and three times Grand Champion at State Fair. Service fee $20.

ONE good horse will do twice the work of a scrub and eats very little more feed.

Replace your present stock with real horses and release half your land for production of food and help win the war.

Have for sale some fine colts sired by ITHOS.

M. BASSETT, HANFORD

KIMBLE RAMBOUILLETS.

These sheep are purebred, large and smooth, with heavy fleece of fine, long, staple, white wool. Yearling rams and ewes. Individuals or carload lots.

Prices reasonable. Correspondence solicited.

CHAS. A. KIMBLE, HANFORD, CAL. Breeder and Importer.

seconds, yielding to Will Bernstein's large type animals. John Bernstein took second on the aged boar President and third on the sow Bells Model. W. Bernstein's Rosebud's Chief boar was champion of all ages and his sow King's Rosebud became champion of all ages. He took three other firsts and a second on four pigs, any age. Dr. J. A. Crawshaw had all the entries of spotted Poland-Chinas.

DUROCS.

Henry Cummins of Goshen showed Tulare Defender, the champion boar of any age. R. C. Sturgeon of Tulare won championship on his under year sow and first on a boar of the same age. Mr. Cummins took the five remaining firsts.

SHEEP.

Lack of help and the dry feed of last winter prevented a large sheep show, but Chas. Kimble of Hanford exhibited about ten Rambouillets and a big curly wooled Lincoln ram.

The automobile shed was crowded but gaily decorated and attractive. There were perhaps fifty times as many autos about the grounds.

Napa's Varied Resources Well Represented

Napa's second annual Fair, held this week, was a good exposition of the wide and varied resources of that county. The agricultural tent contained exhibits from the following districts: Union, Farm Center, Mt. George Center, Salvador, Coonibsville, Calistoga, Fly District, Soda Canyon, Brown's Valley and Carneros, besides many individual exhibits. The tent was entered through a beautiful arbor of flowers and ornamentals.

There was a good showing of farm machinery, tools, and implements, as well as of poultry, pigeons, and rabbits.

Napa has of late come to the front with her blooded stock, and the livestock show, though not large, was good in quality, including a number of the prize-winning herds at this year's State Fair.

The Napa Hospital showed their Holsteins and Berkshires, but did not compete for prizes. Two of their heifers that had been sold before the Fair to E. Susaeta of Chile won first and second in their respective classes. Most of the Holstein and Berkshire honors went to Maplewoode Farm of Calistoga. D. B. Wentworth was awarded first on senior yearling boar pig and other awards.

Frederick M. Johnson, who won most of the Duroc honors at Sacramento, repeated at Napa. Johnson's Defender was grand champion boar and Cherry Chief Lady grand champion sow. Johnson won first in all but one class. Riverbend Farm was awarded first prize on aged boar.

R. P. Frisby and W. H. Gosling divided Poland-China honors. Frisby, with five entries, was awarded seven prizes, including grand champion boar. Gosling had the grand champion sow.

A. L. Tubbs Co. showed their fine herd of large Yorkshires, which carried off many of the prizes at Sacramento. The Melone Company showde Chester White swine and Ayrshire cattle. W. H. Watt showed Holsteins and Jerseys. J. R. Imrie showed some fine grade Holsteins. W. L. Mitchell was awarded grand champion on Jersey bull and cow, the latter honor going to a seven-months calf recently imported from Wisconsin and an individual of exceptionally fine type and great promise.

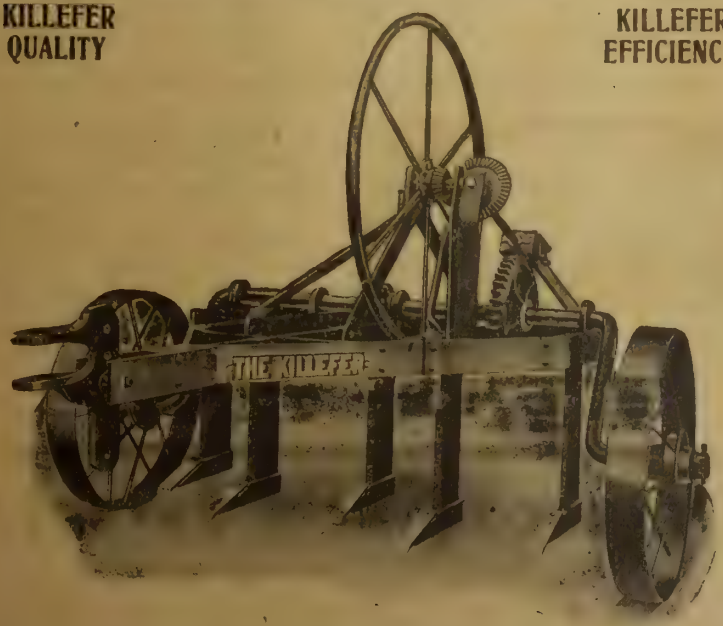
Sheep were shown by G. W. Watson and F. J. McDermott. Horses by G. W. Watson, Ratto Co., and A. B. Spreckels.

The cattle were judged by V. L. Heath of Napa, swine by J. Finney of University Farm, and poultry by Ed Ellis of San Francisco.

MONTELENA HERD of
Large Yorkshires
Headed by

LAKE PARK KING, 25211 Senior and Grand Champion Boar at California State Fair, 1917.
Won 21 prizes with 11 entries, including six Championships and four Firsts.
ALL AWARDS AT NAPA
SPRING PIGS, BOTH SEXES
Booking orders for fall pigs sired by Lake Park King.
A. L. TUBBS COMPANY
CALISTOGA, CALIFORNIA

Five Standard Sub-Soil Plow
KILLEFER QUALITY
KILLEFER EFFICIENCY



This is one of the line of Deep Tillage Tools shown at the Tractor Demonstration at Vail Ranch, Los Angeles.

Every report which we have been able to obtain of subsoil work done during this past fall has shown extra large gains in crop returns. Our offer of last year still holds good—to give a subsoil plow to any rancher having 500 or more acres for one-half of the increase in crops, for one season only. If we have nerve enough to risk $300.00 to $800.00 on this work, what is there in it for you?

THINK IT OVER

The Killefer Manufacturing Co.
2209-21 SANTA FE AVE. BOX 156 ARCADE P. O. LOS ANGELES, CAL.

Longwood Stock Farm
CLOSING OUT PUREBRED
Holstein and Jersey Cows
of best breeding and production. Subject to tuberculin test. Will take good Holstein grades in trade.
WILLIAM WATT, Napa, Cal.

BERKSHIRES
I have some fine gilts strong in the blood of
RIVAL'S CHAMPION BEST, BAND MASTER and DUKES BEACON
FOR SALE AT REASONABLE PRICES
D. B. WENTWORTH NAPA, CAL.

DUROC JERSEY SWINE
At the State Fair JOHNSON'S DEFENDER was Junior and Reserve Grand Champion, also won Junior, Senior, Grand and Reserve Grand Champion sows, two firsts, and 150 other awards.
At Napa won every championship and all firsts but one.
Booking orders for Fall pigs.
FREDERICK M. JOHNSON, NAPA

Ayrshire Cattle
The Economical Cow
The High-testing Breed
Chester White Swine
Won All Fattening Contests at Napa Fair
MELONE CO., - Oak Knoll, Napa, Cal.

POLAND CHINAS
June pigs, both sexes, also weanlings, sired by YOUNG WONDERFUL, Grand Champion at Napa, whose sire, I. B. A. WONDER, was Grand Champion at Modesto and Reserve Grand Champion at P. P. I. E.
Booking orders for Fall pigs.
R. P. FRISBY NAPA, CAL.

The Stanislaus Fair a Splendid Success

[Written for Pacific Rural Press.]

If there has been a better county or district fair in California than the second annual Stanislaus Livestock Show and Exposition, held at Modesto September 17 to 22, there are many people who do not know about it. The community, which has in its second attempt built up a fair that rivals the State Fair in quality and almost in quantity of exhibits of many kinds, may well be proud of itself. It was here that many of the State Fair grand champions went to defeat, dairy cattle being judged by Prof. O. E. Reed of the Kansas Agricultural College, and hogs by Prof. R. M. Miller of the University Farm at Davis. These judges did much toward improving Stanislaus livestock by telling the crowds freely the points on which they based their decisions.

The weather was fine and the attendance over double that of last year. Besides the thousand passes, 2,000 people paid admission Monday, 3,000 Tuesday, 4,500 Wednesday, and about 4,500 up to 3 p. m. Thursday, which was Modesto Day. The last figures indicate something of the spirit which made the fair so great a success. Saturday was another day of big attendance.

TULE DE KOL PIETERTJE NETHERLANDS
Record 32.82 pounds in seven days, owned by M. M. Holdridge, Modesto.

AGRICULTURE AND HORTICULTURE.

The local spirit shown in the great tent devoted to farm products was the same which made the rest of the fair so great a success. Individual exhibits were without number, but they were grouped by communities, between which there was keen rivalry for the community prizes. Seldom or never has an Eastern State or county fair had such a variety of fruits, grains, beans, nuts, etc.

Turlock had the largest and one of the most varied exhibits, with a good sprinkling of individual blue ribbons, an imposing carload of watermelons and casabas and liberal exhibits of the other melons, which took first prizes. Turlock yielded first prize, however, to Keyes, which also had a large exhibit, giving an inferior impression as a whole, but winning by sheer excellence of individual exhibits. The Sylvan booths were most beautiful, with decorations of Pampas grass plumes, some of which had been dyed. The words Sylvan Club were spelled with plumes. Patterson could not have been missed, for there stood the word on a sloping table about 20 feet by 10, made of white feterita heads on a solid ground of pink beans. The table was bordered with the crook-necked heads of white Egyptian corn, and green alfalfa hung to the floor. Ceres won third prize with melons, figs, grapes, and fresh, canned, and dried fruits, and beans hanging on long vines. Riverbank had a surprising display of peaches, apples, grapes, etc., and first prize yellow and white Dent Indian corn. Waterford showed a characteristic lot of grain in sacks, on ear and head, and in glass jars; also a sprinkling of local-grown cotton. Hughson had built a red, white, and blue cabin and surrounded it with food products. Oakdale advertised itself well with a great sign, "Oakdale Grows Almonds and Olives by the Carload," and showed liberal quantities of other fruits, nuts, honey, butter, some first prize big green navel oranges; also forage plants. A patch of green and growing rice stood in a flooded section nearby, and was overlooked by a striking 25-foot tower of Indian corn stalks with big ears on them and a pile of splendid yellow Dent ear corn at its base. A fine exhibit of women's handiwork occupied the center of the tent, while at one end was the University and Farm Adviser booth. A striking display of fifty varieties of beans in well-labeled dishes and nine varieties of sorghum in the head was a feature of this, as well as cutaway models of squirrel and gopher runs.

In the manufactures tent were large exhibits, among others, showing uses of redwood in building, etc., and the Tuolumne Lumber Company had an extensive and varied exhibit. The Bomberger Seed Company had a booth where were shown several varieties of alfalfa seed and an incubator or germination test under glass.

THE LIVESTOCK EXHIBIT.

As befits the county which produces more butter than any other in the State, dairy cattle made the biggest show—over 300 head, with their logical complement, fine swine in great numbers. The exhibitors were enthusiastic in praise of the consideration given them by the exposition committee of the Stanislaus

Marsh's Big Type
POLAND-CHINAS
WIN AT MODESTO

Grand Champion Boar (I. B. A. Wonder, Reserve Grand Champion, P. P. I. E.).

Grand Champion Sow, 12 firsts, 5 seconds and 2 thirds.

Herd headed by three of the greatest boars in America. Sows averaged 8 pigs to the litter RAISED last year.

Breeding stock sold on a money back guarantee.

H. I. Marsh : Modesto, Cal.

CORNWELL'S
REGISTERED HOLSTEINS
Prize Winners at Modesto

Have for sale a few bull calves sired by
PRINCE HISKE WALKER

H. E. CORNWELL, MODESTO

The Great Jersey Sire
Pogis 99th of Hood Farm 6th

Reserve Grand Champion at Modesto. He sired the First Prize Junior Yearling Heifer, the First Prize Senior Yearling Bull and First Prize Bull Calf. His sire is the only Jersey Bull that sired two world's champion cows.

Offering bull calves sired by him and out of Register of Merit cows.

J. A. GOODALL, Turlock, Cal.

RIVERINA PIONEER 25957
Junior Champion, Reserve Grand Champion, Champion Boar Bred by Exhibitor.
10 Months Old.

Large Yorkshires
PROLIFICACY INSURES PROFIT

We own the Grand Champion Sow at Sacramento this year (she has farrowed 84 pigs in 6 litters). Grand Champion Boar and Sow, 1916. Every time shown our herd has won a large majority of the ribbons, and on individuals that we have bred ourselves for quick maturity, which means quick money. Quoting special prices on bred sows and boars ready for service.

RIVERINA FARMS
Route C, Box 384, MODESTO

Leonard Farm Jerseys

Have helped make Stanislaus County famous as the Jersey center of the State.
Young bulls out of register of merit cows.

W. J. HACKETT, CERES, CAL.

ORION MODEL'S GET

Wins at Modesto First on get of sire, First Senior Boar Pig and Reserve Grand Champion. Orion Model Junior First Junior Sow Pig and Reserve Grand Champion. Lucy O. Second in Herd (Boar and three Sows of any age). Second in produce of dam.

For sale: Orion Model Jr., Reserve Grand Champion. Weighs 430 pounds at 11 months. Also pigs, both sexes, sired by Orion Model.

ELMER LAMB, CERES, CAL.

County Board of Trade, which engineered the fair. The quarters were fully as attractive as at the State Fair, except that the hogs did not have board floors. Local breeders supported the fair most patriotically with exhibits, while many animals came from north of San Francisco. The county has the only show herds of Dutch-belted cattle in the State, and these were shown in fine form by Mrs. Jennie Strader and her daughter, Mr. Strader being ill. Alexander and Kellogg of Suisun were the only exhibitors of dairy Shorthorns, the aged roan bull Glenside Royal being grand champion and a young white one winning first. Ayrshires were represented by the Steybrae herd, including the State Fair grand champions and the world record cow, Willowmoor Vesta Fourth.

HOLSTEINS.

Among Holsteins and Jerseys, for both of which the county is famous, the competition was exciting and the awards sensational. Bridgford's State Fair grand champion bull gave way to the bull calf King Segis Alcartra De Kol Pledge from the same herd, and he in turn became reserve grand champion to S. G. Kounias' senior champion bull King Korndyke Hengerveld Ormsby VII, giving Stanislaus the grand championship on an animal which Judge Reed said was one of the great individuals he had been privileged to judge. The State Fair grand champion Holstein cow was beaten at Modesto by two from the same herd, that of the Bridgford Company. Reserve grand championship was given to the senior champion cow Spring Farm Canary Pontiac, while the grand championship was given to Prince Inka Butter Girl. The State Fair grand champion cow was also defeated by J. W. Benoit of Modesto, who took first and third on aged cows, and by A. M. Bibens, who took second. F. A. Heroux was awarded first prize bull in the two-year-old class.

I B A WONDER
Grand Champion Poland-China at Modesto, owned by H. I. Marsh.

KING KORNDYKE HENGERVELD ORMSBY
Grand Champion at Modesto, owned by George C. Kounias.

MILKING CONTEST.

The five-day milking contest, of which we were able to get only the first two days' records, was all among Holsteins, and here again the State Fair leaders were beaten by Stanislaus cows, of which A. M. Bibens entered three, J. S. Gibson Company two, and J. W. Benoit one. The figures stood as follows:

POUNDS BUTTERFAT IN MILKING CONTEST.

Aged cows:

J. W. Benoit, Vera Valhalla, 12.358.

A. M. Bibens, Zoa Aaggie Pietertje, 9.535.

J. S. Gibson Co., De Kol of Valley Mead II, 8.318.

Over thirty months and under four years:

A. M. Bibens, Skylark Hengerveld Ruella, 8.357.

J. S. Gibson Co., Queen Pontiac Charlotte Korndyke, 7.730.

A. M. Bibens, Zoa Aaggie Pietertje Second, 7.214.

Class of four cows:

A. M. Bibens, 32.773.

J. W. Benoit, 30.732.

Among other awards to Holstein breeders were: H. E. Cornwell, Modesto, first yearling bull, first in the twins class, second get of sire, and second and third produce of dam; J. D. High, Modesto, first and third in senior yearling class; Miss M. Holdridge, second in senior yearling bull; J. S. Gibson Co., first on get of sire.

JERSEYS.

Among Jerseys, Prof. Reed commented on the rare combination of show quality and high production. Guy Miller's well-known herd led with grand champion bull and cow, a total of four championships, five firsts, six seconds, and two thirds. J. A. Goodall of Keyes is proud of his Jersey bull Pogis 99th of Hood Farm 6th, which sired the first senior yearling heifer and reserve grand champion, first senior yearling bull and first bull calf, all shown by Mr. Goodall. W. J. Hackett won first on two-year cow, second yearling bull, and third produce of dam. D. T. Wieland of Thalheim sprung a surprise in the shape of Girlie's Betsy Rose, a beautiful heifer bred by himself, which easily stood at the head of her class. Mr. Wieland has not shown before.

Grand Champion Berkshire at Modesto, owned by A. B. Humphrey.

GUERNSEYS.

Several herds of Guernseys competed, revealing unexpected strength

(Continued on page 326.)

King Korndyke Hengerveld Ormsby VII

First prize, SENIOR CHAMPION and GRAND CHAMPION at California's Greatest Dairy Show.

King Korndyke Hengerveld Ormsby is not only a great show bull but has great production in his breeding. His two nearest dams averaged 29.47 pounds, testing 4.9 per cent. Three of his sisters sold at the recent Stevens Bros. sale at Liverpool, N. Y., for the following prices:

No. 1, record 33 pounds.....$6,100
No. 2, record 32 pounds..... 5,800
No. 3, record 30 pounds..... 5,200

Our Junior Herd sire, Toyon King Korndyke Soldene, is out of a cow with a record of 33.89 pounds, test 4.97 per cent.

If you want Holstein blood that combines show type and production, we can supply you. REGISTERED BERKSHIRE HOGS, sons and grandsons of Star Leader, the great $1,500 son of Grand Leader 2nd.

WRITE OR CALL AND SEE THE STOCK.

Kounias Registered Stock Farms
MODESTO, CALIFORNIA

Creamcup Herd Holsteins

Members of this herd hold the following highest official records made in Stanislaus county:

Tule De Kol Pietertje Netherlands 106233....32.82 pounds in 7 days

Tule De Kol Pietertje Netherlands 106233....129.4 pounds in 30 days

Anselogess of Sleepy Hollow 136382.....897.08 pounds in 1 year (Milk 22,951.7 pounds)

Winifred Hotaling 2nd 133785.....17.16 pounds in 7 days (8 months after calving. Her best day's milk production 109 lbs.)

WE BREED FOR PRODUCTION, BEAUTY AND INTELLIGENCE. VISITORS WELCOME.

M. M. HOLDRIDGE Route B, Box 366 MODESTO, CAL.

Bibens Holsteins

Won at Modesto in the show ring and at the milk pail. In the 5 day butter contest of all breeds won

First in the under 4 year old class
First in class of 4 cows
Second in 4 year and over class

YOUNG STOCK FOR SALE

A. M. BIBENS, R 1, Modesto, Cal.

BENOIT'S HOLSTEINS

WIN IN SHOW RING AND BUTTER CONTEST.

El Prado Wayne Colantha 128995, our herd bull, won First Prize at Sacramento.

Vera Valhalla made the highest record in the five-day Butterfat Contest of all breeds at Modesto. Record 12.358 pounds fat.

YOU WANT YOUNG BULLS OF THIS KIND.

J.W. BENOIT, Modesto, Cal.

Dutch Belted Cattle

The Largest and Finest Herd in the West
Visitors Always Welcome

U. G. and Jennie Strader = = CERES, CALIF.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

The average butterfat test of all Jerseys tested in New Zealand is 5.49 per cent.

The Fresno Danish Creamery Association pays 50c for butterfat, a record for the valley.

The price of milk to the consumers in Sacramento is to be raised. Seven cents per pint is expected.

F. A. Heroux of Oakland showed at Modesto one of the two or three sons of King of the Pontiacs which are owned in California.

Clubwomen of Humboldt county have offered their services in milking cows to fill the need of dairy employees and to encourage enlistment.

H. L. Hill Jr. of the Toyon Farm Association has gone East to look over several offerings of registered Holsteins for their ranch at Los Altos.

The Western Meat Company paid to the Klamath section 52c for their butterfat for the month of August. This is the highest price ever paid for fat in this section.

The Lewis Co. plans to go into the breeding of registered Holsteins at Hollister on such a large scale that they can supply any order that may come from local breeders for either bulls or heifers.

The Napa Hospital sold to E. Susaeta of Chile four registered Holstein heifers, including the reserve grand and junior champion and the third prize senior calf at Sacramento.

High cost of feeds has not prevented the Jersey breeders from testing. In June, 1917, 3,727 cows owned by 458 breeders in forty-six States were being officially tested and were making records.

One of the winners at the Stanislaus Livestock Show and Exposition was a recent beginner, E. F. Young of Modesto, whose herd sire is a son of F. Stenzel's Dutchland Sir Pietertje Creamelle.

James Goodall recently sold a young Jersey bull sired by Pogis 99th Hood Farm 6th to John Snyder, who is starting a purebred herd at Chowchilla. He also sold a bull to William H. Park of Las Vegas, Nevada, and a heifer to A. J. Cooper.

W. J. Hackett of Ceres reports sales of registered Jerseys as follows: Bull to Emerson Root, McFarland; bull to H. R. Randall, Hanford; bull to Roy Mackenzie, Ceres; heifer to A. J. and Nellie Morey, Orland.

E. F. Young, who exhibited Holsteins for the first time this year at the Stanislaus Livestock Show, is very proud of his young herd sire, Kalsora Korndyke. He was sired by F. Stenzel's Dutchland Sir Pietertje Creamelle and his sister is the former California champion two-year-old.

A. B. Humphrey of Escalon has received word from the American Guernsey Cattle Club that the record of 13,038 pounds milk containing 614.06 pounds butterfat, made by his Golden Maid of Maple Lane, is within a pound of the world's record. She was cared for like the rest of the herd and was with calf 286 days of the test.

An auction of Holstein cows to be guaranteed in all respects by a committee of the California Holstein Breeders' Association, composed of Frank Morris, Jas. McAlister Jr., and C. L. Hughes, is to be held in Sacramento, December 5. The guarantee will be the same as that in the Wooster sale—no contagious disease or barrenness and all high record cows. Something sensational is expected at this sale.

Swine and Swinemen.

J. A. Crawshaw of Hanford has secured from the Peter Mouw herd a fine boar pig for a future herd boar.

L. A. Denker of Lancaster, who took fifteen purebred Hampshire hogs to the State Fair eight months old, averaging 400 pounds, has refused $500 apiece for them.

Maplewoode Farm sold a Berkshire boar pig to Gonzala Compania Telegante of Chile and one to the University Farm at Davis. Both were out of Congressional Miss, the grand champion sow at the Napa Fair.

W. D. Trewhitt of Hanford recently bought of William Pfander & Sons, Iowa, a boar and five sows to add to his herd.

The Napa Hospital bought of the University Farm a boar pig sired by Star Leader and out of one of their best sows.

R. P. Frisby of Napa recently bought of J. Hansborough a gilt sired by the grand champion Poland-China boar at Sacramento.

The cattle-raising directors of the University Farm at Davis are considering sending several Berkshire hogs to the National Swine Show at Omaha in October.

Recent sales of Berkshires from Butte City Ranch at Butte City include four sows and a boar to E. C. Gates of Butte City, four sows and a boar to R. J. Bender of Glenn, and three sows and a boar to O. L. Raper of Glenn.

Frederick M. Johnson of Napa sold his Duroc boar, Bondholder, to the Improved Hog Raising Syndicate Farm of Ukiah. Bondholder was first prize boar at the 1916 State Fair and grand champion the same year at Napa.

Elmer Lamb of Ceres exhibited at the Stanislaus Fair his Duroc boar Orion Model Jr., sired by Orion Model, a son of Orion Cherry King Jr., which was grand champion at Omaha last year and was sold last August for $3,500.

There was a good showing of fat swine at the Stanislaus Livestock Show. In the farrow class A. B. Humphrey won first on Berkshires and Elmer Lamb second on Durocs. On sows H. I. Marsh won first with Poland-Chinas and A. B. Humphrey second with Berkshires.

Lloyd & Tointon of Santa Rosa have sixteen Yorkshire gilts sired by the State Fair first prize Riverina Admiral. They will be bred to the first prize young boar Riverina Captain 3rd, bought at the State Fair from Riverina Farms, Modesto. The pigs ought to be good ones.

Livestock Miscellaneous.

A meat packing and cold storage plant is projected for Alturas.

D. O. Lively of Mayfield reports recent shipments of stock as follows: Horses to Nome, Alaska, and hogs to South and Central America. He says local demand for stock is holding up strong, despite high price of feed.

A note from H. J. Clark, now at the Presidio, San Francisco, explains why the Tagus ranch of Tulare county did not show their horses at the State Fair. He says that four of the grooms, as well as himself, all joined the army.

Dr. L. E. Tuttle of Willows, official veterinarian of Glenn county, has bought from Butte City Ranch of Butte City the roan Shorthorn bull, Royal Rancher 4th, by Royal Coronet 2nd. Dr. Tuttle is establishing a herd of Shorthorn cattle.

The Napa Hospital recently bought 1,030 head of Shropshire and Merino sheep and 150 head of beef cattle. This stock will be placed on the Frye ranch, near Yountville, and will provide beef and mutton for the institution.

First prize Young Shorthorn herd at State Fair, owned by T. S. Glide, Davis. This herd was sired by the great herd bull, Knight Perfection.

CUTTER'S
BLACKLEG PILLS
"California's Favorite" for nearly 20 years
For the Prevention of Blackleg in calves and young cattle

Their superiority is due to nearly 20 years of specializing in "Vaccines and Serums only."

Year in and Year Out they give better satisfaction than any other vaccine made, and the cost of a few cents per dose is cheap insurance against a disease that always takes the fattest and best.

Single Pills may be used for ordinary and range stock.

Double Pills should be used for pure bred and high grade stock.

Use any Injector, but Cutter's simplest and strongest.

Prices:
10 dose pkge. Single pills $1.00
50 dose pkge. Single pills 4.00
10 dose pkge. Double Pills 1.50
50 dose pkge. Double Pills 6.00
Cutter's Pill Injector.... 1.50

Insist on Cutter's. If unobtainable, order direct.

Write for new booklet, "The Control of Blackleg." It tells about Anti-Blackleg Serum which cures Blackleg and may be used simultaneously with vaccine to combat outbreaks and safely protect valuable stock.

The Cutter Laboratory, Berkeley, Calif.

The Cutter Laboratory of Illinois, Chicago
Eastern Agent

THE BEST DUROCS
IN THE WEST
ARE IN SOUTHERN CALIFORNIA.
SEE OUR HERDS AT THE RIVERSIDE FAIR OCTOBER 9 - 13.
Delta Farm & Live Stock Co., Colton.
Falfadale Farm, Perris.
W. M. Taylor, San Bernardino.
Canejo Farm, Newberry Park.
H. S. White, Chino.
Peters, Lamson & Walker, Devore.
Dr. Michael Creamer, Brockman Bldg., Los Angeles.
J. S. Prendergast, San Bernardino.
S. O. Houghton, Van Nuys.
SOUTHERN CALIFORNIA DUROC JERSEY ASSOCIATION,
R. K. Walker, Sec'y, Devore, Calif.

Percheron and Belgian Stallions
Imported and American Bred
Won First Prize, Reserve Grand Champion and best group of five Percheron Stallions and other awards at Sacramento
Offering a few 2-year-olds and upwards, with heavy bone and high quality, that weigh a ton or more.
If you are looking for the best come and see them or write for particulars.
EVERY STALLION GUARANTEED AS REPRESENTED
PRICES AND TERMS REASONABLE
N. W. THOMPSON Patterson, Cal.

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
Hauser Packing Co. Los Angeles

THE BIG HOLSTEIN SALE OF SOUTHERN CALIFORNIA.

The advance guard of Holstein progress will push forward to a new point when the big two-day sales takes place at McClure Farm, Santa Ana, Cal., on Tuesday and Wednesday, October 16-17. This will be the first sale of registered Holsteins ever held in Orange county, and notwithstanding the fact that the land around Santa Ana may be described as highly developed fruit land, there are indications that many of the 125 head of registered Holsteins in this sale will remain right in the county. If this sale does prove to be the means of founding a number of purebred herds in Orange county, it will not only be an achievement for the Holstein breed but it will also be a distinct progress in the agriculture of the county, which has hundreds of farms upon which good Holstein cattle could be bred to the profit of their owners and to the enrichment of their lands. And it is particularly fortunate that the founders of new herds should have an opportunity to buy such cattle as will be sold at Santa Ana. In this sale Ernest Otto McClure of Santa Ana, A. Satterberg of San Jacinto, and P. H. Jarrett of Lancaster will disperse their entire herds. Besides these three herds, there will be consignments of high-class cattle from McAlister & Sons, Chino; Santa Anita Rancho, Santa Anita; Aro Herd, Buena Park, and R. Nadeau, Saugus.

The McClure herd represents over half the number of cattle in the sale, and a special attraction in this herd is the herd sire, King Pontiac Netherland Segis, son of King of the Pontiacs and out of a good record daughter of King Segis Pontiac. He already has a number of good A. R. O. daughters with creditable first calf records, and in this sale there will be seventeen of his daughters, affording a great chance to gather in a family. Besides these there are ten A. R. O. cows and heifers in the herd with records up to over 28 pounds butter in seven days, three daughters of the grand old sire, Sir Skylark Ormsby Hengerveld, a daughter of De Kol Hengerveld Burke, and three daughters of the 28-pound cow. The balance of the cattle in the sale are equally as rich in breeding and many are bred to exceptionally high-class bulls.

The bulls in this sale are a feature by themselves, twenty-two in all, and out of that number there are fourteen grandsons of King of the Pontiacs, sired by three different bulls. Then there is a son of a great 34-pound cow, the highest record bull offered at auction in California to date. And for the first time in the State a son of the great Colantha Johanna Lad will be put through a sale ring.

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

Reduces Strained, Puffy Ankles, Lymphangitis, Poll Evil, Fistula, Boils, Swellings; Stops Lameness and allays pain. Heals Sores, Cuts, Bruises, Boot Chafes. It is a SAFE ANTISEPTIC AND GERMICIDE

Does not blister or remove the hair and horse can be worked. Pleasant to use. $2.00 a bottle, delivered. Describe your case for special instructions and Book 5 M free. ABSORBINE, JR., antiseptic liniment for mankind, reduces Strains, Painful, Knotted, Swollen Veins. Concentrated—only a few drops required at an application. Price $1 per bottle at dealers or delivered.
W. F. YOUNG, P.D.F., 86 Temple St., Springfield, Mass.

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REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed
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Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
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Expert Livestock Auctioneers
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
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REDWOOD TANKS.

35 years in this business. I sell direct to the consumer. You act as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.
R. F. WILSON, Stockton, Cal.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

Poland-Chinas.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

TWENTY OF THE BEST SOWS and two grand boars from the Bernstein herd will sell at the fourth annual Kings County Poland-China Breeders' Sale, Hanford, October 19. W. Bernstein, Hanford.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

READOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARM BERKSHIRES—World's Fair Grand Champion Grand Leader 2nd heads our herd, not only himself a champion, but the sire of champions. At the 1916 California State Fair his daughters won first in all of the senior sow classes, including the Grand Champion Sow. At the 1916 Oregon State Fair a Grand Leader sow was Junior Champion. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend streets, San Francisco.

A-1 BERKSHIRES — Herd boars Winona Royal Champion and Charmers Star Masterpiece. Best blood lines. Immunized stock. Ayrshire cattle. Arlington Smith, Visalia

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

FINE REGISTERED BERKSHIRE GILTS (open), sired by double grandson of Grand Leader 2nd and out of Fashion Longfellow sows. F. B. Wulff, Route C, Modesto.

BERKSHIRE GILTS—Rival's Champion Best and Bandmaster blood lines. D. B. Wentworth, Napa.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

PRICED FOR IMMEDIATE SALE—Entire breeding herd, including Champion, First, Second and Silver trophy winners. The offering is composed of outstanding show animals, show prospects, their dams and coming fall show herd. Winnings of eight entries at State Fair and Butte County Exposition; 2 silver cups, 2 Champions, 6 Firsts, 2 Seconds, 1 third. Prices $20 and up. Haden Smith, Woodland.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

RANCHO RUBIO DUROCS—Nothing to sell at present; a fine bunch of gilts and a few extra good service boars for this fall. Elmer Lamb, Ceres, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class, purebred hogs, both sexes, any age.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

DOS HERMANOS DUROCS — A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND — The mellow, easy feeding type; 20 bred gilts due to farrow during October and November; 50 spring pigs, both sexes, sired by Billiken; every animal is cholera immune; Billiken was grand champion boar at the State Fair; a son was reserve grand champion and a daughter was grand champion sow. Why not get started right and with the best? Write for prices and for booklet on Chester Whites. C. B. Cunningham, Mills, Sacramento county, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

REGISTERED HOLSTEINS—Sires in service. Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

THE HENDERSON CO.—Breeders and importers. Registered Holsteins. Sacramento Bank Bldg., Sacramento.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

WANTED — Unbred Holstein heifers not over 18 months old. State price. Box 740, Pacific Rural Press.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

FOR SALE—Young purebred Guernsey bull sired by the famous Raymond of the Preel. Box 750, Pacific Rural Press.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

VERAMONT STOCK FARM — Purebred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS — Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

WANTED—75 to 100 high-grade Angora goats, not over three years old. J. A. Swall, Bishop, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and Importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL. Breeders, Importers of Hampshire sheep.

HORSES AND MULES.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

STOCKTON FOR PERCHERONS—Best by State Fair test. Winners for the last five years. H. G. Learned, Stockton.

REGISTERED SHIRES—Black Hawk Stock Ranch, Importers and Breeders, Diablo, Contra Costa county, Cal.

FOR SALE—16 horses and mares; in their prime. Address Thos. C. Still, La Panza, Cal.

MISCELLANEOUS.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., 8th and Townsend Sts., San Francisco.

FOR SALE OR EXCHANGE—18-month registered Holstein bull; fine individual; almost white heritage; want Guernsey bull of same age and same qualifications. A. J. Ludwig, Hynes, Cal.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FREE FEED FOR STOCK—Acorns for hogs, grass for cattle and sheep; get State and Government land; new booklet free. Joseph Clark, Sacramento.

State Dairy Cow Competition for August

The report just issued by the University of California covering the State Dairy Cow Competition for August shows that nearly 150 cows under test produced over 40 pounds each of butterfat for the month. The cow giving the largest number of pounds was a Holstein, Ninette Aine Pauline, owned by the Palo Alto Stock Farm, she producing 2,732.4 pounds of milk, with 3.27 per cent fat, making a total of 89.349 pounds of butterfat.

The second largest production was made by a purebred Holstein, Aralia De Kol Mead, owned by A. W. Morris & Sons of Woodland, which produced 2,110.5 pounds of milk, containing 4.11 per cent fat, or a total of 86.742 pounds of butterfat.

The highest record made by a grade cow was from a grade Jersey owned by J. W. Coppini of Ferndale, the record being 1,109.8 pounds of milk, 6.4 per cent, total butterfat 71.027 pounds. Mr. Coppini had eighteen cows in the contest, all Jerseys, which gave from 44.078 up to 71.027 pounds fat each.

Winner of Pacific Rural Press prize for August: Iver Iversen, Arcata, average production of butterfat by five grade Jerseys 64.740 pounds. Winner of McAlister & Sons' prize: J. W. Coppini, Ferndale, highest production of butterfat by a grade cow 71.027 pounds. Average production of competition cows for month of August (222 cows, 173 days in milk on the average): 1,038.1 pounds milk, 44.893 pounds fat (range, 89.349 to 11.231 pounds).

COMPLETED TEN-MONTH RECORDS.

Name of Cow	Age	Milk	Butter Fat Lbs.	Butter Fat Ave. %	Total Credit for Butter Fat
Willowmoor Vesta 4th	4—5	14,100.9	612.057	4.34	661.022
Imp. Cherry of the Effords III	4—7	13,081.8	614.841	4.69	645.583
No. 30	4—	14,907.8	485.073	3.25	523.879
Edith	5—	10,704.2	496.787	4.54	496.787
Beauty	5—	12,840.1	465.950	3.62	465.950
Pearl of Venadera	10—6	7,186.9	433.288	6.02	433.288
Daisy	4—	8,537.2	395.902	4.64	427.574
No 485	4—5	7,387.7	389.744	5.27	420.924
Pet of Green Gold	3—	5,567.7	353.615	6.17	417.266
Wanda of Venadera	10—3	6,706.4	416.319	6.20	416.319
Loretta of Green Gold	2—11	5,111.1	330.760	6.47	410.142
Agnes Colantha	5—3	10,355.2	404.296	3.84	404.296
Dorris	7—	9,563.1	404.131	4.23	404.131
Willowmoor Cherry	7—6	8,459.1	391.715	4.64	391.715
Martha of Venadera	2—	4,671.4	267.348	5.72	347.552
Lora of Venadera	2—2	6,522.4	308.788	4.73	308.788

Owners of Cows—1, E. B. McFarland; 2—8, Hollow Hill Farm; 3, Napa State Hospital; 4—9—11, J. M. Bomberger; 5, S. A. Mealey; 6—10—15—16, Guy H. Miller; 7—13, Bohnett Bros.; 12—14, Regents of the University of California.

MILO SILAGE NEEDED IN IMPERIAL VALLEY.

[Written for Pacific Rural Press.]

Milo has proved a fine silage in Imperial Valley, where the grain was allowed to grow reasonably mature, and where water was added as it was cut if the leaves were much dried up. Growers there may well lay up a store of succulence to use instead of turning cows onto sticky fields or alfalfa in winter. Frank Van der Poel, Jersey breeder of El Centro, is one who has tried this out thoroughly, having had silage for a season or two, then having done without it last winter because of the previous summer's drouth. He is putting in a supply now.

KEEPING DAIRY LABOR.

To the Editor: Answering your inquiry, I have had very good success with my men this year. I hired an extra man in the spring to cut the work down and make it easier all around. Let me suggest: "Hire the men early; get the best men obtainable; find out if possible how long they usually work in one place; and give them the best accommodations practicable."

The old rule in Humboldt county is twenty cows for every man, besides the man who operates the dairy. This year I had seven men for 120 cows. I have tried to keep the labor of caring for cattle reduced as much as possible.

C. S. RASMUSSEN.

Loleta.

DAIRY MACHINERY.

[Written for Pacific Rural Press.]

Dairy Machinery Row at the State Fair was the most compact and complete exhibit ever installed there. It included Calfway, Sharples, Empire, and Hinman milking machines; Sharples and De Laval separators; De Laval silage cutters and jointed silage distributing pipe, feed choppers, centrifugal pumps, and other dairy apparatus. Several Alpha engines were hitched to various machines; and some were on small trucks for convenience in moving from one job to another. All the milking machines were operating, and curious visitors were all the time sticking their fingers into the teat cups. A cement stave silo, 10x40 feet, costing $400 set up, always had a crowd.

DRY IMMATURE CORN FOR SILAGE?

It is suggested that immature corn might make better silage if it were dried out a day after cutting but before chopping.

The Livestock Industry Committee appointed by the Government to consider certain problems of livestock conservation, production, and marketing essential to the welfare of the nation has submitted its report.

Third Sacramento Sale

150 REGISTERED HOLSTEINS

STATE FAIR GROUNDS SACRAMENTO, CAL.

OCTOBER 30-31, 1917.

This will be absolutely the best average lot of cattle in breeding, individuality, and condition yet sold at Sacramento.

AND EVERY ANIMAL OVER SIX MONTHS OF AGE IN THIS SALE HAS BEEN TUBERCULIN TESTED AND IS SOLD SUBJECT TO RETEST BY THE BUYER. THE CONDITIONS OF THIS SALE OFFER THE STRONGEST SAFEGUARD TO THE BUYER YET ATTEMPTED IN A WESTERN SALE OF HOLSTEINS.

You will find a wonderful lot of good individuals in this sale, and as to breeding—there are sons and daughters of 38-pound, 37-pound, 34-pound, 33-pound, 31-pound, and 30-pound sires, out of dams with records up to 24.90 pounds. There are daughters of A. R. O. dams with records up to 29.53 pounds. There are grand-daughters of such sires as King of the Pontiacs, Pontiac Korndyke, Sir Veeman Hengerveld, Colantha Johanna Lad, Aaggie Cornucopia Johanna Lad, and other famous sires. There are two daughters of King Walker 5th, one of them out of a 29.53-pound dam and the other out of a grand-daughter of Pontiac Korndyke, and there are many more of the real stars in this sale that will be listed in future announcements.

And think of the calves these splendid cows and heifers are carrying, as they are bred to such sires as Sir Skylark Ormsby Hengerveld, the only sire on the Pacific Coast that has three 30-pound daughters; It, son of Pontiac Clothilde De Kol 2nd, 37.21 pounds butter in 7 days, 1,271.6 pounds butter in one year, both world's records when made, and his sire is out of Pietertje Maid Ormsby, 35.56 pounds butter in 7 days; Sir Aaggie De Kol Acme, son of Aaggie Acme of Riverside 2nd, 35.36 pounds butter in 7 days and now well along on a year's record that promises to exceed 1,300 pounds butter; King Segis Alcartra Prilly, out of a 30-pound four-year-old grand-daughter of the famous cow Prilly, and by the $50,000 bull King Segis Pontiac Alcartra; King Segis Alcartra Abbekerk, another 30-pound son of the $50,000 bull; Prince Gelsche Walker Korndyke, one of the best sons of Prince Gelsche Walker; King Morco Alcartra, son of Tilly Alcartra; and there will be more yet about the bulls the females in this sale are bred to.

WRITE FOR CATALOG NOW. IT WILL BE OUT ABOUT OCTOBER 20.

California Breeders Sales and Pedigree Company

J. M. HENDERSON, JR., Pres. C. L. HUGHES, Sale Mgr.

SACRAMENTO, CALIFORNIA

125 REGISTERED HOLSTEINS

At Public Auction McClure Farm

INCLUDING as it does the complete dispersal of three herds, this sale affords an unusual opportunity to the dairyman and breeder to select choice breeding stock.

This sale marks a complete dispersal of the herds of Ernest Otto McClure, Santa Ana; A. Satterberg, San Jacinto; P. H. Jarrett, Lancaster, augmented by high-class consignments from McAlister & Sons, Chino; Santa Anita Rancho, Santa Anita; Aro Herd, Buena Park, and R. Nadeau, Saugus.

The offering of bulls is featured in this announcement, for there are several that should find favor with owners of registered herds, and all of them are of the right type and breeding to go into the best dairy herds. King of the Pontiacs is universally conceded to be the greatest proven sire of the breed, and in this sale you will find one of his best sons, also 14 of his grandsons, a greater number than has been offered in a western sale before.

Then there is a son of a great 34-pound cow, very richly bred, and a valuable sire for anyone to own.

Other bulls listed in this advertisement are of breeding so famous as not to require extended comment here, and there are many high-class individuals among them.

22 CHOICE BULLS in this SALE Including:

King Pontiac Netherland Segis, son of King of the Pontiacs and out of a good daughter of King Segis Pontiac.

The first son of the great Colantha Johanna Lad ever sold at auction in the west, and he is out of a grand-daughter of Pontiac Korndyke.

A son of King Morco Alcartra, son of Tilly Alcartra, and out of a 17.31-pound two-year-old daughter of Prince Gelsche Walker.

A son of Segis Pontiac De Kol Burke out of a 634.48-pound yearly record two-year-old.

A son of King Korndyke Pontiac out of a 22.88-pound junior three-year-old daughter of Colantha Sir Pontiac Aaggie.

A son of a 19.05-pound junior three-year-old daughter of Prince Gelsche Walker and Miss Blaney.

A son of a 34-pound daughter of Sir Sadie Cornucopia.

A son of King Pontiac Topsy out of an 18.22-pound junior four-year-old daughter of Pietertje Hengerveld's Count De Kol.

A son of King Segis Pontiac Jannek out of a daughter of King Hengerveld Segis 8th.

A son of King Segis Pontiac Jannek out of an 18-pound junior three-year-old daughter of a 21-pound cow.

A son of Judge Hengerveld De Kol 6th out of a grand-daughter of Pontiac Hengerveld Parthenea.

Ten sons of King Pontiac Netherland Segis out of well-bred dams, many with A. R. O. records.

NOTE: There are 14 grandsons of King of the Pontiacs in this sale.

SANTA ANA, CAL.

OCTOBER 16-17, :: :: 1917 :: ::

AND PROBABLY no breeder in the State who wants to buy high-class breeding females will feel that he can afford to overlook this sale, which will include:

A 28-pound cow and her three daughters; a full sister to a 31-pound junior two-year-old; 18 grand-daughters of King of the Pontiacs; a grand-daughter of Rag Apple Korndyke 8th; 4 heifers sired by a 29-pound grandson of King Segis; 12 A. R. O. cows with records up to 28.43 pounds butter; a grand-daughter of King Segis Pontiac, her seven nearest dams averaging 23.10 pounds butter in seven days; a grand-daughter of Hengerveld De Kol; a grand-daughter of Sarcastic Lad; richly bred cows and heifers in calf to a son of King of the Pontiacs and to a son of Colantha Sir Aaggie out of a 28-pound daughter of Colantha Johanna Lad.

And don't forget that every one of these choice animals over six months of age has an individual tuberculin test certificate. Catalog of sale mailed on request.

Under management of

CALIFORNIA BREEDERS SALES & PEDIGREE CO.

C. L. HUGHES, Sale Manager, Sacramento, Cal.

Auctioneers—Col. Ben A. Rhoades, Harold B. Rhoades.

Sorghum Poisoning and Treatment

To the Editor: I have cut my milo maize, first crop, and it is now ready to cut again. Will there be any danger of prussic poison if I let my milch cows graze on the milo as it grows up after this second cutting?—P. H., Auburn.

Such growth as you describe is more likely to be poisonous than any other stage of the plant and should therefore be fed with caution.

The following outline of sorghum poisoning and treatment is from a circular issued this week by Dr. C. M. Haring of the University of California Experiment Station:

Poisoning by Johnson Grass and Sorghums.

[By Dr. C. M. Haring in a circular of the University Experiment Station.]

For many years it has been recognized that green sorghums, when stunted or in the stage known as "second growth," may sometimes be poisonous to stock. In California losses of cattle and sheep from Johnson grass poisoning are frequent, but complaints of poisoning from sorghums are rare.

The poisonous property of all the sorghums is due to hydrocyanic acid, popularly known as prussic acid. When young and green, or when stunted, the following forage plants should also be fed with caution: Johnson grass, Sudan grass, milo, feterita, kaoliang, dura or Egyptian corn, and shallu.

Symptoms and Diagnosis.—Hydrocyanic acid has the most rapidly fatal action of any known poison. In dilute form or when contained in sorghum small quantities will cause severe symptoms in a few seconds. The animal staggers or falls, the eyes are motionless, the heart action is slowed, and the respirations are slow and convulsive. All animals are sensitive to prussic acid, but sorghum poisoning occurs chiefly in cattle and sheep.

In non-fatal cases the symptoms observed have varied from slight signs of vertigo and cessation of rumination to severe convulsions. In cattle and sheep bloating may occur as a secondary effect. Recovery is rapid and most animals that recover appear normal the following day, but in some instances cattle show weakness and a staggering gait for several days.

Precautions.—The forage is not likely to prove dangerous when grown with an ample supply of moisture. No losses have been reported from feeding grain heads, silage, dry fodder, or stover.

If it becomes necessary to pasture stock on sorghums which are suspected to be in the dangerous stage, the crop had better be cut and air-dried before being fed to stock, or it may be made into silage. Another plan is to test it first by turning in an animal of inferior value. If it refuses to eat, it is probable that the plants are not safe. Hungry stock are, of course, much more liable to be fatally poisoned than those given some feed previous to turning into the field.

Treatment.—Cattle or sheep which are down in the hot sun should be protected by an improvised shade. If the ground is sloping, the head should be turned up hill, care being taken not to interfere in any way with respiration. When bloating occurs, it should be relieved by puncturing the paunch with a trocar and canula, or a sharp knife, thrust through the left side at a point a hand's breadth in front of the hip bone.

Hydrogen peroxide has been recommended as an antidote. The dose for a cow should be at least a pint mixed with an equal quantity of water. An ever-ready antidote is prepared as follows:

Bottle No. 1—Select a strong bottle of at least a quart capacity, having a long neck suitable for use in drenching cattle. Place in this bottle one pint of water and one ounce of sodium carbonate (ordinary washing soda will do). Keep tightly corked.

Bottle No. 2—This should contain one-half ounce of iron sulphate (copperas) dissolved in a pint of water. Keep tightly corked.

When needed, pour the contents of Bottle No. 2 into Bottle No. 1, shake and administer immediately. A cow should receive the entire quart of mixture. For a sheep one-half pint of the mixture would be sufficient. This antidote would be valuable also for cases of paris green or other arsenical poisoning.

Attempts to administer the drenches should be cautious to avoid choking, as the animal may be unable to swallow. The antidote may be given to cattle and sheep through a canula inserted into the paunch through the left side in the manner used for relieving bloat.

Glucose, corn syrup, and molasses are said to be beneficial to cattle in case of prussic acid poisoning and may be given in large quantities.

RICE "MIDS" INJURE HOGS.

[Written for Pacific Rural Press.]

"I fed a ton of rice mids, but never again," said Will Bernstein, Poland-China breeder of Hanford. "They haven't enough food value to justify the danger. Hogs could live through on alfalfa hay, but they would starve on rice mids alone." "I lost fifteen out of thirty pigs by feeding rice mids with barley and tankage to four pregnant sows for sixty days before they farrowed in the spring of 1916," said R. L. Robinson, Chester White breeder of Fair Oaks. "These feeds were given separately in a self-feeder, which might have been the mistake."

"Ground rice paddy was not satisfactory when fed with equal quantities of ground barley," said Haden Smith, Duroc breeder of Woodland. "It is necessary to get the hull off for young stock, though some people feed rice paddy whole in self-feeders. Ground rice hulls, however, are like ground glass. I removed most of mine by opening the burs of the grinder so it would loosen the hull without destroying the kernel. Then I floated the hulls off in a tub of water, but the remainder did not make good feed then."

18th ANNUAL CONVENTION

California Creamery Operators Association

PETALUMA, October 4-5-6

Interesting, instructive program. Addresses by creamery, dairy and cheese experts.

Take a few days' rest and get acquainted with other good fellows in your line. Bring the ladies.

Reduced rates on all railroads. Tell the agent where you are going and ask him for a receipt.

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POWERFUL DISINFECTANT

FLUSH COWS AFTER CALVING
Most valuable for bringing after-birth and also for treating barren cows and controlling abortion. B-K kills the infecting germs, heals the uterus, removes the slime and acid—no odor—no straining. More effective than lysol, Lugol's solution, carbolic and cresols—much safer. Send for our Bulletin 52 "Contagious Abortion" and testimony from leading breeders. Special Trial Offer
General Laboratories—Madison, Wis.
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LAST CALL!

Hembree Jersey Sale

ORLAND, CAL.

OCTOBER 10, 1917

Our entire herd goes in the sale, including

OUR EXHIBITION STOCK

which won the bulk of big prizes at Sacramento, 1917—Two Firsts and Grand Champion on bulls; Five Firsts, Grand Champion, Junior Champion and Reserve on cows; First Authenticated Cow, First Get of Sire, First on Aged Herd, Young Herd and Calf Herd, and a whole string of Seconds and Thirds.

If you want the HIGHEST TYPE of the JERSEY BREED be at this sale and buy at your own price.

Send to undersigned at Monmouth, Oregon, for big illustrated sale catalogue.

Hermosa Vista Jersey Herd

C. P. HEMBREE, Owner J. W. HUGHES, Auctioneer
FOREST GROVE, OREGON

Production and Show Quality are combined in

GIBSON HOLSTEINS

Cows won First in both classes in the 3 days' butterfat contest of all breeds.

In the Show Ring, won 4 First prizes, 8 Seconds, and 3 Thirds.

IS NOT THIS THE BLOOD YOU WANT IN YOUR HERD?

J. S. GIBSON COMPANY
Box 97 Williams, California
The name GIBSON insures quality

SAVE YOUR CALVES

Raise Them Without Milk

Why throw away money by knocking them in the head or selling them for a dollar or two at birth when they can be raised or veaned WITHOUT MILK at a fraction of the cost of feeding milk. You profit both ways selling the milk and still have the calves.

The Best Milk Substitute to Use is

Ryde's Cream Calf Meal

the most successful milk substitute on the market—the standard of perfection. Thousands of farmers are using it and cannot say enough for it. It is NOT a stock food—it's a complete food that long experience has proved to be right for rearing calves. It contains all the nutrition of milk prepared in the most digestible form and is sold on a money back guarantee to give results.

BOOKLET "MILKLESS CALVES" FREE

100 lbs. equal to 100 gallons milk—Try it on your calves.

Watertown, Wis., June 18th 1914
Ryde & Co., Chicago, Ill.
Gentlemen—Above is a picture of our 4 months old calf, which I fed on Ryde's Cream Calf Meal. I followed your instructions closely. The meal can't be beat. (Signed) Alois Beck

GREAT WESTERN MILLS, LOS ANGELES

ASK YOUR DEALER FOR
El Dorado Cocoanut Oil Cake
for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address
EL DORADO OIL WORKS,
433 California Street, San Francisco

Tuberculous Milk Increases Hog Condemnation.

To the Pacific Rural Press—My Dear Sirs: I have a letter from Mr. F. L. Washburn of the Western Meat Company stating that the per cent of condemnation of hogs for tuberculosis in their recent killings has run as high as 7 per cent for one week and between 8 and 9 per cent for another. This high percentage of tuberculosis in hogs would seem to be due to the feeding of raw skim milk from tuberculous cows. At a time like this, when pork products are so high and milk products so valuable, it seems the utmost folly for dairymen to take the chance of feeding raw milk from questionable herds to their hogs.

I would suggest the propriety of your urging, through the columns of your paper, that a special effort be made to secure the practice of pasteurizing or boiling milk that is fed to hogs. The freedom of California hogs from tuberculosis would automatically raise the price of hogs for all sellers.

Yours very truly,
GORDON H. TRUE,
University Farm, Davis, Cal., September 24, 1917.

The Stanislaus Fair a Splendid Success

(Continued from page 321.)

of that breed. A. B. Humphrey of Escalon took grand championship on Bullion of Edgemoor, which was first bull calf at P. P. I. E. Mr. Humphrey also took first on a bull calf sired by Don Adonis and third on a junior yearling heifer out of Golden Maid of Mable Lane, the cow which recently finished a year's test within a pound of the world's record. L. D. Smith of Berkeley made some winnings on stock of his own breeding, and E. A. Couture took first on a bull sired by Humphrey's Don Adonis. B. A. Nixon showed grand champion and reserve grand champion cow and reserve champion bull.

CHAMPION SWINE SHOW.

Durocs, Berkshires, Poland Chinas and Yorkshires all included State Fair grand champions, though none of this year's State Fair Durocs were there. The State Fair grand champion Poland China two-year boar yielded to H. I. Marsh's four-year I. B. A. Wonder, partly, as Judge Miller said, because he showed signs that he may be not quite so good at the same age. Mr. Marsh also had on exhibit his splendid Model Major boar, not entered in the competition. A grandson of the latter, Major Wonder, became junior and reserve grand champion. His daughter, Big Beauty, was made reserve grand champion sow. Marsh won twelve firsts, including get of sire and produce of dam, besides a prize for fat barrows of any breed.

Humphrey's State Fair grand champion Berkshire boar was also grand champion at Modesto, and his Fashion Longfellow Princess became senior and grand champion sow. Humphrey also had the junior champion sow, and took twelve firsts, including first on the get of Grand Leader 2nd and fat barrows of any breed. Geo. M. York of Modesto showed the junior champion boar, and Geo. Kounias of Modesto took first on Kounias Leader, a junior pig by Star Leader; also second aged boar. This was Mr. Kounias' first Berkshire exhibit.

In Durocs, Elmer Lamb's senior boar pig Orion Wonder yielded grand championship to J. P. Daggs' older boar, Daggs' Good Enuff, but became junior and reserve grand champion. Mr. Lamb also took reserve grand championship on sow pig, first on get of Orion Model, and second on produce of dam sired by Orion Model. D. P. Ward of Ceres took second prize on a gilt out of a daughter of Geo. Wood's sow that had twenty-five live pigs in one litter.

Riverina Farms of Modesto were sole exhibitors of Yorkshires with their grand champions.

AUTOS, MACHINERY, ETC.

Only one tractor was there, the small sized Sandusky.

Of dairy machinery there was a very animated aggregation, keeping things noisy and alive all around their rather pinched quarters. Calfway and Empire milking machines were there; De Laval had a full line of separators, engines, and dairy machinery; also a silage cutter in operation. A Smalley force-feed silage cutter was also in motion. A Deere hay loader was busy scratching the air to show how it can save labor in the hay field.

All hail, say we, to the biggest and youngest real agricultural and livestock county fair!

Grand Champion Shorthorns

"GREENDALE SULTAN"
Grand Champion Shorthorn Bull—California State Fair, September, 1917.

Herd combines some of the strongest blood lines of this country and Great Britain.

THOMAS T. MILLER
314 South Normandie Ave., LOS ANGELES, CAL.

Hillcrest Stock Farm

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BREEDER OF

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Shropshires sired by rams imported by me from England

The Famous Glide Merinos

Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
First Prize Breeders Young Shorthorn Herd at Sacramento

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SHORTHORNS
BERKSHIRES
Hopland Stock Farm

HOPLAND, CAL.

Registered HERD and RANGE BULLS by RIGHT CHOICE 282951 and TULE KING 304655. VISIT OUR EXHIBIT AT STATE FAIR.

A limited number of BOARS and GILTS sired by IOWANA RIVAL MAJESTIC 194736, RESERVE GRAND CHAMPION STATE FAIR, 1916, and a son of RIVAL CHAMPION 112500.

San Francisco Office 1210 Flood Building

INNISFAIL DAIRY SHORTHORNS

GLENSIDE ROYAL 408155
Grand Champion Sacramento, 1916; Modesto, 1917

Our herd of registered Shorthorns has been carefully selected from the leading milk producing strains of the breed and is being developed along the same lines in our hands. The herd is headed by

GLENSIDE ROYAL

a prize-winner at the 1913 International and grand champion at Panama-Pacific Exposition.

Sired by him and out of large cows of good milk production, we offer for sale a few choice young bulls.

Our entire herd is tuberculin tested.

Alexander & Kellogg, Suisun, Cal.
Farm on Grisly Island.

SCOTCH SHORTHORNS

We have just purchased the entire herd of Shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

CARRUTHERS FARMS, -- MAYFIELD, CAL.
City Address: Hearst Building, San Francisco, Telephone Sutter 1311

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

THE POULTRY BUSINESS UNDER WAR CONDITIONS.

The poultry industry in England is getting down to bedrock. All poultry shows have been abandoned long ago, for it was soon discovered that they could get along better without the Fancy than they could without Utility. Mr. Edward Brown has lately come over, and is one of the leading lecturers on poultry in England. Prof. Brown stated, in a lecture at Massachusetts Agricultural College, that the people of England are now devoting their best energies to building up good utility flocks, and he thinks we in this country would do well to profit by their experience. "Utility in poultry keeping is an absolute essential under high-priced feed." Mr. Brown also says: "No best quality grains of any kind are allowed to be fed to poultry; nothing but the poorer grades of oats and barley, and no wheat of any kind." Another statement that we would do well to notice is this: "All of the large commercial poultry plants were hard hit by the war, but the farmer and the small holder or back-yard lotter produces most of the eggs and poultry, and they are making money." He says: "Money is spent freely for both eggs and chicken, the people responding to war prices without a murmur for the fresh eggs and table poultry." He suggests that here, where there are so many small ranches, every farmer should raise enough poultry to serve his own needs and several other families.

GREEN FEEDS HELD HIGHLY.

Mr. Brown says in England they are placing a greater value than ever on vegetables and green feeds of all kinds, even feeding weed seeds and weeds; that the cost of producing poultry since the war has not increased more than 15 per cent because of the saner and more economical methods of feeding; and while there is no real fattening of poultry, as formerly, there are very creditable carcasses turned out. What is more to the point, the eggs and poultry are being produced on feed and insect life that nothing else will eat and that would be almost a total loss except for poultry.

Now the question is: "Are we going to profit by this man's advice?" He is an eminent authority, knows the conditions that exist in England, France, Belgium, Canada and Australia, and he says "farmers are the only people who can make profit in the poultry business under war conditions."

HENS LAY WELL WITHOUT WHEAT.

In my own little flock I have proved to my satisfaction that wheat is not indispensable in the production of eggs, for the hens laid just as well without wheat as they did with it. True, most other feeds take a little more labor, but that is all in the game, and in our climate, where we can raise greens and also vegetables all the year round, there ought surely to be money made from poultry, if it can be made anywhere in the world. Now is the time to plant and sow your cheap poultry feed, and let there be a variety of it. The quickest to come into use is green barley, rye or broom corn. Then get out a patch of mustard, another of kale, plant some ruta bagas or Swede turnips; they grow fine in winter; in fact, there are so many things that grow well in winter that you could hardly miss it. Beans and beets are exceptions, being too tender. Cos lettuce is a good winter grower and furnishes a lot of feed.

Then, of course, comes the question of culling out the drones and raising nothing but the best. There will never be much headway made in selection until everybody breeds from their own stock. That is the only way to know what sort of chicks you are hatching. Know the parent stock at first hand; this is almost the first essential in culling, because if you don't begin with the parent stock you have a long, tedious job before you.

GETTING READY FOR WINTER.

How am I to get ready? See that your roof is tight over your chickens; open up all dirty, dusty and foul pens, brooders, boxes, nests and hovers; clean out the dirt, then spray with some good commercial disinfectant. Get one with a good, strong odor, that will charge the air with a clean, wholesome smell, in place of the foul one the chickens have been absorbing. There's a whole lot in having a sweet, wholesome odor to breathe during the long hours the chickens are on the roost or in a box. A good smell is productive of health and a foul one is a breeder of vermin and disease. Now that is quite a difference, and it's a fact that no amount of feed will keep poultry healthy if they are compelled to breathe foul odors during the night. If your houses have dirt floors, it will be a good idea to take the top off, say six or eight inches, wheel it out on the land where you are going to grow your winter garden, and put the same amount of clean, fresh earth in the houses—makes your chickens happy and healthy and your garden patch grow like weeds, thus killing two birds with one stone. Oh, yes, there's lots for the poultryman to do in getting ready for winter—that is, if he is keeping poultry for profit.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

LESSONS LEARNED AT THE STATE FAIR.

The most noticeable feature was the way some of the exhibitors had their birds trained and conditioned. To win in any competition the birds must be in the pink of condition. A bird that is out of condition appears weak and does not show his good points. One of the best conditioning grains is sunflowers, which put a natural gloss to the feathers. Raw meat, too, will make a red comb and a healthy skin color. Beet leaves, lettuce, cabbage and lawn clippings may be used for green stuff. Onions, too, are an excellent conditioner.

Training can only be accomplished by working with the birds, first at night, then after the birds are accustomed to the attendant, they may be trained during the day. Sufficient training will make the birds carry themselves in any way desired. A certain touch will make the bird lower his tail. Some of the birds at the fair were trained to perfection, while others, some novices and others were old exhibitors, neglected it. It is needless to say that the birds that were not trained did not win in competition. There were birds in the show rooms that had ruffled, dull feathers, the shanks were dirty and the comb partly dried up. Clean up your birds before shipment, and then see that the coops are clean. It does but little good to ship clean birds in dirty coops. Each bird should be placed in separate compartment if shipped any distance, for one bird will dirty another. The expense of shipping in this manner may be a little more, but it is the only way to keep the birds' plumage in show shape. See that the coops are provided with cups for drinking water. Some feed must accompany the shipment if the distance shipped is great. The express company's employees will care for the birds, as it is part of their instructions.

Poultry Breeders' Directory

Rates in this directory, 3c per word each issue.

OUR GEESE AND BR... ...YS win again; champion sweepstakes ... for the best pair of birds in show; for size, vigor and quick maturity, ours are best East or West; stock and eggs in season; also Collie Pups; correspondence solicited. John G. Mee, St. Helena, Cal.

HENRY SHARP'S WHITE LEGHORNS win at State Fair 1st, 2nd, and 3rd on cockerel; 1-2-3 on pullets; 1st cock; 1st pen and special for 2nd best pen in show. Route 1, box 187, Selma, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

DON'T QUIT — We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

FOR SALE—Buff Orpington and Buff Leghorn hatching eggs, $1.50 per 15. Splendid breeding hens. Buff Leghorn pullets and cockerels. The Ferris Ranch, Rt. 2, 144D, Pomona, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; fall chicks; eggs; cockerels. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal.

WHITE PLYMOUTH ROCKS—Hatching eggs from splendid layers. Mrs. J. B. Tupper, Route A, Ceres, Cal.

MAMMOTH BRONZE TURKEY HENS—Two years old, $5 each. Toulouse geese, $3 to $5 each. Mrs. Coghlan, Walnut Creek, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.

Try COULSON'S EGG FOOD FOR GREATER EGG PRODUCTION FULL PARTICULARS IN FREE BOOK "CHICKENS FROM SHELL TO MARKET" Coulson Co. PETALUMA, CAL

$2.50 EVERY SUNDAY

To SACRAMENTO AND RETURN

Going and returning trip must be made on Sunday. Other round trip fares in effect for week ends.

Fast electric trains
Leave San Francisco
Every two hours
During the day.

"98 per cent of all trains on time."

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SYMON BROS. WRECKERS

The Largest Yards The Greatest Stock
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More than all others combined.

Whatever you want we have. New and second-hand building material of every description. Wire fencing, chicken to cattle. Get our price on hog and barb wire, lumber, shingles, corrugated iron, doors, windows. Plumbing in all its branches. Three carloads nails, 3 carloads bath tubs, bought before advance; 3,000 toilet seats, $1.35. We are protected against unreasonable prices. Share our profits. See us for estimates.

SPECIAL FOR ONE WEEK:

New 5-ft. bathtub, guaranteed perfect, complete, all fittings, $24.

Block at 11th and Market Streets, San Francisco.

SYMON BROS., Leaders in Building and Ranch Accessories.

Specialists in Specimen Stock for Landscape Work.

Hardy Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.

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Agricultural Investigation, Drainage. Legal Engineering and Water Right Reports. Alkali and Marsh Land Reclamation. Appraisal of Irrigation Systems. Management and Development of Lands. Ranches and Irrigation Projects. Soil Surveys.

58 SUTTER ST., SAN FRANCISCO, CAL.

Science Says Buttermilk

Bulletin 162, just issued by the Department of Agriculture, states that Buttermilk is the only preventative of White Diarrhoea. It has been proven that many birds apparently in perfect health have these germs in their system and that they are transmittable to their progeny. Science has discovered that the Lactic Acid Bacilli of Buttermilk kills these poison germs. Write to Berkeley for this important bulletin, free.

The Dry Buttermilk in GLOBE A-1 BUTTERMILK MASH contains 10,000 live Lactic Acid Bacteria to the cubic centimeter.

Globe A-1 Buttermilk Mash is a high protein feed, free from any filler.

Globe A-1 Buttermilk Mash will prevent bowel troubles, keep your flock in glowing health, produce more eggs to market, better eggs to hatch.

Costs no more than non-buttermilk mash.

Satisfaction or Money Back.

GLOBE MILLS, LOS ANGELES

Write at once for valuable feeding information and sample, free.

Buttermilk GLOBE A-1 Dry Mash

Boyd's TRADE MARK

Sash, Doors, Millwork, Roofing, Hardware, Paints. Let the Builders' Bargain House save you money on

All building materials. Send your building list for Boyd's low estimate or write for our free catalog of a thousand building bargains.

The Frederick Boyd Co. Inc.
[263] Westlake Avenue, Seattle

Mrs. Best's Letter.

A HOOVER LUNCHEON.

My Dear Friends: One of the large clubs of the bay section gave a Hoover luncheon lately that was a very interesting affair. The menu was carefully worked out to contain the required number of calories and the proper proportion of fats, protein, and carbohydrates. The number of calories necessary for a woman at light work each day is estimated at 2,160, and as breakfast is usually a light meal this luncheon totaled to 814 calories.

The menu for this luncheon was planned on the Hoover policy of utilizing the perishable articles and the conservation of meat, and consisted of a combination salad, Hoover cutlet, stuffed pepper, a slice of bread and butter, and lemon pie with a cup of tea.

The combination salad had slices of tomato, cucumbers and string beans marinated with French dressing and served on a lettuce leaf.

The Hoover cutlet was made of well-cooked rice, seasoned and shaped like a cutlet, rolled in fine bread crumbs and baked an appetizing brown. Over this was poured a cheese sauce which was made by adding cheese to a white sauce. The stuffed pepper, which was served with the cutlet, had for filling tomato, chopped celery, bread crumbs, butter and seasoning and was served hot. A tablespoonful of butter was served with the slice of bread.

The lemon pie, which concluded the meal, was made with a tender meringue and made a very nice dessert. The table decorations were novel and different at each table. The president's table had for a center piece a large striped squash with tiny American flags and for greenery small carrots with their fern-like foliage.

Another table had a perfect cauliflower with the outside leaves removed for a center piece, while waving stalks of celery graced still a third and summer squash with tall green peppers made an attractive spot at another table. A huge head of lettuce and an artistic pile of green corn were seen at other tables. All of these vegetables were plentifully decorated with small American flags and the word Hoover was worked out with string beans at the guest table.

As would be expected, the speakers dwelt upon the assistance the American housewife may give by her use of perishable articles, leaving the canned and dried products for shipment to other parts of the world.

Californians especially, on account of the wide range of products in fruits and vegetables and the long growing season, are able to dispense with articles of food that other parts of our own country must use more freely. ROSABELLA BEST.

DRIED CORN RECIPE.

Editor Home Circle: In answer to your request for dried corn recipe, I am sending my grandmother's recipe, which we have used for years with good results.

Take corn ready for table use, cut from cob with sharp knife, care being taken not to cut into cob. Place in pans in oven and heat thoroughly. Corn must be stirred often while in the oven, as it scorches easily. When it commences to harden, place in cloth bags and hang over the stove until thoroughly dry. When thoroughly dry, place in jars, which may be sealed tight enough to prevent moths getting into the corn.

To prepare corn for the table, soak in enough warm water to cover for three or four hours, boil slowly for 15 or 20 minutes and season to taste. You will find this much more appetizing than canned corn.—Camilla M. Davie, Oakland.

THE HOME CIRCLE

DYEING A HAT.

Brush carefully the hat to be dyed. Dissolve in a cup of gasoline or benzine a small portion of a tube of oil paint of the desired color, stirring well and trying bits of material until the proper shade has been obtained. With an old, clean brush go over the hat evenly and put in the shade to air for several hours. The gasoline will evaporate, leaving the hat the desired color. Artificial flowers, laces, gloves, satin slippers, ostrich tips, etc., may all be colored in the same way. Care must be taken to not work near a fire or light. It is not wise to rub too hard when using inflammable liquids, as the friction may do damage.

PEPPER HASH.

Pepper hash is a variation of cold slaw and is popular as a relish with certain meats. Use 1 red pepper and 1 green pepper to 1 pound of cabbage and 1 teaspoon each of mustard and celery seed, with diluted vinegar to cover the mixture packed hard. Chop the cabbage fine, sprinkle with ½ tablespoon of salt per pound and let stand 1 hour—then mash down hard and drain. Chop the peppers fine and add, with seasonings, and then add the vinegar. This does not need to be sealed to keep. A couple of teaspoons of thick cream added before serving is a great addition.

MEATLESS SOUP.

Two good sized potatoes, 1 onion, 1 stalk of celery or ½ teaspoon celery seed, 1 cup tomatoes, 1 cup chopped cabbage, grind or chop together, add 2 cloves, salt and pepper to taste. Put all in kettle, boil 1 hour over slow fire and add 1 teaspoon of butter or other fat.

MOCK HAMBURG STEAK.

One cup of bread crumbs, 1 egg, ½ cup canned corn, 1 onion chopped very fine, pepper and salt. Mix well with 1 small can of tomatoes, make into cakes like hamburg steak, dip in Indian meal and fry in hot fat.

THE TEPARY BEAN AND HOW TO COOK IT.

[By Mrs. J. W. Hagar, Loomis.]

While the great harvesting of beans is progressing it will not be out of place to say a few words in favor of the tepary bean, which is new to the public, generally speaking. It seems to be gaining favor among consumers regardless of the report which appeared in one of the farm papers a few months ago to the effect that the tepary bean is of a greenish color and takes longer to cook than other beans. The truth is quite the reverse in both cases. The beans which the writer of the article saw or heard of was a shipment of teparies from Arizona which were harvested before the beans were thoroughly ripened; hence the color.

THE "POOR MAN'S" BEAN.

Many planted the tepary this year, some experimenting, while others, who had such good success with them last year, planted again this season.

In reality the tepary is the "poor man's" bean, as it has a great advantage over other beans in the way of cultivation, etc. It will do exceedingly well on dry soil without irrigation or cultivation, but bear in mind I am not advocating planting without cultivation, as we know anything will do much better if cultivated, but it is not necessary to irrigate.

Last year we planted fifteen pounds of seed and harvested 400 pounds, which was without cultivation or irrigation. This was no bumper crop, but goes to show what teparies will do if given half a chance.

The beans can be cooked the same as any other variety of beans, boiled or baked.

One noticeable feature about them is in soaking them for about five minutes one will find the skin considerably wrinkled, which shows how quickly water penetrates them, also helps to prove the quick cooking qualities.

The way one can tell the difference between the tepary and other small white beans is to place a bean in the mouth for one minute, when it will be found wrinkled, whereas the other varieties of beans will remain smooth.

Among the many answers to inquiries about the flavor, the majority pronounce it next to the lima, while others think it distinct from any other bean.

There were hundreds of acres of teparies planted this season, and as a suggestion to the extensive growers who wish to find a future market for the "little" tepary, I suggest distributing printed recipes for preparing the bean for the table. These could be given out by merchants who handle the beans, or distributed by the growers in any manner they deem best.

Below will be found two recipes:

BOILED TEPARY BEANS.

1 pound beans (soaked), 1 good sized onion sliced fine, 3 peppers (hot or sweet; hot gives best flavor), 1 small piece of bacon or fryings from ham or bacon. Parboil beans 15 minutes, drain, rinse in hot water, then cover with boiling water, add salt to taste and above ingredients. Cook 1½ hours.

BAKED TEPARY BEANS.

1 pound beans (soaked), ¼ to ½ pounds salt pork, 1 teaspoon mustard, 1 teaspoon salt, 1 tablespoon molasses or sugar. Parboil beans 15 minutes, drain, rinse in hot water. Put half of beans into bean pot. Pour scalding hot water over salt pork and score rind in half-inch strips. Put into bean pot above beans and pour in remainder of beans. Mix mustard, salt, molasses or sugar with hot water and pour over beans. Add boiling water to cover. Bake about four hours in moderate oven. Keep beans covered with water and also cover on pot until last hour, when pork may be drawn to surface and browned.

HOW MANY HOURS' SLEEP?

This is a rather trite question, and has been variously answered. As a matter of fact, there can be no arbitrary time set for this period of recuperation and repair. As in the matter of foods, every person is a law unto himself, and instinct and habit are perhaps the best guides. Robust persons, with superabounding vitality, will thrive on less sleep than those less fortunately endowed. Those given to hard physical labor will sleep longer (if permitted) than those less strenuously employed, for the waste is greater and a longer period is required for repair. Mental occupations militate against sound and prolonged sleep, as mental activity induces cerebral congestion and so antagonizes brain rest. The phenomenon of sleep is known to depend largely on partial withdrawal of the normal blood flow from the brain cells. Eight hours seems to be about the average human requirement, though the young and the old and the unwell need much more. As was said at the beginning of this item, instinct, untampered with, is a safe guide.—H. E. P.

PIMPLES.

A young man with a much bepimpled face asked the other day what caused pimples and how to remove them. Pimples are known medically as acne vulgaris, and are caused usually by chronic overloading of the stomach with indigestible material, accompanied with intestinal torpor. These wrong conditions lower bodily resistance, and certain germs work their way into the weakened hair glands of the skin, producing poisons the accumulations of which we call pimples. To get rid of pimples remove the cause. Eat plain, simple food, not too much of it, keep the bowels moderately active, and the pimples will in time take their departure. External applications are no good—soap and water excepted.—H. E. P.

DOWN EAST WHERE CODFISH SALT THE SEA.

I wish't I lived away down East, where codfish salt the sea,
And where the folks have pumpkin pie and apple sass for tea.
Us boys who's livin' here out West don't get more'n half a show,
We don't have nothin' else to do but just to sort of grow.

Oh, if I was a bird I'd fly a million miles away,
To where they feed their boys on pork and beans three times a day;
To where the place they call the Hub gives out its shiny spokes,
And where the folks—so father says—is mostly women folks.

—EUGENE FIELD.

Good Health.

[By H. E. Pastor, M. D.]

Don't Be Too Sure of the Wild Mushroom.

In a narrow strip of sidewalk lawn fronting the writer's house there springs up lately over night half a dozen or so of fungus growths which look temptingly like edible mushrooms. But we never take a chance. They may be mushrooms and they may be toadstools—in the popular sense that mushrooms are edible and toadstools are poisonous, neither of which assumptions, however, is entirely correct. We say we never take a chance, for there are cases of mushroom poisoning on record among persons who have certain pet tests for mushrooms of which they are cocksure. There are few, if any, infallible tests for distinguishing between the edible and the poisonous mushrooms of the wild varieties. The belief that if the skin can be easily peeled from the mushroom cap the growth is safe is not well founded, as peeling is possible also with some poisonous kinds. Likewise, the tarnishing of a silver spoon or coin placed in the vessel in which mushrooms are cooking to determine their poisonous character, is unreliable, for some varieties of both the poisonous and non-poisonous will blacken silver. Soaking or even boiling in salt water will not render poisonous mushrooms harmless. Some people think that the presence of insects on mushrooms is an assurance of their innocent character. On the contrary, the most virulently poisonous kind are subject to insect infestation. No, none of these tests is infallible. Only expert knowledge in distinguishing between the deadly and the innocent fungous growth furnishes any kind of safeguard. If you are not sure of your judgment, better let them alone. And if you are rash enough to ignore this advice and swallow the wrong kind, empty the stomach as quickly as possible with an emetic and take something in the way of a heart stimulant, not neglecting to call a doctor.

Canned Milk.

Is it good? Yes, better than most of the raw milk now sold in our large cities and delivered under unsanitary conditions twenty-four to forty-eight hours after milking. It is urged against canned milk that it contains none of the "vitamines" regarded latterly as so essential to the nourishing properties of food. Well, neither does the sterilized article distributed from the dubious milk wagon—dubious so far as sanitary appearances go. These vitamines—of more or less indefinite identity and function—are said by food experts to be destroyed at temperatures above 140 degrees Far., and this is lower than answers effectively for the process of sterilization. In the personal knowledge of the writer there are many—a great many—people who cannot drink the raw milk dispensed by the average city distributor without contracting some form of alimentary disorder, but who can use the standard brands of condensed milk with impunity and benefit. Raw milk is superior to any kind of manipulated milk when obtained fresh from healthy cows under sanitary conditions, but—

SANDWICH LOAF.

To make a nice round loaf of bread for sandwiches or luncheons, try baking it in coffee tins. Fill cans only about one-third full of the dough.

A man will fondle his tobacco-tags as real gain.

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CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

What About the Magpie?

To the Editor: What kind words can be said regarding magpies? They are reputed to be special bringers of swine plague. Their music is that of a buzz saw and their plumage the bizarre coloring used by human females of unsound mind. I cheerfully endure the mild robbings of the meadow lark because of the good they do in destroying grubs, grasshoppers, etc. I stop the team to avoid injuring a gopher snake, and I am "stuck" on the quail with their smart, modest "tailor-made" suits, neat figures and carriage and "nifty" bonnets; but unless something good can be said of magpies I shall enlist a Hun army to kultur them.—R. D. Kellogg, Richland.

[Comments by H. C. Bryant, Economic Ornithologist.]

The yellow-billed magpie is an interesting bird to most people. It is particularly so to the ornithologist. Although once very abundant in this State, this species has become greatly reduced in numbers, and is now to be found in certain localities in the Sacramento and San Joaquin Valleys only. Practically no complaint is received as to damage to crops caused by these birds. The food consists of grasshoppers, ants, worms, grubs, mice, carrion, seeds and waste grain.

Berkeley.

Are Those Russian Barns Empty?

To the Editor: The food administration's article about wheat in your issue of September 1 says: "For three crops the Russian grain has been held," etc. If a crop has been held for three years, and the conditions are anything like they are in this country, it is safe to say it has been utterly destroyed by weevil, etc. Again, if the first of the three crops has lain unsold, it is pretty safe to say that the second crop would be very much smaller; and if the second crop remained unsold, the third would be negligible. I do not believe the Russian farmer would sow merely to store the product, and if he is so dense that he would, he could not for financial reasons. Russian finances have not been in such shape that farmers could be carried for four years. It seems to me that when the Russian barn door is opened, the barn will be nearly empty. The end of the war will see the Central powers buying wheat at any price and in as large quantities as they can get. The immediate entrance of the Central powers into the markets of the world the instant peace is declared is a factor that seems to have been entirely ignored. And they will be willing to pay to the full extent of their ability for articles they have been used to and which have been denied them; and, remember, it is a bare market, without a single trace of reserves.—T. D. Carneal, Livermore.

Humboldt Dairymen Ready to Act.

To the Editor: The Dairymen's Association of Humboldt county held a special meeting in Ferndale, August 15, to consider the labor problem. The meeting was called largely as a result of reading editorials in the Pacific Rural Press. Much interest was manifested in the discussions. The dairymen present seemed willing to follow any plan if relief were in sight. No decisions were reached. I write to you to know if you would kindly suggest any definite plan of action that we could follow.—James N. Fulmar, Ferndale.

The Lord's great school furnishes few reviews for neglected lessons.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, September 26, 1917.

WHEAT.

The few transactions that have taken place since the announcement of the prices established by Government edict show selling prices to be as quoted below. Notwithstanding the Government prices of $3.50 to $3.56 for wheat in bulk, the quoted prices are obtained.

Sonora wheat $3.85
Northern Club 3.85
California Club 3.85
Northern Bluestem .....$4.10@4.15
Northern Red .....None offering
Russian Red .....None offering

BARLEY.

A considerable demand for barley, coupled with an indisposition of holders to let go, has hardened the market. Few stocks are coming forward.

Shipping, per ctl.....$2.60@2.65
Brewing ..... 2.60@2.65
Choice feed, per ctl. ..... 2.50@2.55

OATS.

Oats do not seem to be sought by buyers, at present; the only line which might excite interest being white oats, which are conspicuously absent from the market. Choice lots of red seed are held at $3.50.

White Feed, per ctl. .....None offering
Red Feed, per ctl. .....$2.90@3.00
Red Seed, per ctl. ..... 3.00@3.25
Black Oats $3.25

BEANS.

Garbanzos have advanced. Otherwise, there are no changes in values. The lack of activity in this market is explained by the fact that buyers and sellers alike are holding away from operations, awaiting developments likely to occur during the coming week, which will have a distinct bearing on values. The late rains brought no damage to the bean crop.

Bayos, per ctl. .....$ 8.00@ 8.25
Blackeyes ..... 7.00@ 7.50
Cranberry beans ..... 8.50@ 9.50
Horse beans ..... 3.50@ 4.00
Small whites (south) ..... 11.00@11.50
Large whites ..... 10.00@11.00
Limas (south, recleaned) ..... 11.50@12.00
Pinks ..... 8.00@ 8.75
Red kidney ..... 9.00@10.00
Mexican reds ..... 8.00@ 8.25
Tepary beans .....None offered
Garbanzos ..... 5.00@5.50

CORN.

Some samples of Egyptian are being shown which do not appeal to buyers, as the condition of the samples is not desirable. As suggested in last week's summary, owing to the unsettled condition of the Eastern corn market there have been no arrivals of Eastern yellow at this point, and none are expected in the immediate future.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk....None offering
California, sacked .....$4.00@4.25
Milo Maize ..... 4.00@4.25
Egyptian .....None offered

HAY.

Receipts of hay for the past week aggregate 2848 tons. From now on receipts should be decreasing as the fields are being rapidly cleared and hay will not be taken out of the warehouses until prices rise enough to cover carrying charges. It is becoming late in the season when rains may be expected and farmers with hay in the fields are so anxious to get it away that they are willing to haul long distances to ship by water, instead of waiting for railroad cars. Probably, in the next two weeks nearly all of the grain hay will have been handled. In the River districts large quantities of alfalfa hay are being moved, and quite heavy receipts can be expected here during the next two weeks. Local trade in hay is dull.

Wheat, No. 1 .....$19.00@21.00
No. 2 ..... 16.00@18.00
Tame oats ..... 19.00@21.00
Wild oats ..... 16.00@19.00
Barley ..... 16.00@19.00
Alfalfa, new, first cut..... 16.00@19.00
Stock hay, new ..... 14.00@16.50
Straw, per bale .....50@90c

FEEDSTUFFS.

Because of insufficient supplies mills are not running full time, and consequently, stocks of feedstuffs are light. Middlings, rolled barley, rice middlings, rice bran and shorts have all advanced.

(Per ton, San Francisco.)

Beet pulp, per ton .....None offering
Alfalfa meal, per ton .....$28.00@31.00
Bran, per ton ..... 41.00@42.00
Oilcake .....None offering
Coconut cake or meal..... 40.00@41.00
Cracked corn ..... 84.00@85.00
Middlings ..... 52.00@55.00
Rolled barley ..... 54.00@55.00
Tankage .....None offered
Rolled oats ..... 59.00@60.00
Rice middlings .....None offered
Rice bran ..... 32.00@35.00
Shorts ..... 45.00@47.00

POTATOES, ONIONS, ETC.

Potatoes are stronger and the small receipts lately have enhanced values. Farmers are so busily engaged in harvesting beans, before wet weather sets in that potato digging has been neglected, and labor diverted from the potato fields. A limited amount of shipping is being done. Onions have advanced as speculators are buying at present cheap prices for storage purposes. A heavy demand for our garlic comes from eastern points.

Asparagus .....None
Peas, per lb. .....4@4½c
String beans, per lb.....2@4c
Wax beans, per lb. .....2@4c
Hubbard squash, per sack.....None
Summer squash, per box.....65c@$1.00
Cucumbers, per box .....50@85c
Celery, per lug .....Nominal
Tomatoes, per lug box.....75c@1.00
Potatoes, Salinas .....$2.75@3.25
Oregon .....None
New Rivers, per ctl.....$2.50@2.75
Sweets, per lb. .....2¾@3c
Onions, yellow, per sack.....$1.75@2.00
Reds .....None offering
Garlic, per lb. .....4½@5½c

POULTRY.

Values on small stock have advanced, owing to limited offerings. Under conditions of short supply which seem to prevail, it is likely that present high values will be maintained. No eastern stocks are in the market nor are any expected for a month. There is quite a lively demand for Belgian hares.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb., young.....30@32c
do, dressed, old .....None offering
Broilers, 1½ to 2 lbs. .....30@32c
do, 1¼ lbs. .....30@32c
do, under 1¼ lb .....32@35c
Fryers .....28@30c
Hens, extra, per lb., colored.....27@28c
Small leghorn .....19@21c
Smooth young roosters, per lb. (3 lbs. and over) 28c
Old roosters, per lb. .....13@15c
Geese, per lb. 18c
Squabs, per doz. .....$2.50@3.00
Ducks .....15@18c
Old 12½c
Belgian hares (live) .....15@18c
do, (dressed) .....17@19c

BUTTER.

There is just about enough good butter to go round, and it is easily absorbed. In spite of a stringency of ready money due to the strike, consumers seem to take hold of butter, even at the ruling high prices. Dealers do not look for any material advances, but there can be no declines of any significance at this time of the year. Production is dropping off slightly and with a few more rains it will increase again. During the week the price on extras went to 46 cents and, while the market declined to present prices, it is not an indication of real weakness.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	46	45½	45½	44	44½	44½
Prime 1sts	43½	43½	44½	43½	43½	43½

EGGS.

Receipts of eggs are decreasing gradually, and smaller supplies may be looked for. Prices were well maintained during the week and the outlook is for a gradual increase in values. The new president of the San Francisco Wholesale Dairy Produce Exchange is E. F. Larimer, with J. T. Freitas, vice-president, John Klusman, secretary, and Fred Hilmer, treasurer.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	47½	48	47	47½	47½	48
Extra 1sts	47	47	46½	46½	46½	47
Extra pullets	44½	44	43	43½	43½	43½
Extra 1st pul.	44	43½	42½	42½	42½	42½

CHEESE.

In spite of the heavy receipts of cheese lately. Young Americas advanced a ½ cent Wednesday. There is enough shipping to absorb all surplus stocks; local consumption of cheese is on the increase. It is felt by dealers here that the fact of home consumption being on the increase, should stimulate cheese makers to improve the quality.

Y. A.'s 25c
Fancy California Flats, per lb.....22½c
Monterey cheese .....8@18c

FRESH FRUITS.

Figs are a little higher. Plums, while arriving in excellent supply, have become more popular and are advancing. According to the quotations, watermelons show declines, but that is not actually the case. Last week they averaged much heavier apiece than they average this week. Casabas fetch 75c to $1.25.

Apples, Gravenstein, per box...$1.50@2.00
Pears, per box .....75c@$1.75
Cantaloupes, per crate.....50c@$1.00
Apricots, per box.....None
Peaches, per box .....50c@$1.00
Nectarines .....None offering
Figs, per box .....50c@$1.00
Plums, crates .....50c@ 1.00
Watermelons, per doz.....$1.25@3.25
Grapes, Malaga .....60@75c
do, Seedless .....75@90c
Muscats .....65c@$1.25

CITRUS FRUITS.

The recurrence of warm weather in the great valleys has maintained the prices of last week on citrus fruits, which were at the dropping off point. Values of lemons keep very high but the demand is good.

Oranges:
Valencias, fancy $3.25
Valencias, choice 3.00
Lemons:
Fancy, per box 7.50
Choice 6.50
Standard 4.50
Lemonettes 5.00
Grapefruit, fancy 3.50

DRIED FRUITS.

Buyers do not care to move until the Government shows its hand, in the matter of prices. There is little export owing to the difficulties in the way of obtaining export licenses.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop .....10½@12 c
Apricots, per lb.....13 @16½c
Figs, black, 1917 ..... 5½@ 6 c
do, white, 1917 ..... 6½@ 7 c
Calimyrna, 1917 .....11 @12 c
Prunes, 4-size basis, 1917..... 6 @ 6¾c
Prunes, 1916 basis .....None
Pears .....6@7c
Peaches, 1917 .....8@9c

BERRIES.

Good offerings of berries in the market during the week stimulated trading. Straws and blacks are getting better prices, but raspberries have weakened.

Strawberries, Banners, chest....$5.00@7.00
Longworths .....None
Blackberries, per chest .....$5.00@6.00
Raspberries, per chest..... 7.00@8.00
Gooseberries .....None

HOPS.

The market is very quiet, but prices are firmly held at the quoted advances. Transactions are limited on account of prices being out of accord with buyers' ideas.

Baled, per lb. .....35@40c
do, Oregon and Washington....35@40c

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, September 25, 1917.

There was practically no change last week as compared with the week previous in the general average of the markets. There seems, however, to be as keen a demand for practically all varieties that arrive in sound condition and this has been affected only in the supply.

The scarcity of refrigerator cars has tempered the supply and we believe has been more beneficial than detrimental to the industry to date, in that no fruit has suffered from the shortage of cars. Practically all tree fruit shipments have discontinued for the season, with the exception of a few cars of late pears.

The general quality of the Tokays is hardly up to standard, though the sugar content shows the required test. Lack of color in the grapes has an effect upon the market, despite the fact that the fruit might be well sugared.

About 70 per cent of the Malaga crop has been harvested to date and about 30 per cent of the Tokays. The recent rains, which did not extend to the lower San Joaquin Valley, did little, if any, damage to the Tokays. In fact, the after effect will probably be the means of producing better color.

Recent reports from Michigan and New York indicate that the grape crop has been affected by frost. Both States report fairly good crops. A large percentage of the Eastern grape crop has been contracted to the grape juice factories, thereby eliminating a strong factor of competition from California.

Averages for the week ranged as follows:

New York: Bartlett pears, $2.00 to $2.75; Buerre Hardy, $1.91 to $2.35; Gross plums, $1.30 to $1.56; Grand Duke, $1.34 to $1.64; Giant, 95c to $1.00; Levi Clings, $1.40 to $1.44; Orange Clings, 97c to $1.37; Muscat grapes, $1.16 to $1.30; Cornichon, $1.35 to $1.50; Tokay, $1.08 to $2.17; Malaga, $1.09 to $1.40.

Boston: Bartlett pears, $2.10 to $2.90; Buerre Hardy, $2.15 to $2.30; Gross plums, $1.35 to $1.60; Grand Duke, $1.40 to $1.60; Malaga grapes, $1.00 to $1.30; Tokay, $1.50 to $1.95; Muscat, $1.30; Cornichon, $1.35 to $1.50; Levi Clings, $1.10.

Chicago: Malaga grapes, $1.09 to $1.25; Tokay, $1.12 to $1.70; Muscat, $1.02 to $1.10; Thompson Seedless, $1.21 to $1.58; Bartlett pears, $1.76 to $2.67; Levi Clings, 99c to $1.08; Salways, 75c to $1.04; Giant plums, $1.02 to $1.42.

Total shipments for the week ending September 21: 56 peaches, 8 plums, 139 pears, 975 grapes. Total shipment, 1917: 14,410 cars. Total shipments, 1916: 12,376 cars.

Special Citrus Market Report

Los Angeles, September 25, 1917.

Shipments of citrus fruits from last November to September 23: Oranges, 38,420 cars; lemons, 7,463 cars. The same time last year: Oranges, 30,266 cars; lemons, 6,613 cars. The Eastern markets held up very well the past week. The week's shipments were light, only 372 cars. This encouraged buyers and some of the best known brands of Valencias of popular sizes brought a little more money. Lemons were firmer and in fair demand under more favorable weather. Locally there is no change from a week ago. Oranges and grapefruit are steady at old prices, but very few moving. Lemons dull and weak under cooler weather.

AUCTION SALES.

New York, September 24.—Nineteen cars of Valencias and one car of lemons sold. Best Valencias doing better on all sizes. Ordinary and poor stock doing better, 150s and smaller; unchanged on 120s and larger. Lemons higher. Weather partly cloudy. Valencias averaged $1.90@4.90. Lemons averaged $3.45@4.75.

Boston, September 24.—Eleven cars sold. Market steady on Valencias and doing better on lemons. Valencias averaged $1.85@3.10. Lemons averaged $5.30@6.25.

Philadelphia, September 24.—Eight cars oranges and one car of grapefruit sold. Market higher on oranges and steady on grapefruit. Valencias averaged $2.40@$4.50. No lemons sold.

LOS ANGELES.

Los Angeles, September 25, 1917.

BUTTER.

Market held up well the past week under moderate receipts. High prices cause a dropping off in consumptive demand. Extras on call advanced 2c last Thursday and this improvement was maintained up to last Saturday. Light cold storage stocks encouraged some investment buying, there being 18,893 pounds taken into cold storage for the week ending September 20, while for the same week last year there were 11,530 pounds withdrawn. Still the cold storage holdings are 139,813 pounds lighter than the time last year. Monday, with San Francisco off 1½c, the market here broke ½c in sympathy and there was some trading on call at ½@1c decline. Chicago and New York markets were firm at 43c and 44½c for extras. Tuesday receipts were light, the market here being the same as day before.

We quote:

California extra creamery.....45½c
California prime first 44½c
California first 43½c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	44	46	46	46	45½	45½
1916—						
Extra	30	30	30	31	31	31

EGGS.

It has been many a day since the receipts of fresh ranch eggs were so light as for the past week. The arrivals by rail for the week ending Tuesday being only 436 cases, against 1384 cases the same week last year, the result was an advance of 1c on extras up to Monday and a free movement of cold storage eggs. Case count and pullets showed no change up to Monday. There was withdrawn from cold storage for the week ending September 20, 4,406 cases, the same week last year 2,674 cases. Surplus cold storage holdings compared with a year ago have now been reduced to 9,370 cases from 16,068 cases the first week in August. Tuesday the receipts were better, yet they were not sufficient to influence the market, which was steady and firm.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	49	49	49	50	50	50
Case count	47	47	47	47	47	47
Pullets	40	40	40	40	40	40
1916—						
Case count	37	39	39	39	39	39

POULTRY.

A further advance in this market the past week under very light receipts. Ducks and turkeys steady and firm. Broilers, fryers and hens good demand. Ducks and turkeys sold in a fair way.

We quote from growers:

Broilers, 1¼ to 2 lbs.....28@29c
Fryers, 2½ to 3 lbs.....28c
Hens over 4 lbs.....24c
Hens under 4 lbs.....19@21c
Ducks .....18@19c
Geese 12c
Roosters, 3 lbs. up (soft bone).....23c
Turkeys, heavy, 12 lbs. and up.....29@30c
Turkeys, light .....24@25c
Squabs, live, per doz.....$3.00@4.00
Dressed .....3.50@4.50

VEGETABLES.

Not many price changes the past week and what made were generally upward. All really good fresh stuff in fair demand, but stale and off stock hard to move. Potatoes arriving more freely from the north and market lower, but demand fair. Onions sharply higher, but slow sale.

We quote from growers:

Potatoes, Northern, per cwt....$2.00@2.25
do, local ..... 1.85@2.00
Peas, Northern, per lb.....7@7½c
Onions, Yellow Danvers, cwt....$2.00@2.25
do, Australian Browns ..... 2.00@2.25
do, White Globe, per cwt..... 2.10@2.35
Garlic, per lb.....3@4c
String beans, per lb.....3½@5c
Tomatoes, No. 1, local, per lug....30@35c
do, No. 2.....25c
Summer squash, per lug.....40@50c
Cucumbers, per lug.....40@50c
Green corn, per lug.....45@50c
Cabbage, per 100 lbs.....40@50c
Lima beans, per lb.....4@4½c
Okra, per lb.....5@6c
Bell peppers, per lug.....15@20c
Chile peppers, per lb.....1c
Celery, per crate .....$2.25@2.50
Eggplant, per lb.....1c@1½c
Sweet potatoes, per cwt.....$2.80@3.00

FRUITS.

There was little life to this market the past week. Still there was a fair movement in all fancy offerings. Apples moving in a fair way and market firm for all really good stock. Freestone peaches dull and lower. Clings steady but slow sale. Grapes selling better. Muscat and Malaga are higher. Pears steady and firm and in fair demand.

We quote from growers:

Apples—
Bellefleur, 4-tier 1.05
do, 3½-tier 1.10
do, 4½-tier ..... .90
Peaches—
Freestone, local, per lug.....30@70c
Clings, per lug .....50@75c
Figs .....50c@$1.00
Grapes—
Malaga, per lug.....90c@$1.00
Muscat, per lug.....90c@$1.00
Tokay, per lug .....$1.25@1.40
Black Hamburg, per lug.....75@80c
Pears, per lb.....3½@4c
French prunes, per lug.....50@60c
Quinces, per lug.....50@55c
Local apples, per lug.....40@50c

MELONS.

The season is fast drawing to a close. With the exception of casabas, good melons of all kinds are getting scarcer.

We quote from growers:

Cantaloupes—
Local, Pineapple and Tiptop jumbo crate .....$1.00@1.25

HOW CALIFORNIA SHALL BUY AND SELL WHEAT.

The Grain Corporation of the Federal Food Administration for the zone including California, Nevada and Arizona this week issued instructions to farmers and grain dealers for operations under the food control. The salient points are as follows:

The price of wheat has been set for this crop year and will not be changed. The sooner the farmer sells the less carrying charges he will incur. Farmers should sell to dealers and not to the Food Administration. Dealers should, before buying wheat, submit sample to H. C. Bunker, Federal Grain Inspector, Merchants Exchange Building, San Francisco, to know what it is worth. The dealer may deduct from the price established, freight, storage charges, and a fair commission. All prices are figured on bulk grain, $2.10 per bushel at terminal markets, San Francisco or Los Angeles. On sacked grain 4c per bushel is added for sacks. This price covers such wheats as Australian, Bluestem, and Early Baart. All Club and Sonora wheat carries a discount of 4c from above price. Prices are for No. 1, 60 pounds to the bushel. Wheat going below, between 58 and 60 pounds, is No. 2, and takes 3c discount. Wheat between 56 and 58 takes 6c discount and is rated as No. 3. Below No. 3 wheat sells on its merits. Dockage is charged for wheat containing foul matter. Mixed grain subject to discount according to proportion. The commission has no jurisdiction over seed wheat as to price or handling. The commission will deal in wheat only at terminals, and farmers selling direct will be charged a commission of 1 per cent, plus weighing and unloading charges. The headquarters of the commission are located at 343 Sansome street, San Francisco.

Columbia, jumbo crate ..... 1.00@1.25
Paul Rose, standard crate .....75@85c
Watermelons, per cwt.....85c@$1.00
Casabas, per jumbo crate.....$1.25@1.50
Honeydew melons, box of 9-10.. 1.00@1.10

BEANS.

A firm and steady market the past week. While many beans have been threshed, they are not being offered very freely. This has caused buyers to bid old quotations for all offerings.

We quote from growers:

Limas, per cwt $10.00
Large white, old, per cwt..... 12.00
Small white, old, per cwt..... 12.00
Large white, new, per cwt..... 10.00
Small white, new, per cwt..... 10.00
Pinks, per cwt..... 9.50
Blackeyes, per cwt..... 7.50

Special Livestock Market Report

San Francisco, September 26, 1917.

CATTLE—Beef cattle are easier, as some of the Nevada output is coming this way. It is not probable, however, that this will result in any recession of prices. Outside markets maintain their strength, and any material variation from present quotations will likely be upward.

Grass Steers—
No. 1 weighing 900@1200 lbs....8¾@9c
No. 1 weighing 1200@1400 lbs....8¾@9c
Second quality .....8@8¾c
Thin undesirable .....6@7½c
Grass Cows and Heifers—
No. 1 .....7@7¼c
Second quality .....5¼@6¾c
Common to thin .....4@5½c
Hay-fed cattle ½ to ¾c higher.
Bulls and Stags—
Good .....5½@5¾c
Fair .....5@5½c
Thin .....4@4¼c
Calves—
Lightweight .....9@9½c
Medium .....8@9c
Heavy .....7@8c

SHEEP—The mutton sheep situation is practically unchanged. The high prices ruling in the wool market seem to be the dominating factor in withholding sheep from the slaughter markets. As this high price range has an indefinite future, so far as present indications go, many sheep men are extending their plants and other stock men and farmers are venturing into the business for the first time, creating a demand for breeding stock.

Lambs—
Milk .....13@14c
Sheep—
Unshorn wethers .....10½@11c
Unshorn ewes .....8½@9½c

HOGS—Hogs of the better finished class are more plentiful. Prices have been shaded slightly from last week's quotations:

Hard, grain-fed, 100 to 150.....14c
do, 150 to 300, averaging 180 or less 15¼c
do, 300 to 400.....14¾c
do, 150 to 300, averaging over 180....16c

HIDES—It is not easy just now to get a line on actual hide values. The market has not been steady for some time, though there are indications here and there of a tendency to more settled conditions.

Cattle:
Wet salted hides, per lb.—
Steers and cows, all weights.....17@18c
Bulls and stags .....14@15c
Kip .....19@20c
Veal and calf .....21@23c
Damaged .....6@12c
Horse:
Wet salted, skinned to hoof:
Extra large prime .....$4.00@5.00
do, medium ..... 3.00@4.00
Small ..... 2.00@3.00
Colts ..... .50@1.00

Los Angeles, September 25, 1917.

CATTLE—A firm but rather quiet market. Not so many cattle coming in; feeders inclined to hold a little longer and make heavier weight. What arriving mainly from California and in fair flesh. Not many cattle coming from Arizona. Killers were all in the market, but with dull dressed meat market bought sparingly.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs.....$8.50@9.00
Prime cows and heifers ..... 7.00@7.50
Good cows and heifers ..... 6.50@7.00
Calves, per cwt ..... 8.00@9.00

HOGS—Not many coming in and what arriving of little better quality. Feeders holding more of their young hogs back, wishing to put on more weight. But few Arizona hogs coming and better quality of offerings encouraged killers to bid up full quotations. Tone of the market is better and firm.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 250@300 lbs..$13.00@14.00
Mixed, 200@250 lbs..... 14.00@15.00
Light, 175@200 lbs. ..... 14.00@15.00
Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—While killers were all in the market the past week and wanted a few sheep and lambs, they bought sparingly. The dressed meat trade is using but little at the high prices that killers are compelled to ask, and only light offerings are keeping the sheep market firm. California, Nevada and Arizona all had a few sheep and lambs in, all of which were in fair flesh.

Per cwt. f. o. b. Los Angeles:
Prime wethers .....$ 9.00@10.50
Prime ewes ..... 9.50@10.00
Yearlings ..... 10.50@11.00
Lambs ..... 13.00@14.00

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MAN—To wear fine suit, act as agent; big pay, easy work. Banner Tailoring Co., Dept. 738, Chicago.

WANTED—Large Mann bone cutter. C. Newlove, Oakley, Cal.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market St., Stockton, Cal.

AN EXPERIENCED FARMER with four grown boys would like to rent land to farm on shares; have a harvester, 14 head of work stock and all the necessary tools except a gas tractor; will tackle anything from 500 to 2,000 acres. E. W. Crow, Patterson, Cal.

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WANTED—Position as herdsman; understand testing, scientific feeding and treatment of disease; good references. Box 780, Pacific Rural Press.

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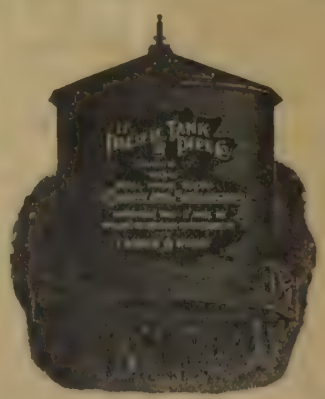

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Vol. XCIV—No. 14 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO OCTOBER 6, 1917 LOS ANGELES

Trees Pruned for More Fruit and Less Wood

[Written for Pacific Rural Press by Ed. Ames, Newcastle.]

HUNGARIAN PLUMS generally bear one good crop every three to five years. Mine have borne 16 big crops in 16 years. They have not been cut back since they began to bear. I have Grand Duke plums grafted on Ogon stumps 18 years ago that have not been pruned in 16 years except to remove the dead wood. They averaged 10 crates per tree this year and 13½ last year. Wickson plums grafted 18 years ago on young apricots were pruned back for eight years, but did not bear. For ten years they have not been even thinned out and they have borne regular good crops. Twenty-four-year Levi peaches have not been pruned back in 15 years, though about half of the laterals have been thinned off every year. They are full of strong, healthy fruit wood from the head up. Their trunks have never sunburned, for they are well shaded. From 314 Elbertas 14 years old 1,800 boxes were shipped this year, 2,600 last year, and 2,200 the season before. They are nearly all picked without a ladder. The trees are set on 18-foot triangles and they cover practically every foot of ground.

From the fourth year on a peach tree should never be cut back except where an uncut lateral can be left just below the cut. By leaving terminal buds at all extremities, every bud on the limb grows and makes fruit wood sooner or later. If terminals are cut off, the same sap is in the roots, but it forces several shoots from near the cut, and makes wood instead of fruit. This wood robs the buds farther down on the limbs; and next year the limbs are bare except at the ends. All pruning should be to remove laterals to their junctions or cut main switches just above laterals.

With European and American plums, all there is to do is to get them started right and then cut out only the dead or broken wood. All the sap goes to fruit. The fruit is generally of the fanciest sizes. The limbs bend to the ground but seldom break and are seldom propped. They do not swing in any wind we have here, enough to even brush the bloom from plums; partly because they are always heavily loaded and low down. Some varieties of Japanese plums require removal of some laterals; but Wickson, Formosa, Gaviota, and Kelsey do not.

Heavily loaded prune tree whose fruit wood has been well thinned out but not cut back. It was the general prune pruning practice which led Mr. Bergtholdt to undertake the Ames practice on his plum, peach, and pear trees which had been bearing lightly.

Prune Late for Good of Trees.

Most people begin pruning soon after the leaves fall. That gets the work well along before wet weather; but I prefer to wait until just time to get it finished shortly after the buds open. It is easier to see at a glance, then, just what you want to cut out; and the sap is there ready to

(Continued on page 336.)

One of Ed. Ames' Elberta peach trees which never have their new growth cut back, as the general practice is. By leaving the end bud on, every bud on the limb grows and fruit sets thick where practically all is picked without a ladder. The crop last year from 314 Elbertas, 14 years old, was 2600 boxes of fine shipping fruit.

[As told by J. E. Bergtholdt, Newcastle.]

FOR A NUMBER of years it has been the universal custom of the Newcastle district to severely cut back the new lateral growth in pruning all varieties of shipping plums, peaches, and pears, the common practice being to top the plum laterals back to 12 to 16 inches, the peach and pear laterals to 8 to 12 inches, according to the age of the tree and the growth made; and we relate herewith the statement of Mr. Bergtholdt relative to the matter.

"For a number of years I have observed that many of our shipping plum varieties, such as Grand Duke, Hungarian, Diamond, Giant, Santa Rosa, Kelsey, and Wickson, were subject to a tendency to alternate light and heavy bearing, causing an irregularity of crop. This did not seem exactly true to the nature of these varieties.

"In my travels over the State seeking further information and enlightenment on the subject, I observed that prune growers in other districts, whose orchards were regularly productive and whose trees were well kept and well formed, did not top back the young growth as did we in the pruning of our shipping-plum varieties, but they followed the principle of not cutting off the terminal buds; but when necessary in pruning to bring the tree back, they always cut to a lateral and thin out according to the requirements of the individual tree.

Proved by Local Practice.

"Furthermore, I have observed for five years, with much interest, the practice of Ed. Ames of Newcastle, who never topped his plums, nor his pear or peach trees, who never cut off a terminal bud, but who always followed the practice of cutting to a lateral when necessary to shorten his tree or to renew the top, and thinned out where necessary. When the crop of Grand Duke, Giant, Hungarian, or Diamond plums on other orchards in the district, and on our own orchards, were very light, Mr. Ames has always had a bumper yield, not alone of all varieties of shipping plums, but also of all varieties of peaches and Bartlett pears. For several seasons Mr. Ames, on an orchard of 37 acres, has shipped as many boxes of fruit as an adjoining well-kept orchard of 60 acres of the same age and the same assortment of fruit varieties and conducted otherwise under the same cultural conditions.

Fine Tops, but Alternate Crops.

"I observed this shortage of fruit, particularly on our own acreage, most of which was young. We would grow a splendidly shaped, thrifty tree, but not

(Continued on page 336.)

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EDITORIALS

ON THE BRIDGE OR IN THE GALLEY?

THIS IS THE QUESTION which the California farmer will be called upon to answer for himself during the next few months. Will he ship as captain or cook for the next political voyage which California will make? One of our readers suggests the nautical metaphor and we shall cling to the imagery of it as closely as a land lubber is able. First, then, we must look over the papers in the shipping office before pushing out from the shore.

We are receiving a lot of letters asking more or less respectfully what we are driving at in our insistence that farmers should affiliate and define authoritatively their points of view of questions which arise in the present turmoil of national and international affairs. One correspondent, whom we must suspect of a certain intent to gibe, asks if we "desire to upset the councils of defense and food administration or if we are only trying to throw the labor representatives out of the boat." Another wonders whether we "intend to insist that the man-handling of the kaiser be turned over to the farmers and let the other people go about their regular business." It suits us well enough to pursue the discussion along those lines, for such things ought perhaps to be made clearer, and we do not get angry at such impertinent questions because we have a notion that the propounders of the questions only desire to give us a fresh start along courses of fact and argument which they approve. Let us go to it, then, and try to find out what we are trying to do.

THE COUNCILS OF DEFENSE.

WE TAKE IT FOR GRANTED that the national and state councils of defense were appointed for the purely patriotic purpose of defending the country and winning the war for the security and promotion of human rights. We have heard it alleged that they were incidentally appointed for other purposes, but we hold no such views, which seem to us, in the present juncture of affairs, to be quasi-treasonable and unworthy. Nothing that we have said, nor shall say, either impugns or will impugn in the slightest degree the purity of the patriotic motive which ruled in the appointment of these councils or in the actions of the membership thereof. If unworthy motives and purposes have crept in, the people can be trusted to deal with them after the war has been won. It is idle and unpatriotic to worry about them now.

But we have said, and do still say, that there was a sin of omission, which we are disposed to consider unintentional, in the appointment of membership of defense councils and that was in the failure to appoint a due proportion of members whose daily thought and work enable them to occupy and contend for the real agricultural point of view. The result has been exhortation to agricultural foolishness, with losses which naturally wait thereupon: failure to recognize actual conditions involved in production and quack prescriptions for troubles wrongly diagnosed or denied existence and other attitudes and declarations which showed ignorance and inappreciation of practical problems involved in food production. We have been conscientiously impelled to point out and insist upon these things as facts for two reasons: first, such attitudes in high places are at enmity with the patriotic purpose of increasing production: second, the only way to secure greater breadth of view and experience in agricultural affairs is to publicly declare the lack of it. Our purpose, then, has been not impeachment but improvement, and of that we still have hope because things seem to be tending that way. The last appointment which has come to our notice was that of Marshall De Motte of Tehama county to fill a vacancy in the State Council of Defense. Mr. De Motte laid the foundation of his California life in agricultural activity and we believe his agricultural point of view has not been obscured by the academic and political frills with which he has more recently decorated it. Mr. De Motte really knows what and how.

ORGANIZED LABOR IN THE SHIP OF STATE.

WE HAVE NO IDEA of rocking the labor representatives "out of the boat," as our correspondent puts it. We consider the question immaterial whether the appointers selected these gentlemen out of regard for the interests of labor or their own. Organized labor has a right to such representation and though it seems relatively over-rich, when contrasted with real-farmer representation, that is not because labor has too much but because farming has too little. Our object, then, is not to throw any of the real producing people out but to get more producing people in. Our motive is constructive, viz.: to increase production by arranging conditions essential to it and by reducing the prominence in the public mind of prescriptions by those who really do not know what those essential conditions are. Our position has not been antagonistic to labor organization but has been appreciative of it. We have neither approved nor condemned their claims of class rights and rewards because both are irrelevant to our present contention. We have declared ample admiration for their methods—methods by which they have brought their claims to public attention and respect, viz.: by organization and insistence upon representation in public affairs. In all governmental institutions, in the course of the milleniums, certain vested rights to representation have arisen through birth, position, profession, wealth and what not. Most of these recognitions of rights have been the reward of organization and insistence. One of these rights, latest and quickest to rise to the status of a vested right, at least in political blue-books, is that of labor representation. Like others, it has been achieved by effort and insistence. How many representatives of labor could there have been on a national or state council of defense a quarter of a century ago? How many would there be today if labor were unorganized? How silly it is, then, for our correspondent to wonder whether we are trying "to throw labor representatives out of the boat." They are not sitting on the taffrail of the craft where they can be easily tipped off: they are under the very boiler of it, in a political sense, and the pilots count them indispensable. That is why we have said so much about their methods. If the farmers make the voyage to the same haven of power and influence they must sail by the same course of organization from which labor has now so safely and abundantly landed.

THE FARMER FINALLY GETS A RAFT.

WE HAVE SAID that the recognition of the farmers' proper relation to the national effort for increased food production is emerging from beneath the sin of omission which obscured it. In our issue of September 1 we announced the appointment of Ralph P. Merritt as Food Administrator for California and gave details of his plans and the organization of his work. A leading member of his advisory committee is Dean Hunt of the University, who was made director of the Agricultural Production Board of the California Food Administration, with power to appoint the membership thereof. Dean Hun has done this and, as was reasonably to be ex pected, he has appointed a board composed wholly of those whose greatest, and in most cases ex clusive, occupation is farming. A meeting of thi board was held in this city yesterday, after thi week's issue had gone to press. As we canno prophesy as we write on Tuesday what this board will do several days later, we are not now concerned in its transactions. The everlastingly important matter is that the first time initiative in the official effort for increased food production was placed in the hands of a man with agricultural understanding he called practical farmers to positions which only they have any right to occupy. To resume our nautical figure, therefore, we must say that the real producers' craft is now going some—even if it did have to be dragged off a mud flat to get headway.

And now the question arises: in what ship shall the farmers make their voyage to the harbor of proper economic right and content? They may be said to be fairly afloat, as claimed above, but no raft is really seaworthy. Even the great whale-back rafts of years ago which used to bring great tree trunks from the northern forests to San Francisco bay would occasionally break away and spread tall timbers on all Pacific beaches. Any collection of farmers, no matter how good and true they be, lashed together for a temporary purpose, no matter how high and patriotic it may be, comprises only a raft with all the weakness and inefficiency thereof. Therefore we say: in what ship shall the farmers make their voyage?

LABOR DROPS A LANDING STAGE.

ALTHOUGH the labor representatives did some unpardonably bad talking about farmers in the various meetings held in this State to discuss the farmers' essential need of sufficient and qualified labor, they are probably now ready to make retraction and apology. It is usual to do that when the sun of political opportunity rises. In the night of their unawakening these labor magnates luridly consigned these farmers to the craft of Charon: now that political ambition illumines them, they are frantically sending wireless exhortations to the farmers to come aboard their gallant ship. As we write on Tuesday there is being held in Sacramento the eighteenth annual convention of the California State Federation of Labor. A preliminary report to the daily papers says:

> Delegates to the number of 300 are here from all parts of California, and there are many important subjects to be presented for discussion. That of the coalition of farming interests with union labor, however, is considered the most important of the questions to be presented to the convention, according to the leaders, which may shape the future political map of California, following along the lines of the non-partisan league of North Dakota, where farmers' unions, united with the forces of organized labor, carried their candidates into office.
>
> Secretary Paul Scharrenberg reported that there is a real desire upon the part of agricultural workers for organization. Careful consideration, he stated, had been given by the State Federation of Labor to the organization of Asiatic laborers in California, and many of the Japanese workers have been organized. As a result, the Japanese have not permitted themselves to be used as strike-breakers.

And what do you think of that? The statement is a hurried one probably and does not make it clear as to what "farming interests" the appeal for political union is made. If it is a proposed connecting up with farm laborers, that is not very new except in the assurance that the Japanese are orthodox in strike-creed. If that is what the statement means, it is all regular unionism, and we let it pass at that. If, however, farmer owners and employers have any share in the "farming interests" which is worth considering, the claim has a boldness which would frighten oil and water into mucilage. For the employing farmer is a capitalist, even though he be but a tenant farmer, and must come through with his product and get compensation for his outfit as well as for his labor, and how he can sail in a political craft with those who believe it right to strike on an unfinished job and perhaps make reprisals on his property, is difficult to discern. But we are not arguing that question now. The employing farmers are apparently to be invited

to climb aboard that ship and that is all we have to say about it.

WOULD A MERCHANT VESSEL BE BETTER?

IT IS a half-open secret that the farmers are to be offered other refuge from their raft, which is surely showing much green water between the logs of it just now. We have heard some talk of it but not from anybody whom we know to be in the scheme, so we are not sure that we know much about it. The idea seems to be that employing farmers would find more points of agreement with other employers than with those who unite as anti-employers to secure what they conceive to be their rights as journeymen employes. And we are not going to argue that claim either. As the matter is now being whistled down the wind, it probably comes from a political rat-hole just as surely as does the labor song—the only difference being that the conductors of the latter point with satisfaction to its Aeolian aperture.

FARMERS ON THEIR OWN CRAFT.

WE MUST confess we do not at this moment know whose bag of wind will soonest blow the farmers off the poop of any political ship which they consent to climb aboard. It is rather clear that they are not being signaled to by anybody for their own good but rather for what there is in them in the way of political push. Political push is a thoroughly good thing: it is about the only force which can get anything anywhere and it is up to the farmers to see to it that it is their things which get anywhere and not the other fellow's things. Therefore, we have been trying to run this present political blockade without getting seasick and that is perhaps what everybody who earnestly wishes to do the best he can for the farming interest should also try to do. We have an idea that any politicians who lay out a scheme of conquest of their own and trust to fit the farmers' action to it will fail of delivery. At the same time, we also believe that if the farmers will rally themselves in a representative way and enter the political arena without selfish political interests and motives but simply to secure such attitudes and actions in the administration of public affairs as will enable them to do their producing work to the best advantage of the public and with fair reward for their capital and labor, they can command a force of public opinion in this country which every political maneuver must reckon with. But they must build their own ship and ship their own crew!

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Galls on Oak Leaves.

To the Editor: I am sending leaves from an oak tree. Will you kindly advise about the nature of the growth on these leaves? Several large oaks near here are very thickly covered in this manner.—G. M. P., San Jose.

The peculiar pink and white projections on the under sides of oak leaves are the habitations of very small grubs, the larvae of a minute fly (cynips), which deposits its eggs in the tissue of the leaf and by a wonderful provision of nature the irritation by the parent fly causes the cell tissue to develop rapidly and abnormally into the strange excrescences which you notice. They are very striking in appearance and from resemblance to a small blossom they are sometimes called the "flowers of the oak," which, of course, they are not. It is also interesting that each species of cynips or gall-fly, of which several infest oak trees, causes a form of gall or excrescence peculiar to itself. For example, the "oak balls" which form on the twigs are produced by a different species from that producing "oak flowers" on the leaves. Probably the diversion of energy from its normal purpose in tree growth is an injury to the tree from our point of view and perhaps from the point of view of the tree itself, but we can regard it complacently because these parasites are native sons, just as the oaks are, and both have lived in peace together from time immemorial.

Fertilizing Horse Beans.

To the Editor: I have a piece of foothill land that has been cropped a good many years to oats, but the crops of late years have been light and filled with a bur weed locally called tocalote and a small yellow flowered tarweed. I wish to grow a crop of horse beans. Is there anything I could apply to the land that would give me a profitable crop? Do you think ground limestone, say 1,000 pounds per acre, would increase the yield?—S. I. C., Swanton.

Our judgment is that 1,000 pounds of ground limestone per acre would produce no noticeable effect, even if the soil needs lime, which may be doubtful if the soil is a light loam, as is frequent on the coast side of Santa Cruz county. Ground limestone is so slowly soluble that an ordinary dose is four or five tons per acre, which would not produce more immediate effect than half as much burnt or hydrated lime, which becomes more quickly available and influential in the ways which pertain to lime. We should give the land a good dressing with stable manure or half a ton or more of complete commercial fertilizer. This would immediately stimulate and feed your horse beans, which lime alone could not do on such a worn soil as you describe. If you can get a good growth of the beans, the waste of the plants would improve the soil, but they need a square meal at once to start their growth. Legumes are often like dry pump valves: they may need priming to make them suck well from natural sources.

About Barley.

To the Editor: I would like to know the best way to feed barley to horses and the amount. Is it best soaked and does smut hurt any? How does beardless barley compare with the bearded? And how much should be sown to the acre, and can it be sown with the drill?—E. M. R., Parkfield.

Formerly in California most barley was fed as it grows, just as oats are. More recently most barley is rolled before feeding and that is now the common way, and there is nothing gained by soaking rolled barley, though with whole barley there may be. About 12 pounds is fed daily to thousand-pound horses at ordinary work—with hay to taste, of course. Smutty grain is always to be regarded as either undesirable or dangerous for horses. Beardless barley has been known in California from pioneer days, but has never become popular, which indicates a general experience that common barley is better worth growing. Even for hay, where greatest theoretical advantage lies, beardless barley has never made much of a hit. It is counted a weaker and less productive plant than bearded barley under average conditions. What little there is grown is broadcasted.

Growing Potato Seedlings.

To the Editor: I am much interested in the manner of producing new potatoes. I am picking some seed balls now. Should these whole seed balls be planted or should they be opened, the seed washed and allowed to dry? Will they grow readily? That is, will they grow in any potato ground, or should they have specially prepared soil? And should it be an open field or protected by glass or other means?—R. J. W., Sebastopol.

Gather the ripe seed balls and let them dry in a warm dry place. When thus well matured and dry they can be soaked in water and the small seeds squeezed out and dried or the dry balls can be kept dry, then crushed and the seed rubbed out when you are ready to plant. This seed may be treated like other small garden seeds and be sown thinly in shallow drills in fine light soil after the cold rains are over. A better way, if you have the outfit for it, is to plant the seeds singly in three-inch pots or other small containers and keep these under glass or cloth in cold frames or green house until the plants show four or five leaves, and then plant them out in the field as you would have hills of potatoes in ordinary field planting.

Why No Crops on a Fresh Fill?

To the Editor: My land two miles east of Kings river is rather sandy. I leveled a piece last winter and filled up about one and a half acres about ten to 12 inches. In the spring I sowed barley, but on the filled place nothing but weeds came up. I plowed them under and planted milo, which came up all right but had no heads to it, while the milo all around this spot is full of good heads. Please advise what to do.—H. E. T., Reedley.

We should guess that the fill had not settled enough to carry anything but salamander weeds which were able to strike through to the old surface or came through from it. As you do not speak of flooding after filling, we presume you are going by rainfall or underflow. If that is the case, the land may be expected to resume its old normal productiveness if it has a good rainfall this winter. It is usually the cuts and not the fills which kick after grading, when the latter are properly settled.

Budding and Grafting Peaches.

To the Editor: Would it be advisable to graft a J. H. Hale peach on another peach? I have about 60 trees of Hales and some of the peaches were kept by Mr. King of Santa Rosa 30 days after being picked. I cannot bud, but can graft all right. The trees are four years this season.—G. W. C., Santa Rosa.

You ought to learn to bud—a bud is more interesting socially and morally than a graft, and a "peach of a bud" is sure to command admiration. Besides, the peach likes it better. It does not take well to top-grafting by the ordinary stock-splitting process because the bark shrinks and draws back and the split does not heal over well. These difficulties can be pretty well overcome by putting in side-grafts in chisel or in smoothed saw cuts and not splitting the stock. Be sure the inner barks of stock and scion touch or cross and wax well. Watch the grafts and keep waxed well.

Branch Failure of Apricots.

To the Editor: A Ventura county orchardist for the past few years has noticed limbs in his apricot trees that shed their leaves much earlier than the rest. The year following these branches die. He is certain that it is not sour sap and it is contagious and that it probably has been distributed by the pruning tools. Last winter, when trimming, he left the infected trees to be done last and there has been a notable decrease in the spread of the infection.—D. L., Ventura.

This is a very old trouble of the apricot and its cause has, so far as we know, never been demonstrated. What you say of it is interesting and may suggest a good practical treatment, but of course it requires more than one season's observation to establish the efficacy of it.

Seeded Raisins.

To the Editor: Please give information concerning the seeding of grapes for raisins. How and when are they seeded? I have a lot of muscat grapes which I want to make into seeded raisins.—A. B., Orland.

Raisins are seeded by expensive machinery at "seeding plants" or establishments built and equipped especially for that purpose. There is no such thing as seeding grapes for raisins: the seed is taken out after they become raisins.

Is There Danger in Frosted Sorghum?

To the Editor: Kindly inform me through your valuable paper as soon as possible if milo maize fodder, frosted, is poisonous to cattle.—F. J., Napa.

We have no record that frosted sorghum forage is poisonous, though it does become less digestible and may result in stomach trouble. If growth starts again after light frosting, this second growth may be poisonous, just as second growth after the plant is checked by drouth may be.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., October 2, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.66	1.46	64	58
Red Bluff	...	.78	.90	100	62
Sacramento	...	.51	.44	98	54
San Francisco	...	.02	.34	88	52
San Jose	...	.01	.42	96	52
Fresno	...	...	.33	98	60
San Luis Obispo	...	.01	.53	98	52
Los Angeles	...	...	.08	96	60
San Diego	...	...	.08	92	58

Calif. Association of Nurserymen to Meet

[Written for Pacific Rural Press.]

This Association will meet in the Convention Hall of the Chamber of Commerce, San Jose, October 10 to 13, inclusive. On Wednesday evening at 7:30 the convention will be called to order in the ballroom of Hotel St. James by President Leonard Coates of Morgan Hill. Thos. H. Reed, city manager of San Jose, will extend the address of welcome and Prof. Edw. J. Wickson will reply on behalf of the nurserymen. An address on "Reminiscences of the Early Planters of the Santa Clara Valley" will be made by Hon. J. E. Richards of San Jose and one on "Co.-operation" by Joseph T. Brooks, manager Chamber of Commerce, San Jose.

On Thursday morning the Association will meet in the Assembly Hall, Chamber of Commerce, for organization and business. In the afternoon papers will be read as follows: "California Nurserymen of the II and III Decades," Prof. Edward J. Wickson, editor of the Pacific Rural Press, San Francisco; "From the Nursery Row to the Orchard Row," Elmore Chase, Deputy Inspector Sacramento County, Fair Oaks (discussion); "Some Ideas on the Fumigation of Nursery Stock," Robert K. Vickery, Stanford University (discussion); "How to Make Labor Content," Max J. Crow, the Crow Nurseries, Gilroy (discussion); "Shall the C. A. of N. in Future Meet at Same Time and Place with Annual Fruit Growers' Convention?" Chas. E. Jackson, Cupertino (discussion).

On Thursday evening the following are scheduled to read papers: "The Planting and Care of Lawns," Geo. F. Wakefield, C. E., San Jose (discussion); "The Vegetable Garden as a Home Beautifier," John Vallance, the Vallance Nurseries, Oakland (discussion); "Some Desirable New and Rare Plants," D. W. Coolidge, president Coolidge Rare Plant Gardens, Pasadena; "Tree Surgery," illustrated with lantern slides, M. A. Benjamin, San Jose.

Friday morning papers will be presented as follows: "Standardization of Commercial Nursery Products," Wm. T. Kirkman, Jr., president Kirkman Nurseries, Fresno (discussion); "The State Laws of Today and the Nurserymen," George H. Hecke, State Horticultural Commissioner, Sacramento (discussion); "Methods of Prevention of Tree and Plant Diseases," Earl L. Morris, County Inspector, San Jose (discussion).

On Friday afternoon the members of the Association will make a trip to Alum Rock Park and on Saturday morning the Association will attend the dedication of Hilgard Hall, University Grounds, Berkeley.

Pipe Line Orchard Spraying

[Written for Pacific Rural Press.]

In 1907 F. A. Wilcox sprayed his 25-acre pear orchard on the heavy adobe of northern Santa Clara county while the ground was pretty well covered with winter water. There is only about a week in which to spray for pear scab, and that is usually in March, when spray outfits would mire down. Mr. Wilcox now has 20,000 feet of underground pipe for spraying from central stationary tanks. He has a similar outfit for the home orchard. It saves the land enough to pay for itself, and the labor is cut in half.

After the experience of 1907, Mr. Wilcox saw Hayward Reed's underground spray outfit in Sacramento county and decided to try the idea. The first trial was with 1,000 feet of pipe laid on top of the ground one wet March. It worked so well that he piped the whole orchard underground four years ago, deep enough to be out of reach of plows.

A head line of inch pipe runs across the orchard, and while inch pipe are used part way into the orchard, Mr. Wilcox believes that ¾-inch pipe would do for a 2,000-foot line. There are about 1,500 feet of ¾-inch pipe in each of his lines, the longest of which is 1,900 feet. Spray mixture spurts out of the farthest faucet two feet high. It seems to have plenty of pressure there for spraying. A gate valve in the end of each lateral and in the cross-main above each lateral permits as many or as few lines to be used at once as desired.

One pipe line runs through the orchard every eighth row, rows being 20 feet apart. There is a faucet every sixth tree, to connect the spray hose to. Trees are 24 feet apart in the rows. This makes a large square to be sprayed from each connection. Faucets have never been stopped up, partly because the mixture is strained once or twice through fine wire mosquito netting before being pumped into the pipes.

One standard-make spray pump works two supply tanks of 200 gallons each. While one is being filled the other is supplying spray through the pipes. Gate valves were found necessary between each tank and the pump, to prevent mixture running from one tank to the other. Thus there is no stopping the sprayers in the orchard. About 2½ horsepower is required to run the pumps.

Trees Pruned for More Fruit, Less Wood

(Continued from column 1, first page.)

heal the wound instead of leaving it to dry and crack all winter.

FIFTEEN YEARS OF THIS PRUNING

I have been growing fruit a long lifetime; and it was only after long experimenting and close observation that I became convinced 15 years ago that this system was best. Recently our Farm Adviser has been advocating it and quite a few Farm Bureau demonstrations have been carried out on plums, peaches, and pears. Last season J. F. Dudley and J. E. Bergtholdt, controlling 1,100 acres of fruit, pruned them all that way. H. E. Butler also tried it. He and Mr. Dudley think it makes the fruit small, especially Triumph peaches. But all early peaches were small this year, while the effect of the pruning is not shown on plums until the second season afterward. My own fruit is unexcelled for size, and usually tops the market prices for the cars in which it is shipped. All trees should be kept thin enough to permit air and sunshine to their centers, when the fruit is maturing at least. Most fruits in this country have to be thinned anyway, to get the right size. Thinning fruit from trees pruned my way is less labor than common, because it is on fewer limbs, and nearer the ground. The pruning is less labor because there are fewer cuts to make and the proper cuts are more quickly determined.

(Continued from column 2, first page.)

much fruit. Would make a splendid new top each year, which we as religiously would cut off, according to the common practice in vogue in the district.

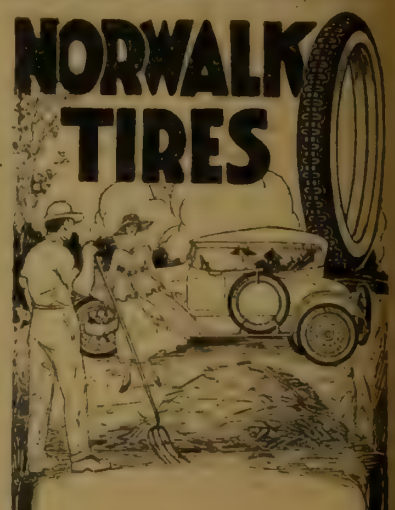
"These observations convinced me of the fact that in cutting off the terminal buds of the new growth of our trees we were following a mistaken policy, that the tree required a certain amount of wood growth before it would perform its natural function of putting out the requisite proportion of fruit spurs, and the requisite production of fruit, and when thus deprived of its wood growth by topping the tendency of the tree was to recover this equilibrium by producing the required amount of wood at the expense of fruit production. My observation of the prune orchards of the State, and particularly the orchard of Mr. Ames, convinced me that in order to obtain a normal fruit production of the varieties named terminal buds should not be cut off; but one should cut to a lateral and thin out, according to the requirements of the individual tree, with a degree of mechanical judgment on the part of the one pruning.

RESULTS SPLENDID FIRST YEAR.

"We applied this new principle on our orchards last winter, with the result that with this season's growth our trees did not put out long shoots and top growth as they customarily do, but instead they have put on a larger amount of fruit spurs in the top and fruit laterals in the lower outside and body of the tree.

"Now the tendency in following out this principle, on the part of some, will be not to cut at all, which would result in overburdening your tree with fruit and in course of a few seasons the vigor of your tree would be deteriorated and your production decrease accordingly.

" 'Regulative pruning' is required. If the tree is making too little growth, renew its fruit-bearing wood by cutting it back enough to get new wood, but not too much. If it is too thick, not admitting enough air and sunshine to mature each season's crop of dormant buds, thin it out, always cutting back to a lateral and leaving the terminal buds. The same principles apply in peaches, pears, and cherries, with variations of detail, according to the peculiarity of each variety. It is all right for a plum or prune to have long limbs, but a peach must be brought closer in. This is accomplished by cutting back heavier, but always to a lateral."



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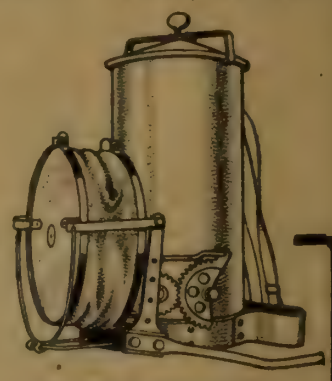

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Increase the value of your land.

Every horticulturist in the State should have a copy of our new catalogue.

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It contains information about all varieties of fruit bearing trees.

Sent free on request.

Fresno Nursery Company

Address Dept. B FRESNO, CALIFORNIA

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

SICK ORANGE TREES CURED.

How decadent orange trees were rejuvenated and a cement soil made ashy for summer cover crops is told by S. W. Funk of Los Angeles county, who has been on his 10-acre orchard 30 years. Thirteen years ago he budded the old Navels to Valencias and started growing berries between the rows. About five years ago the situation became desperate. Twenty-four hours after an irrigation he could scarcely get a cultivator into the ground. The trees were all sick, yellow, and mottled, some worse than others. Sixty-five were gumming; and on a dozen the bark had rotted entirely around. Heavy manuring had been practiced several years.

The trees are coming fine now; there is scarcely a yellow leaf on them. The gumming is practically all gone. Last season the oranges were extra large and were graded as extra choice. The ground is like an ash heap and does not bake though checked and flooded all summer with cover crops on it. The change was wrought by lime. Desperate conditions required desperate treatment, so he put 60 tons of ground limestone on one acre five years ago. Since then he has dug away from the crowns of all trees in the orchard and applied 20 pounds of lime around each tree, besides heavy applications between the rows.

VETCH AND FERTILIZER HELPED PRUNES.

From nine acres of French prunes 25 years old and never fertilized in Fresno county, A. C. Townsend sold eight tons in 1914. The 1915 crop was four tons. In 1916 he sold 32 tons. The orchard was run down when he got it. In 1914 he applied 200 pounds nitrate of soda per acre. Next season he applied 100 pounds of nitrate per acre to one half and 100 pounds of a complete commercial fertilizer to the other half. In late September or early October, 1915, about 40 pounds of vetch seed were sown per acre, after a flood irrigation, and harrowed in. It grew only three or four inches before cold weather and looked as if it were no good. But next spring "it grew so thick that you couldn't walk through it" on the nitrate half, the difference being very notable to the line between it and the other half. The trees also looked better.

In the spring of 1916 the vetch was allowed to blossom and was not plowed under until May, after the fruit was pretty well set. A flood irrigation was given before plowing. "You must have water if you plant vetch." Another crop of vetch was grown last winter, and the crop of prunes now being picked looks like another 32 tons.

WOOD ASHES CURE CHLOROSIS.

In some parts of the Paso Robles district there may be found thin strata of putty-like clay two or three feet underground. This, according to W. S. Florington, does not seem to hurt almonds, prunes, apricots, and cherries, but seems to cause a yellowing of apple and pear trees which sometimes results in their death. The occasional yellowing or whitening of almonds, apricots, etc., is claimed to be only temporary and due to other causes. To overcome the yellowed pears and apples, Mr. Florington has found fresh unleached wood ashes very successful after about two years' application. He spreads them under the trees so winter rains will leach them down. Whether their beneficial effect is due to the potash they contain or to their effect on the soil in other ways, is unknown.

ALKALI RENDERED LESS HARMFUL.

Prunes on myrobalan, peach, and almond roots are flourishing now on what was a sleek alkali spot when J. N. Enlow came to Tulare county in 1867. It then wouldn't grow Bermuda grass. He has been plowing under weeds, trash, manure, etc., and raising beets; all of which seem to have helped make the alkali harmless.

SPRAY FOR PEACH BLIGHT IN THE FALL.

For shothole and peach blight spray by November 1, before the rains, because rains start the fungous growth, observes H. G. Boyce of Yolo county. Bordeaux 5-5-50 is plenty strong enough. Then spray again when leaves are starting, with lime-sulphur on peaches; but Bordeaux will do on almonds, plums, etc., if desired.

TOO MUCH WATER FOR PRUNES.

Prunes in a wet place were dying with sour sap in midsummer on a spot of low ground where cornstalks had been plowed under to improve the soil, and had been too much soaked in order to rot the stalks.

TREES NEED WATER.

Don't neglect water now when trees look disheveled and thirsty, for they need good circulation to carry food to fruit buds and to store reserve food for a good start next spring.

NEXT YEAR'S LEASES.

Leases on fruit orchards in Placer county are now being signed for next year. Note the saving in cultivation due to leaving bur clover all over or in alternate rows, and lease accordingly.

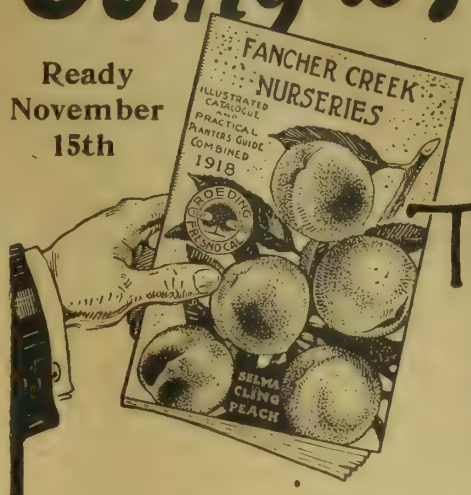
OLIVE GROWING ASSOCIATION REPORTS PROSPEROUS SEASON.

Through the report of the Hemet-San Jacinto Olive Growers' Association we learn that the past has been a very satisfactory season in that industry. This Association handles the fruit of its members on a co-operative plan and of non-members on a commission basis. The olives handled are either pickled or converted into oil. Final payment for fruit delivered during the past season has been made. The following prices show the net average returned to growers:

	Per Ton
Small olives	$104.27
Medium olives	142.50
Large olives	187.32
Extra large olives	216.04
Special extra large olives	284.14

Going to Plant?

Ready November 15th



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This book is equally valuable for the small fruit grower as well as the grower who controls hundreds of acres. Even though you have only a few vines or trees, you will find this book useful, as it tells you about all kinds of plants and trees and how to grow them.

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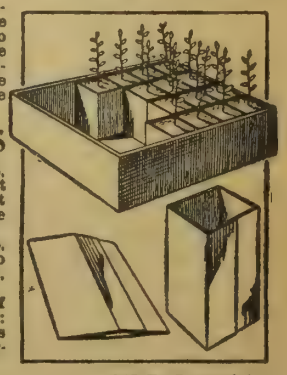
Why let rabbits bark your trees at this season of the year when for about a penny apiece you can save every one of them. We also have a heavy fiber one that will absorb the frost and save your tree from moderate freezing. If it's squirrels, tell us your wants. We have protectors for every need that will save your tree.

COLLAPSIBLE PLANTING POTS

Are you going to raise some Olive Cuttings, or Eucalyptus, or Rose Cuttings? Why not grow them in these pots and have every plant a single root system, and be assured every one will grow?

Why not plant your early Cabbage, Chilis, Tomatoes, and have good healthy plants to set out that will not stop growing a single day, for you can plant both pot and plant?

These pots are the up-to-date method of plant growing. Don't take our word for it: try them yourself. Write for samples of pots or protectors. Tell us which you are interested in.



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HYDRATED LIME OR GROUND LIME ROCK
One ton Hydrate equals two tons Ground Lime Rock. Send for Free Booklet and Prices.
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MANURE Sheep Manure, Horse Manure, Cow Manure and Rotted Manure
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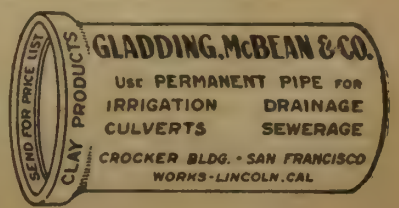
PACIFIC MANURE AND FERTILIZER CO.
420 DAVIS STREET, SAN FRANCISCO

County Horticultural Commissioner Earle Mills says that phylloxera-resistant roots must be obtained in large quantities to replace or replant the vineyards of Thompson Seedless grapes in Sutter County and that portion of Butte county south of Gridley, or the industry is doomed.



Gov. Wm. D. Stephens on Land Settlement

STATE OF CALIFORNIA,
Governor's Office.
Sacramento, September 27, 1917.

Pacific Rural Press, San Francisco, Cal.:
I enclose a statement by Governor Wm. D. Stephens, which I trust will meet with your desires as expressed in your recent communication, wherein you requested an article for publication.
Very truly yours,
MARTIN C. MADSEN, Private Secretary.

Land settlement and rural credits represent two of the most important of our governmental activities today, because they have to do with the most important part of our communal life—the farm.

What I want to see worked out in California as speedily as possible is a plan that will enable farmers of small capital to own their own homes.

We have in this State vast areas of fertile lands that are not being cultivated. Of the twenty-eight million acres of farm lands less than half is being put to beneficial use. One reason is that hitherto we have not had an established governmental policy with regard to land colonization and settlement. Now we have, and I look to see California in the next few years set the pace for all the other States in the matter of aid and encouragement to farmers.

Our splendid system of State highways is opening up and rendering accessible to market every section of the State, while the automobile, the auto truck and the tractor are revolutionizing conditions on the farm itself. These things combine to make farm life far more attractive than our fathers ever dared dream of.

In selecting the commission to have charge of the recently enacted Land Settlement Act, I was particularly anxious to obtain for the State service men of vision and of sympathetic interest in rural problems. In Professor Elwood Mead, chairman, former United States Senator Frank P. Flint, Mortimer Fleishhacker, Judge William H. Langdon, and Prescott F. Cogswell, I feel that we have such a commission.

Agricultural progress along right lines will now be possible. Fertile, but as yet undeveloped, lands will be opened up under proper conditions so that colonists can come here and settle under the most favorable circumstances. Low interest loans—with long term payments extending over a period of twenty to thirty years—will make it possible for any farmer of honest purpose and fair intelligence to own his own home and the soil he is to cultivate.

The Onion Situation in California

[By E. C. Bisser, Assistant Truck Crop Specialist for the Pacific Coast.]

The question of the quantity of onions yet to go on the market from the principal onion districts of California has been the subject of special investigation. Following reports of a short crop in the East, the recent movement of onions has been much greater than it was prior to September 1 and has been limited only by inadequate transportation facilities, especially the supply of cars. The total quantity of onions moved from the river landings up to September 15 was 1,165 cars. Probably 200 cars of this number remain in the warehouses awaiting cars for shipment.

SEED ONIONS MAY BE MARKETED.

Of the original area in the delta of 8,300 acres, 200 acres in Contra Costa county was abandoned, leaving 8,100 acres to be harvested. Of this acreage it is estimated that 1,700 acres are grown under contract. The bulbs produced from this portion of the crop are intended primarily for planting in December, 1917, for seed production during the year 1918, and it is certain that at least a portion of the product of this acreage will be used for that purpose. But it is already known that part of these onions will be put on the market, and it is possible that seedsmen may buy up more than they have grown, or, if prices are high, they may do as they did last fall, sell some of the bulbs for market which were grown especially to be planted for seed production.

NEXT YEAR'S PLANTING OVERESTIMATED.

It was reported to the Bureau that there would probably be nearly 4,000 cars of onions used for seed growing next year, and this investigation followed, but it has failed to show that the quantity to be used for this purpose will be equal to the estimate. Contracts for growing seed have not yet been signed, hence it is impossible to say definitely at this time what quantity will be used. It is customary to use from 30 to 70 sacks per acre, depending upon variety and size, 50 sacks being the average. At this rate 4,000 cars would plant 24,000 acres for seed. Normally the acreage of seed onions in the entire State does not exceed 4,500 acres, and there is no likelihood that such an increase in acreage is possible for next year. Seedsmen would like to plant a larger acreage and if they used the entire product of the 1,700 acres yielding 200 sacks per acre they could plant 6,800 acres, which would not be too much under present conditions.

RECAPITULATION.

8,100 acres of onions (total crop), averaging 200 sacks per acre, 1,620,000 sacks, or	5,400 cars
Shipped up to September 15 from river landings	1,165 cars
Remaining in fields and on river landings	4,235 cars
Estimated quantity to be planted for seed growing	835 cars
Balance	3,400 cars

COTTON BECOMING AN ATTRACTIVE CALIFORNIA PRODUCTION.

It becomes attractive as it becomes profitable to grow it. California has the natural elements essential to successful cotton culture—the soil, the climate, the water. True, the water must be artificially applied, which is a costly process. Two other things which militate against California as a cotton growing State in competition with her sister States in the South are high-priced land and high-priced labor. This year and for several years hence, perhaps, the abnormally high price of cotton will doubtless make cotton production in favorable localities in California a good-paying proposition, in spite of the economic drawbacks. Leastwise, several shrewd operators in divers parts of the State are going to take a chance. Cotton, like some other staple commodities, is moving upward. It is quoted around 23c and 24c.

THE FRESNO HORTICULTURAL EXHIBIT.

The horticultural exhibit at the Fresno Fair this year was best on grapes, which are of rare quality this season, and next on flowers, in the estimation of F. P. Roullard, who supervised it. Communities vied with each other in producing unique and characteristic exhibits. The Reedley exhibit, designed and assembled by P. M. Rasmussen, won first. An eagle made of bleached and unbleached raisins hovered over two flags made of apples and prunes. Kerman won the second premium with two small replicas of refrigerator cars filled with fruits and vegetables, over which hung a nine-foot cane loaded with long bunches of Thompson grapes. Sanger came third, having such a glorious crate exhibit of fourteen varieties of grapes as are seldom seen anywhere. These were shown by D. D. Bachant and won first prize in their class. Frank Henry won second in this class with five crates of leading varieties. He and A. B. Cate had a large booth filled with grape festoons and vines of many varieties splendidly loaded with fruit. Clovis won third in this class. Fancher Creek Nurseries had a beautiful exhibit of flowers, ferns, and ornamentals. Clovis booth took fourth place with its rustic redwood booth for a fine display of fruits. Selma had a flying machine partly loaded with fruit for "Somewhere in France."

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FOR GARDEN TRUCK

Increases the yield of all garden products from 25% to 50%. Use this perfect plant food for

BIGGER, BETTER CROPS

Contains 18% Nitrogen in such a form that it can be taken up by the plants instantly. You get results at once. BEST FOR ALL GARDEN, FIELD, AND ORCHARD CROPS. Clean, odorless, and easy to handle. Direct from Chili in original Bags.

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and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

Hauser Packing Company

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Alfalfa Seed Melilotus Seed
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Write for Sample and Prices

California Seed Company
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FOR HARVESTING
EGYPTIAN CORN

You can use both hands and cut twice as much in a day with the

DAVID HEADING KNIFE

as with any other instrument. You cut off the stalk and hold the head with the same hand—and you keep both hands at work, cutting as fast as you can open and shut your fingers. Pair (right and left) $2.50, from your dealer. Dealer; order from any jobber.

Lowery-David Mfg. Co. San Jose, Cal.

Field and Garden Suggestions

[Written for Pacific Rural Press.]

SAWED HIS OWN LUG BOXES.

As the grain growers are troubled with scarcity of sacks, so are fruit men in getting lug boxes. Not so with S. A. Price of Anderson Valley. Previous to 1893, when he went into farming with nothing, he had a good deal of experience in logging and blacksmithing. The former lumber jack has now one of the best improved fruit ranches in the Valley. He installed a sawmill on his ranch last spring, and with his son sawed enough sides and ends in a day for a couple hundred boxes. A Dado saw is used for making of handholds in the boxes. The cost of it is about 60 to 75 cents for fuel, besides his labor. Mr. Price proposes to establish a flour mill for his own use also.

FALL PLOWING BERMUDA.

Bermuda grass which comes up in July will mature seeds before fall, according to Brooks Bros. of Kings county, who suggest that plowing after the fruit is off would not only help control the weed, but also benefit the fruit buds. Whether the plowing would cut off their food supply would depend on whether roots had been encouraged by frequent summer irrigation in the surface soil.

PLOWS INTO IRRIGATION DITCHES.

A good system of orchard irrigation without cultivation has been suggested by a subscriber as being used in Southern California. A furrow is plowed in the center and one along each side of the trees. After irrigation this is filled by plowing another furrow into it. This last furrow is left for the next irrigation.

PLANK MADE SUGAR BEET STAND.

A soil packer composed of plank set edgewise and dragged over a sandy part of H. C. Powell's 20-acre sugar beet field planted last fall in Tulare county, prevented drying out so that a good stand was obtained on that part while the rest of the field dried so dead that it was plowed up in the spring.

BUR CLOVER IN THE BUR.

Bur clover sowed in the bur by Hughes Madeley of Placer county made a good stand and growth, while cleaned seed seemed not to germinate well until the second year, if at all. Ed Ames found that burs from the bottom of the manger where volunteer hay was fed grew well when spread on the land with the manure.

LARGER CORN BY SEED SELECTION.

J. N. Enlow of Tulare county has corn which grows taller and bigger now than when he brought the original seed across the plains from Arkansas in 1867. He always saves seed from model hills when picking the crop and carries it in his pocket to the end of the row.

MELILOTUS NEEDS MOISTURE.

Melilotus cover-crops must have irrigation except when rains supply moisture, as experienced last winter by C. E. Barber of Placer county. He plowed deep and planted 10 acres right after the first rain. The melilotus came up with a fine stand, but quit growing because a long dry spell followed.

HAUL MANURE NOW.

Strawy manure is best hauled in the fall while fields are solid. Then it can be plowed under so it will rot with the winter moisture. It will not waste by evaporation, but should be prevented from washing as indicated by brown ponds along the road.

LEVEL FIELDS EARLY.

Where surface soil is taken from high spots in leveling ground, a subsoil is exposed that needs weathering before it can produce a crop. The sooner such knolls are scraped off and plowed up deep and rough, the better chance they will have to weather before spring.

STORING SQUASH.

The dryer and warmer the storage place for squash, the more their shells will harden and the better they will keep. Store only well-ripened squash, cut but not pulled from the vine, and piled not over two deep.

CORN PRECEDES GOOD GRAIN.

Grain hay followed by corn on good land where there is enough moisture makes a fine grain crop the following year, as observed by Brooks Bros. of Kings county, because of the summer cultivation of the corn.

Alfalfa Seed

GREEN GOLD BRAND

PURITY

Let this trade mark be your insurance against foul weeds and low germinating alfalfa seed this season.

Satisfy yourself BEFORE PLANTING that the words Green Gold Brand on every sack means purest alfalfa seed at low cost. Ask us how.

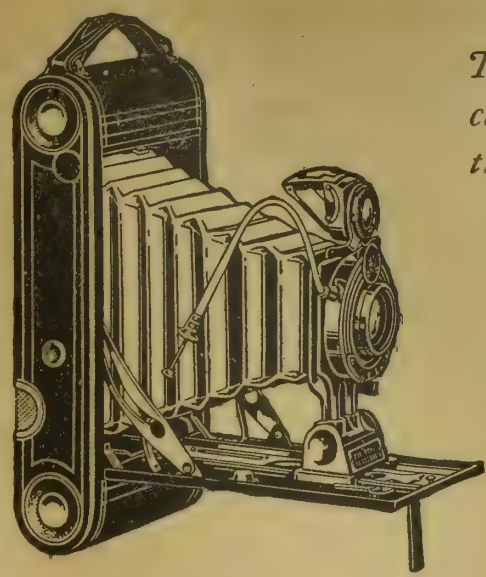
Write today for price and sample of

New Crop Seed

Bomberger Seed Co.

728 TENTH ST., MODESTO, CAL.

"Trade name and firm name on every sack."



The thin, slim camera that fits the pocket.

The 2c Kodak, Jr.

The long narrow picture (2⅞ x 4⅞ inches) is best adapted to the average view. For landscapes it cuts out the undesirable surplus sky and foreground; for portraits it gives the pleasing panel effect. And this shape in the picture makes possible a slim, thin camera that fits the pocket.

And with this compactness and convenience this efficient little camera is up-to-date in every detail. It is well made all the way through, has lenses that are right and a shutter that works with a mechanical precision that is a delight—and it is sold at a price that is only made possible by the resources of the largest and most perfectly equipped camera factory in the world.

It is autographic, of course, (all Kodaks are now autographic) enabling you to date and title every negative at the time you make the exposure—before you forget.

THE PRICE.

No. 2 Autographic Kodak, Jr., with meniscus achromatic lens and Kodak Ball Bearing shutter,	$12.00
Ditto, with Rapid Rectilinear lens,	14.00
Ditto, with Kodak Anastigmat *f*.7.7 lens,	19.00

Ask your dealer to show you the "two-c Kodak," or write us for catalogue.

EASTMAN KODAK CO., 476 State St., ROCHESTER, N. Y.

YOU WILL WIN

The war for democracy and humanity by producing the largest and best crops your land is capable of. To do this you must feed your soil, i. e., increase the available supply of the elements required by your crops.

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PURE ANIMAL MATTER AMMONIATES

GOLD BEAR TRADE MARK FERTILIZERS

FOR CALIFORNIA SOILS

Are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

Let our Fertilizer Department help you solve the problem of bigger and better crops.

WESTERN MEAT CO.

SAN FRANCISCO, CAL.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

TRACTOR DEMONSTRATION ECHOES.

It takes a special point and some skill to plow into hard plow-pan without plowing through it.

Last year at the Puente Demonstration the Sandusky 15-35 pulled three 14-inch bottoms in dry, hard adobe easier than two 12-inch bottoms at the Los Angeles demonstration, according to Salesman A. M. Babcock. The adobe breaks when dry, while this at Los Angeles hung together, cemented.

A track type machine buried itself on the plowed ground and was pulled out by a wheel type.

The 75-horsepower Caterpillar pulled a nine-standard heavy Killefer engine-chisel out through the unplowed ground, loosening it a foot deep to receive rain and air, without turning up the subsoil, which could not grow a crop without weathering. It also pulled a three-standard subsoiler 16 to 18 inches deep.

It was more of a demonstration of plows than of tractors, said A. G. Anderson of the A. F. George Co., who handle the Yuba tractors in Southern California. Any plow that would turn this must be a good plow skilfully handled. The Yuba 20-35 pulled a Yuba ball-bearing plow of six 28-inch disks fourteen inches deep in some places; but a general average of eleven inches deep and nearly sixty inches wide.

Nearly every machine had some sort of device for removing dust from air before it passed through the carbureter. Clouds of dust often obscured the engines.

The three Case tractor engines used in the demonstration were not touched all week except to grease and oil them.

The Yuba tractor motor was not touched after a minor adjustment the first day, except for lubrication.

Though the Lambert Chain Tread has undergone many changes in the year of trial just past, Wm. Gregory & Son expect to make some more improvements before putting it on the market. Mr. Gregory said he could have sold fifty for immediate delivery at the demonstration, but wasn't ready yet.

The Waterloo Boy pranced around over plowed and unplowed ground, with double cutaway disks set so on unplowed ground they went nearly as deep as it had ever been plowed before.

Many of the demonstration tractors bore signs, "Sold to Mr. —— of ——."

The Samson Sieve-Grip outfit lacked help, so they had one man operating two machines cultivating the plowed ground to a dust mulch as fine as flour and over shoetop deep in places. The double action was accomplished by locking the steering gears so the machines ran in circles.

The commonest question was, "How soon can I get one delivered?" according to H. L. Marsh of the Samson Sales Co.

At the banquet of nineteen Samson dealers one evening during the demonstration complaints and suggestions were called for. Not a complaint or suggestion was received to change the inner workings of the machines.

The crowd around the Cultimotor as it was working included many women. All hands seemed eager for the literature concerning it.

The Killefer Mfg. Co. declared the last day a holiday and brought about eighty employes out to the demonstration in sixteen automobiles.

Dixon & Griswold displayed a sprayer for potatoes, beans, celery, etc., which works on four rows at once and is adjustable for varying widths, so that one nozzle sprays all plants from the top and another from each of two sides.

The Standard Oil Co. operated a Samson tractor and a Waterloo Boy motor by means of an electric motor to show how their Zerolene tractor oils worked. The cylinder heads were off and they had a glass side. The transmission running in stiff black oil was also covered with glass. Electric lights inside displayed the working parts plainly. Like the swine breeders who banqueted on chicken, John D. used electricity in his display.

There were Splitdorf spark plugs almost big as cannon.

Pistons were shown by Clark & Wells, made of cast-iron skirts but steel heads which, when screwed inside the skirts, are supported by a circle resting on two legs from the pin bearings. Use of steel means equal strength with far less weight.

The Case 9-18 pulled a six-foot double disk over freshly plowed ground at the Los Angeles tractor demonstration and the 10-20 pulled an eight-foot double disk.

A rubber-tired bona fide tractor was shown by William Gregory & Sons.

Some tractors lost prestige in the grand parade because their drivers cut the corners where others pulled full plow widths.

"Hey, ye're fudging," was the chorus as a Ford auto attachment passed through the crowd at the rear end of the parade. The plow was riding on its point but would not penetrate the plow-pan.

The Ford pony tractor attachment

American Centrifugal Pump
With Combination Elbow and Check Valve
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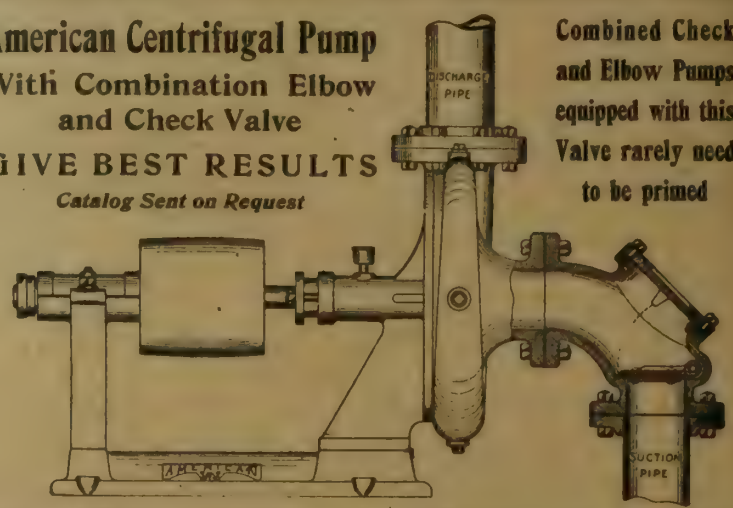

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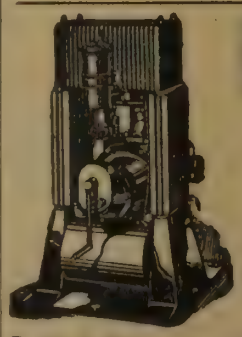

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Second Hand and NEW
Fittings and Screw Casings Valves Guaranteed for Pressure
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was plowing as deep as the ground had ever been plowed, having replaced the rear wheels of a Ford car with broad iron wheels and hitched an ordinary walking plow to the rear axle.

The Union Sure-Grip tractor is made by the Union Tool Co. of Torrance, Cal., instead of the Union Iron Works, as indicated in our issue of September 29.

A tractor crank case should be emptied and cleaned out every two weeks it is in use, even with a dust remover, because the continual whipping of the oil breaks it down.

Plowing orchard cover-crop forty-eight days and nights without stopping long enough for the motor to get cold, and without changing the oil, was the exploit of a Yuba tractor in the 500 acres of walnuts owned by the Saticoy Orchard Co. in Ventura county.

On hard ground a disk plow must have weight and adjustment to hold it deep enough in the ground, and power enough to pull it there. The average six-bottom disk plow weighs one and one-half tons.

TRACTOR HITCHED TO TURN WITH LOAD.

[Written for Pacific Rural Press.]

A fault with some tractors which have failed in California is that while they depended on front wheels to steer them around the ends of furrows or rows there was not enough weight on those wheels to make them grip the ground enough to turn reasonably short, even without a load. When the plows are not lifted out of the ground on a turn, they always tend to hold the front end from turning unless the front end grips the ground right.

On a tractor which cannot turn by direct and separate manipulation of its drive wheels or tracks, it is important to hold the wheel by which it turns firm to the ground. This may be done by building much of the weight over the front wheel or by designing a hitch which holds the front wheel to the ground. Such a hitch we saw, consisting of heavy strapirons from the frame between fore and rear wheels sloping slightly to the drawbar, so that if the plow entered the ground about ten feet back of the tractor it would be in line with the strap and the harder the plow might pull the tighter it would hold the front wheels to the ground, so they could lead the entire outfit around a short turn.

SIDE DRAFT IN PLOWING TREES AND VINES.

[Written for Pacific Rural Press.]

An orange grower wanted to buy a tractor which would run down the center between trees, not knocking off fruit, but pulling a plow hitched so it would run next to the trees. It was suggested that a lever arrangement would permit the tractor to run through the center each round, but set the plow over its own width for each succeeding furrow. The suggestion to put a plow on each end of a long drawbar to plow toward or away from two rows of trees at once was frowned on as leaving a bad dead furrow or back furrow in each center or in each row, while plowing straight across would leave it smoother. However, we saw at the Fresno Fair a Moline tractor with two moldboards at each end of its drawbar which was just long enough to work between vineyard rows.

ASPHALT-BASE OIL.

Further recognition for motor oil made from California asphalt-base petroleum was brought to light recently when a prominent Peerless dealer showed a group of newspaper men a letter from the Peerless factory.

This letter stated that after testing several kinds of oil the technical department was able to secure uniformly better results with a certain widely known advertised motor oil made here on the Pacific Coast from California asphalt-base petroleum than from any other oils they tested.

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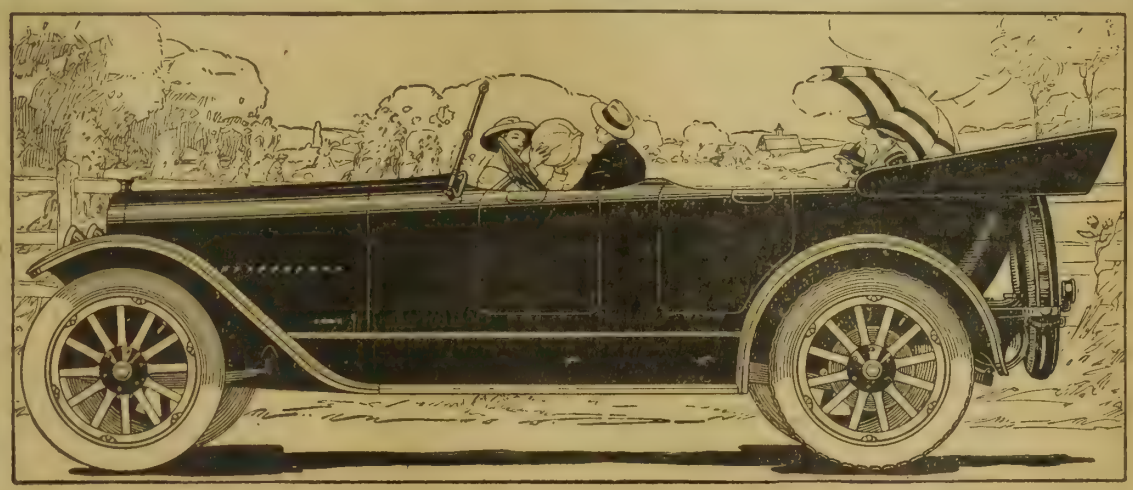

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One Mitchell Six sells for $1250 at factory. Yet it has a 120-inch wheelbase and a 40-horsepower motor. Compare that price with present prices on other like-size cars.

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You will find all the attractions our experts found in 257 new models—all in a single car.

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These extra features and extra standards cost us millions of dollars per year. But we save that—and more—by wonderful factory efficiency.

John W. Bate, the efficiency expert, built and equipped this plant. It was built and equipped to produce this one type economically, in enormous quantities, at minimum labor cost.

The entire car—chassis and body—is built under these Bate methods. The making cost is half what it used to be. That saving pays for this extra strength, these extra features and this added beauty.

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Mitchell—a roomy 7-passenger Six, with 127-inch wheelbase and a highly developed 48-horsepower motor.
Three-Passenger Roadster, $1490
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Mitchell Junior—a 2 or 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor. ¼-inch smaller bore.
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Sedan, $1950—Coupe, $1850
All Prices f. o. b. Racine.

General Agricultural Review

Field Crops.

Korean rice will be tried near Chico to provide for a winter crop.

H. H. Garman of Saticoy sold last week a car of limas at $12.85 per cwt. and Bert Culbert sold his crop of limas at $12.86 per cwt.

President Stephens of the California Rice Association estimates the rice crop in this State will range between 2,500,000 and 3,000,000 bags.

Beet sugar manufacturers will put sugar into the market so that it can retail at 8c a pound. They will sell to the wholesalers at 7¼c a pound.

A maximum of $400 an acre has been placed on loans made on orchard lands by a policy adopted here by the executive committee of the Federal Land Bank of Berkeley.

Cotton picking is now going on in the Imperial Valley. The crop is estimated at 65,000 bales. The market price of cotton there is 21c per pound, which would make the fiber worth $6,825,000. The cotton seed crop is said to be worth $2,437,500 more. Total, $9,262,500.

Deciduous Fruits and Nuts.

Pajaro Bellflowers are bringing from 80c to 85c a box at the present time.

Sebastopol berry growers will this year receive $142 per ton for shipping Lawtons.

The season's almond crop is below the average in Sutter county, an exchange states.

The Central California Cannery in Yuba City picked a total of 92,000 cases of peaches this season.

The California Fruit Growers' 1917 convention will be held in the State Capitol, November 19 to 24.

One of the largest crops of prunes ever grown in Napa Valley is now practically on the trays. The rain last week did little or no damage to the prunes.

A. L. Little of Monticello reports the prune crop in that section to be unusually large and of fine quality. As usual, the crop is about two weeks behind that of the Napa Valley. The help at present is sufficient to care for the crop nicely.

The scarcity of labor has caused the El Rio grammar school of Oxnard to close for an indefinite period to all the pupils so they can work in the walnut harvest. A price of 15c orchard run has been offered some growers for their crop.

The California Peach Growers announce that, effective October 2, they cannot until further notice accept any orders for peeled or recleaned peaches. This action was made necessary owing to unusual conditions confronting their manufacturing department.

Citrus and Semi-Tropical.

This year's crop of almonds will break all past records for the Oakdale district.

The utilization of cull oranges to make marmalade and orange jellies is now being seriously considered.

On the Monte Vista olive grove in Shasta county, the most northern grove in the State, the olives are already showing color.

County Horticultural Commissioner Earle Mills is satisfied that citron can be grown profitably in the foothills in Butte county.

Navel orange shippers in the Porterville district say it will be well toward the middle of November before the first carload of oranges leaves there. Prospects for the crop are constantly improving.

The Federal Land Bank Board conducted a hearing in Los Angeles last week at which thirty Federal Farm Loan Associations were heard. They pleaded for a higher valuation of land covered by fruit trees than agreed upon by the Federal Land Bank Board.

A stringent quarantine service has been put into operation by State Horticultural Commissioner George H. Hecke to protect the California orange groves from a scourge of the citrus canker which is now destroying the highly developed citrus groves of Florida.

At the annual meeting of the Mountain View Citrus Association of Oxnard last week its shipments for the past season were given as 47,721 boxes of oranges and 32,521 boxes of lemons, or 12,692 boxes more than the season before. There was received for the fruit shipped $191,099, or $50,250 more than the year before. Officers and directors were elected for the ensuing year.

Grapes.

Picking for raisins will soon be commenced in Escondido Valley.

The State Viticultural Commission will exhibit at the California Land Show to be held in San Francisco.

The Muscat and wine grape crop of the Escondido Valley is being sent to market with returns which are pleasing to both growers and shippers.

There has been a shortage of grape pickers in the upper Napa Valley, but the crop is fast being gathered and will soon be out of danger should early rains come.

Wine grape shipments from San Joaquin Valley this year will exceed all records. The grape pool has sold to different Eastern buyers a total of 1,000 tons of black grapes on a basis of $17.50 per ton.

The grape crop around Fresno is finding a ready sale at much higher prices than last year. Malagas are being bought at $35 and $40 per ton against $20 and $22 per ton last year. Red Emperors are being contracted as high as $65 to $100 per ton.

It is announced from Dinuba that 10,000 tons of wine grapes of all varieties will be shipped from the Alta Vineyard district this year to Eastern winemakers, exceeding the shipments of any previous year. While at the outset of the season contracts were signed at $12 per ton, the same as last year, later bids as high as $18 have been made.

The vineyards of the Cloverdale section are affected by the "red leaf" blight. The same condition prevails in the San Joaquin Valley vineyards. State Viticultural Commissioner Sheridan Peterson has made an inspection of the vineyards for the purpose of recommending a cure for the blight.

Miscellaneous.

The California State Grange, Patrons of Husbandry, will hold its forty-fifth annual session at Napa, Cal., October 16-19, 1917.

Tulare county's 1917 fig crop is estimated at $200,000. The acreage in bearing is 50 per cent greater than last year.

The eighth annual Tulare County Citrus Fair will be held the latter part of November instead of December.

Over 1,000 notices have been sent out in the past week relative to the new amendment to the State horticultural law making it compulsory for all nurserymen to register with the State Commissioner of Horticulture.

Stockton dealers are quoting standard Calcutta bags at 15¼c each retail. The small-sized bean bags are selling at 13½c and the large ones have advanced to 16c. The price of jute bags manufactured at the San Quentin penitentiary was raised from 12c to 14c last Saturday.

Beet Lime Fertilizer

besides its readily available precipitated lime value, contains organic matters of manure value.

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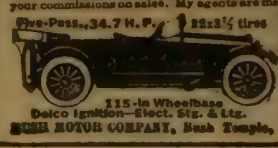

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Knapp's Gopher Plow

is especially valuable on alkali land, permitting the alkali to wash out into the drainage ditches and leaving the land sweet and fertile. Three thousand acres of excessively alkaline land in one location are now being made productive by this Knapp Gopher Process.

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Knapp sub-soil plows are built for all makes of tractors. They are sturdy enough to smash their way through the hardest plowpan and hardpan. Can be equipped with Ditcher Attachment for digging ditches. Absolutely no other implement on the market like them.

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Harness costs money these days. Take care of it. Make it last years longer by using Eureka Harness Oil - the preservative oils protect the leather fibre from dirt, sweat and moisture. Keeps harness jet black.

Eureka Harness Oil

Standard Oil Company (California)

THE ESCALON-RIPON-MANTECA DISTRICT FAIR.

The Escalon-Ripon-Manteca district paused long enough last week its work of helping win the war to hold a successful community fair. A tented city just outside Escalon housed the exposition. There was a tent for agricultural exhibits, one for school exhibits, one for automobiles, another for farm implements and machinery, various tents for amusements and refreshments, and last but not least a big tent where the ladies served a rattling good chicken dinner. Comfortable stalls and pens were provided for livestock and poultry.

Ripon featured small grains, beans, etc., in its agricultural exhibit. Manteca, garden crops, beets, and tomatoes. Escalon made a special feature of forage crops, maize, Egyptian corn, etc., along with cotton, melons and grapes, and was awarded first prize by the jury, consisting of Farm Adviser Robertson and J. C. Loomis.

The livestock show ran largely to dairy cattle and Berkshire hogs. A. B. Humphrey of Grapewild Farms, whose stock has won in competition with the best in the world, showed Berkshires and Guernsey cattle. There was a goodly showing of Holsteins by Gotshall & Magruder of Ripon, who have one of the largest herds in the State, also by J. C. Campbell of Escalon, C. A. Miller of Ripon, F. L. Green and Raymond Stevens of Escalon. There were a few head of fine Jerseys and some good horses shown. Professor Royce judged horses and Prof. Bryant other stock. J. E. Yates of Modesto awarded the poultry prizes. An interesting and instructive lecture and demonstration on cholera immunizing of hogs was given by Dr. Cady of the Department of Agriculture on Friday. The good soil, water and sunshine of the South San Joaquin district and the enterprise and industry of its people were the contributing factors to the success of their community fair.

ANTELOPE VALLEY FAIR.

[Written for Pacific Rural Press by Donald H. Graham, Lancaster.]

The first annual Antelope Valley Fair was held September 26-29. It was a marked success, largely due to the great efforts of Secretary R. B. Cameron. About 3,000 people were in attendance during the four days. Many and varied agricultural exhibits filled to overflowing a building 50 by 120.

There was a good poultry exhibition, which was judged by E. J. Hauser of the University of California.

The livestock exhibition was strong, especially in regard to swine. A number of cows were shown. Also two jacks and their get. A few horses were shown. It is hoped that these classes will be stronger next year. Duroc hogs were shown in largest numbers, Berkshires second, and Hampshires third. L. A. Denker of Bouquet Canyon had about half of his show herd of Hampshires in competition. His best animals were here. They had practically no competition. My Duroc-Jersey boar, Super Dreadnaut, was placed first over the Manley boar, Col the King, which won at the P. P. I. E., now owned by the Llano Socialist Colony. My Durocs had no competition outside of the aged boar class. A fine young Berkshire boar belonging to the Sierra Madre Ranch, which has been raised in Antelope Valley, was placed first over Kintyre Duncan, which won third place at the P. P. I. E. W. T. Gatton did the judging and was very highly pleased to see the fine quality of stock shown. It was his belief that both of the aged Duroc boars, and the Sierra Madre Berkshire, would have shown well in front at Sacramento this year. A much larger fair is planned for next year.

TURKISH TOBACCO YIELDS $900 PER ACRE IN SANTA CLARA COUNTY.

Santa Clara county, long known as the home of the prune, seems well adapted to another crop entirely different in character. This crop, to the surprise of most farmers, is the Turkish tobacco. Right among thriving orchards near the town of Mountain View, two Turks with the help of a number of Japanese planted 25 acres to tobacco. The plant grew luxuriantly and it is estimated that the yield will be at least 600 pounds per acre. At the present price of $1.50 per pound, the income will be $900 per acre, or $22,500 for the little farm of 25 acres.

No doubt it was the "Sun-Kist" prune that led the American Tobacco Company to recognize that Santa Clara county offered ideal conditions for the growth and curing of Turkish tobacco. This year's experiment—for it was only as an experiment that the company planted the 25 acres to tobacco—would seem to indicate that the prune of Santa Clara county would find in the future a mighty lusty competitor in the "weed" which is used almost exclusively for making Turkish cigarettes.

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THE LAMP
that is made in California
EDISON MAZDA
California's Native Sun

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It takes power to do it—of course. But it pays—always.
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One man, alone, can pull any stump that can be pulled by any horse power machine. Merely work a lever and easily pull 48 tons weight—all an inch-steel cable will hold. A mechanical wonder.
HAND POWER
K Stump Puller
Made of Krupp steel—weighs only 171 lbs.—two speeds—endorsed by U.S. Government experts. Works on hillsides and marshes where horses cannot operate. One man and a K can clear single-handed from 50 to 100 stumps per day.
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PERFECTION OIL HEATER

Growing Alfalfa—Ill-Effects of Pasturing

[By J. M. Bomberger, Modesto.]

On my Green Gold alfalfa ranch I have made some very careful observations concerning the growth of alfalfa after cutting. I have noticed that the growth during midsummer, when the crop matures in about five weeks, is about as follows:

First week after cutting about 1% of the succeeding crop is grown.
Second week after cutting about 4% of the succeeding crop is grown.
Third week after cutting about 15% of the succeeding crop is grown.
Fourth week after cutting about 35% of the succeeding crop is grown.
Fifth week after cutting about 45% of the succeeding crop is grown.

I will try to explain why the growth is so unequal during the five weeks. The alfalfa plant, under normal conditions, has a very large, vigorous root system and is able to gather a large amount of plant food and moisture; but the plant food and the moisture must be acted upon by the light and warmth of the sun in the green parts of the plant before growth can take place, so that, after cutting, the small green shoots left on the crown become the limiting factor of growth.

PROGRESS OF GROWTH.

During the first week after cutting, even when the alfalfa is cut at the proper time, the amount of green parts exposed to the sunshine is very small and the result is that during the first week after cutting only about one per cent of the succeeding crop is grown. During the second week, with more leaves and green parts exposed, the growth is about four times that of the first week. During the third, fourth, and fifth weeks the green parts increase very rapidly until there are sufficient green parts to handle all the plant foods and moisture that the roots can gather and the root system then becomes the limiting factor of growth.

HABITS OF THE PERENNIAL.

Alfalfa is a perennial, which means that it lives continuously from year to year so long as conditions are tolerable. Under very favorable conditions, where plant food and moisture are plentiful, it will not even make seed; but about the time it starts blossoming it will start the new shoots from its crown and perpetuate itself in that way. (This is the logical time to cut for hay.) If the life of the plant is threatened by insufficient moisture, it will make an effort to perpetuate its kind by producing seed and will not send out new shoots at the crown.

When we understand the growing habits of the alfalfa plant, it is not difficult to understand why it should be used for hay-making or for soiling rather than for pasturing, and why it should be cut just after the new shoots have appeared at the crown. Also, it is not hard to understand why it is possible to feed two cows from one acre of good alfalfa land by the soiling and hay-making method when two acres of the same alfalfa land would not support one cow by continuous close pasturing.

ANOTHER ILL-EFFECT OF CLOSE PASTURING.

If the green parts of the alfalfa plant are kept at a minimum for a long time by close pasturing, the root system will not remain large and vigorous, just as a strong man will become weak [illegible] will actua[illegible] inactivity. The [illegible] v[illegible] shrivel and become smaller, the miniature feeder rootlets will die off and many of the lateral roots will die. Next, the weaker plants will die entirely, the stand will be thinned out and weeds take their places.

I have compared the roots of an old alfalfa field that was never pastured with the roots of a continuously closely pastured old alfalfa field.

ROOTS OF PASTURED AND UNPASTURED FIELDS COMPARED.

The roots of the unpastured field were large, having strong laterals and many feeder rootlets. The roots were luscious, full round, easily peeled and comparatively brittle, showing every evidence of life and vigor. The roots of the continuously close pastured field were small, having few live laterals and feeders. They had a shriveled, shrunken appearance, were not easily peeled and were comparatively tough and woody.

Alfalfa that is pastured during summer and fall enters the dormant winter state with a very weak root system and is in no condition to compete with the weeds of spring time. This, I think, is one of the chief reasons why pasturing brings on weeds so quickly in an alfalfa field.

HOW TO PASTURE ALFALFA.

If pasturing is permissible at all, the cattle should be put on when the crop is about ready to be cut for hay, and eaten off as quickly as possible, and then the cattle should be removed at once; which would imply fencing the field into a number of smaller plots and changing the cattle about or perhaps the cattle might be allowed to eat off the late fall growth quickly; but the cattle should be removed promptly when the growth is eaten off.

Under average conditions, I think, the soiling and haying method will be cheaper than proper pasturing in small plots.

LESS THAN TWO INCHES SILAGE PER DAY.

To the Editor: I have only three or four cows to eat silage and I figure that they, even with the horses, cannot eat two inches per day from an eight-foot silo. Is it safe to use only one inch per day?—C. C. M., Santa Cruz county.

It would be unsafe to feed horses silage from which at least two inches are not removed every day, for they are very susceptible to moldy silage. Your climate may be cool enough not to mold at all if only an inch per day is removed, as we know of a case in Santa Clara county where no ill results were noticed with such feeding. Perhaps a redwood water tank built up from the ground with small enough diameter to feed two inches per day would be your best silo.

Since July 1 there have been moved from Texas to points in the Southeastern States more than 13,000 head of cattle; 25,000 head will be so moved. This movement was made necessary because of the drought in certain parts of Texas, which threatened the loss of valuable breeding stock.

State Veterinarians who have just completed the tuberculosis test among the dairy cows of Dinuba district find the cattle locally in excellent condition.

125 REGISTERED HOLSTEINS 125

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SANTA ANA, CALIFORNIA

October 16-17, 1917

This sale is suited to the buyer who wants foundation animals of the greatest desirability. Within this sale three entire herds will be completely dispersed, placing at the mercy of public bidding great breeding animals that would not be sold under any other circumstances.

Both breeders and dairymen owning grade herds will find in this sale an unusually good selection of bulls ranging in age from calves up to mature bulls, some of them right in every way to head purebred herds, and some young fellows that are just right to head grade dairy herds.

CONTRIBUTORS TO THE SALE:

E. O. McClure, Santa Ana.
A. Satterberg, San Jacinto.
P. H. Jarrett, Lancaster.
R. Nadeau, Saugus.
Santa Anita Rancho, Santa Anita.
McAlister & Sons, Chino.
Aro Herd, Buena Park.

THE FEMALES INCLUDE:

A 28-pound cow and her three daughters.
Sixteen daughters of King Pontiac Netherland Segis, son of King of the Pontiacs.
12 A. R. O. cows with records up to 28.43 lbs. butter in 7 days.
A full sister to a 31-lb. four-year-old.
A granddaughter of Rag Apple Korndyke 8th.
A granddaughter of Tilly Alcartra.
Four heifers sired by a 29-lb. grandson of King Segis.
A granddaughter of Hengerveld De Kol.
A granddaughter of Sarcastic Lad.
18 Granddaughters of King of the Pontiacs.
Many of these good females bred to sires of famous breeding.

THE BULLS INCLUDE:

King Pontiac Netherland Segis, proven son of King of the Pontiacs and out of a good record daughter of King Segis Pontiac. The breeder who wants a high class herd sire should look this bull and his daughters over carefully.
A son of a great 34-lb. daughter of Sir Sadie Cornucopia, making him the highest record bull sold at public auction in California.
A son of Colantha Johanna Lad out of a granddaughter of Pontiac Korndyke.
A son of James J. Jeffries' great young herd sire King Segis Pontiac Jannek, out of an 18-lb. junior 3-year-old daughter of a 21-lb. cow.
A son of King Pontiac Topsy out of a splendidly bred 18.22-lb. junior 4-year-old and others of great desirability, including in the summary 14 grandsons of King of the Pontiacs.
Every animal over six months of age tuberculin tested and has individual certificate.

SALE BEGINS PROMPTLY AT 10 A. M., TUESDAY, OCTOBER 16.
Under management

California Breeders Sales and Pedigree Company
J. M. Henderson, Jr., Pres. C. L. Hughes, Sale Mgr.
SACRAMENTO, CALIFORNIA
Auctioneers: Col. Ben A. Rhoades, Harold B. Rhoades. Clerk of Sale: H. A. Olsen, Orange County Trust & Savings Bank.

Edgemoor Farm Guernseys

Imp. Itchen May King, 25174.

Pretty
Productive
Profitable

Few Animals of Either Sex for Sale

SANTEE, CALIF.

H. F. SCRIBNER, Supt. W. H. DUPEE, Pres.

considered from every angle
PURE BRED
HOLSTEINS
are the most profitable breed

They produce more milk and butterfat for less feed cost and less labor cost than any other breed. These facts are proven by comparison of statistics available on all pure bred breeds. Write for information. It is free.

THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA, Box 230, Brattleboro, Vt.

DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
GEO. P. ROBINSON CO.
426 J Street,
Travelers Hotel Building, Sacramento.
LIVESTOCK BROKERS.

RHOADES & RHOADES
Expert Livestock Auctioneers
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

A SIRE THAT WOULD NOT BE DENIED.

Because his daughters out of grade cows showed such remarkable type and production that they commanded the attention of an owner of purebred cows, Sir Skylark Ormsby Hengerveld won for himself a small opportunity and through it has placed himself high up among the great Holstein sires of the West.

Frank Hatch of Modesto, Cal., present owner of this sire, to whom tardy honor has been given, is the man responsible for the rescue of Sir Skylark Ormsby Hengerveld from the obscurity of a grade herd. Unable to buy him for many years, Mr. Hatch backed up his judgment of and faith in this bull by paying service fees in order to breed his cows to him, and the offspring from these matings finally have made the grand old bull famous.

Although never in his life mated with a high record cow, Sir Skylark Ormsby Hengerveld stands today as the only bull throughout the whole Pacific Coast that has three daughters with official records above 30 pounds butter in seven days to his credit, and he is also the only bull on the Pacific Coast that has two daughters and a grand-daughter with official records above 30 pounds butter in seven days, all made under mature age.

He comes by his transmitting power honestly, as he is sired by Sir Ormsby Hengerveld De Kol, whose five daughters above 30 pounds include the great producing and transmitting cow Pietertje Maid Ormsby, 35.56 pounds butter in seven days, 145.66 pounds butter in thirty days. Sir Skylark Ormsby Hengerveld is also over 50 per cent the same blood as the sire of the present world's record butter producer Duchess Skylark Ormsby, 1,506.36 pounds butter in one year.

Sir Skylark Ormsby Hengerveld now has 26 A. R. O. daughters, a number equalled by only one bull in California, and the records of the entire list average over 23 pounds butter in seven days, of which the following are the seven highest:

Name	Age	Milk 7 days	Butter 7 days
Gerben Abbekerk Maid	5 yrs.	686.90	34.20
Cristeria Overton Mechthilde 4th	4½ yrs.	463.00	31.69
Belle Josephine Ormsby	10 yrs.	543.4	31.57
In 365 days at 9 yrs. of age (Highest yearly butter record in Northwest.)		27678.4	1127.80
Belle Setske Josephine 2nd	5 yrs.	506.8	28.19
Cristeria Ormsby Hengerveld	6 yrs.	445.6	25.92
Ormsby Cristeria Mechthilde	7 yrs.	485.3	25.90
Sir Skylark May Peoples	7 yrs.	579.4	25.72

His highest record daughter, Gerben Abbekerk Maid, has to her credit an official record of 30.10 pounds butter in seven days as a four-year-old, and freshening again within twelve months made the great 34-pound record now to her credit, and she is rated as one of the very best 40-pound prospects in California.

Stanislaus Princess Cleopatra, grand-daughter of Sir Skylark Ormsby Hengerveld, made an official record of 31.04 pounds butter from 513.9 pounds milk in seven days under most adverse conditions, and promises to make a very much larger record as she matures. She is now the second highest record senior three-year-old in California, having held first position in that class for a short time.

HOLSTEIN BREEDERS' GUARANTY SALE.

An event giving promise of being the most important development in Holstein circles in the far West is the Holstein Breeders' Guaranty Sale, set for December 5 at Sacramento, Cal. At a recent meeting of prominent breeders it was decided to hold such a sale and a committee of selection was named to pass on all cattle before consignment. This committee is composed of three members, Frank L. Morris, Woodland; James W. McAlister, Jr., Chino, and C. L. Hughes, Sacramento. About 80 head will be selected for this sale, which will be under the management of California Breeders' Sales and Pedigree Company.

ACME FEED CUTTER

AND

SILO FILLER

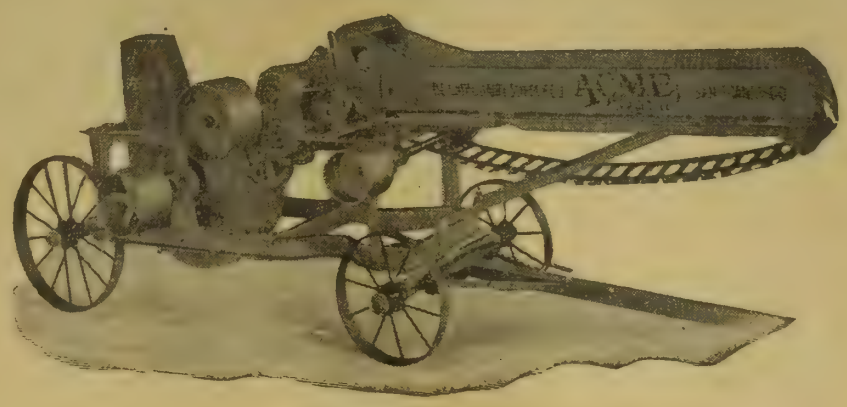
Place Your Order Now While Stock is Complete to Insure Having Your Cutter When You Need It

All Steel Frame

Center Hung Blower

Gears Well Guarded

Six-Arm Blower Fan



Low-Down Feed Table

Positive Safety Device

Reversible Feed Rollers

Built in Seven Sizes

THE LIGHT RUNNING ACME

An Acme will cut anything that will make silage and elevate it to the highest silo. That is not all. When not in use as a silo filler, you can use it anytime to cut dry feed. Cutting up dry feed is reducing feed costs 10% to 20% on hundreds of farms in California. If you want to make alfalfa meal your Acme Cutter can be equipped for this purpose. An excellent grade of alfalfa meal can be produced at a cost of about half of that for baling.

THE ACME IS THE ONLY ALL-STEEL FRAME CYLINDER CUTTER MANUFACTURED

This frame is securely riveted throughout. There are no bolts to jar loose. The frame can't warp nor the bearings get out of alignment, as is the case with the old style wooden frame cutters. Vibration and wear are reduced to the minimum in the Light Running Acme.

The Blower is Center Hung between the side members of the frame giving strength and rigidity to the entire construction.

The Triple Frame Construction allows three bearings for the main shafts eliminating vibration from that source.

You don't have to buy a truck for your Acme Cutter. They all come **mounted on steel wheel trucks** complete with pole.

SEND NOW FOR COMPLETE CATALOG.

DE LAVAL DAIRY SUPPLY CO.

61 BEALE STREET, SAN FRANCISCO, CAL.

We Can Install An Ideal Green Feed Silo on Your Ranch on Short Notice.

Jerseys for Net Profits

You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull.

Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 388 West 23rd Street, New York City

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,

GERTIE OF GLYNLLYN.

Visitors welcome. Correspondence solicited.

A. A. JENKINS, R.D. 1, Tulare, Cal.

VENADERA HERD REGISTERED JERSEYS

Young bulls from dams and grandames in Register of Merit.

GUY H. MILLER, Modesto, Cal.

YOUNG BULL CALVES

Fine individuals, with Register of Merit backing.

T. B. PURVINE, Petaluma.

PEDIGREED BULL CALVES

With or without registration papers. Service Bulls from cows with yearly records. Jersey females. Prices right. Tuberculin tested.

N. H. LOCKE CO., Lockeford, Cal.

ACME HERD JERSEYS

Quality counts.
Stock for sale.

CHAS. M. McLOUTH, Orland, Cal.

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit cows. Write for information.

W. J. HACKETT, Ceres, Cal.

the JUDGE said

that the 4-year-old
HOLSTEIN BULL
PRINCE RIVERSIDE WALKER
has the greatest heart-girth and deepest body of any dairy bull at the Fresno Fair.
He is sired by
PRINCE GELSCHE WALKER
and out of
AAGGIE ACME OF RIVERSIDE
He has 15 State Record sisters and one World Record sister. His calves can help you.

Drop a card to

W. J. HIGDON TULARE, CAL.

HOLSTEINS

Herd headed by

Loren Korndyke Gerba

young bulls and bull calves from

A. R. O. DAMS

C. A. MILLER
RIPON, CAL.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

Dairy Notes.

The Visalia Co-operative Creamery paid 48c and 49c for August butterfat, but September butterfat is about 2c higher.

The bull calf out of Golden Maid of Maple Lane, A. B. Humphrey's high record Guernsey, has been bought by Joe Levy of Manteca.

A silo-building demonstration was recently held by J. E. Stiles under the auspices of the Fresno County Farm Bureau on the Hillcrest Farm at Caruthers.

Chris Myhre, manager of the Orland Cheese and Butter Co., will auction his entire herd of 24 purebred Jerseys, including the herd sire, Oregon Golden, at Orland, Cal., October 8.

W. J. Higdon of Tulare recently sold a young registered Holstein bull and two heifers to C. H. Henley of Porterville. The dam of the bull is a 24-pound grand-daughter of King Segis.

L. B. King of Visalia proposes to sell off all his fine grade Holsteins next spring and keep only the purebreds. The main herd has been tuberculin tested with no reactors; but no records of production have been kept.

Sir Skylark Ormsby Hengerveld. (See page 345.)

Arlington M. Smith has just put $3,000 into a cement floored 30-cow milk barn and completely equipped dairy house to supply his new but well patronized Visalia retail milk route. It was planned to put two silos at the end of the barn, and a trolley feed carrier through the center, but now that Mr. Smith is going to war the plans are upset.

Beef Cattle.

P. D. Walsh of Vallejo is justly proud of his herd of 100 head of high-grade Shorthorns. He is looking about for a purebred bull to take the place of the one that was accidentally killed a short time ago.

A correspondent writing from Amador county upon range conditions says that there is little feed in the hills and that cattle are getting thin. Early warm rains to start grass growing are wanted by the stockmen.

The Greening & Greening ranch, near Norwalk, has just completed two concrete silos 60 feet high and 20 feet in diameter. They will be filled with corn silage, which will be fed to 2,000 cattle now being fattened for market.

Cattle are in good condition on the Paicines Ranch in San Benito county, in spite of the short feed on other ranges. Mr. Wilson, the foreman of the riders, attributes this to the fact that they have never overstocked their range and try to have the grass seed as much as possible every year.

Ben Merrill of San Benito bought some choice Aberdeen Angus bulls and heifers in Inyo county this summer. He plans to cross his high-grade Herefords with them. His idea is that he will have a larger boned steer, and also one that is a good rustler and will do well in their rough mountain ranges. His cattle are doing fine, due to the fact that he is very careful not to overstock.

Swine and Swinemen.

A Tulare farmer sold 46 young porkers last week, netting $1,612. Ten sold at an average of $49.70.

The Gatewood Poland-China herd near Fresno includes a Blue Valley strain big type boar bought from Walker of Nebraska a short time ago.

H. I. Marsh of Modesto won 14 first prizes, five second prizes, three thirds, and four championships on his Poland-Chinas at the Stanislaus Fair.

Prof. C. M. Vestal, formerly of Kansas Agricultural College, who recently changed places with Prof. J. I. Thompson of University Farm, had his first California fair swine judging job at Fresno.

John M. Bernstein has some litters already that will be old enough to compete successfully at next year's fairs. Some of his stock this year was nearly a month under the maximum age of their classes.

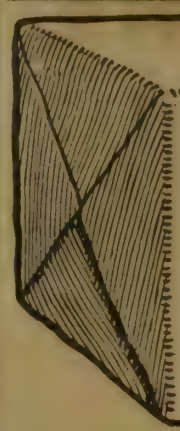
The Kerman Union High School will auction a great bunch of registered hogs, October 6. These include 10 brood sows, 25 gilts, 14 young boars ready for service, and the herd sire, Sunnydale's Chief.

The Western Meat Co. paid $75.95 for a purebred non-breeding Poland-China weighing 490 pounds, September 25. She was shipped by H. I. Marsh, who sees in the 15½c price a good future for heavy hogs of pure breeding.

H. C. Peterson of Reedley, who had the winning Boys' Pig Club pig at the State Fair, got her from Will Bernstein, weighing 35 pounds at 10 weeks old. He fed her 163 days at a total cost for feed of $24.17. Her weight at the finish was 265 pounds, making the gain cost $0.0934 per pound for feed.

J. P. Walker of Visalia has gone to war and his father, S. O. Walker, proposes to sell the Duroc herd J. P. has been building up. These include among others a boar which was third in his class at the P. P. I. E. and 15 spring gilts. Lack of feed has left them in not the best of condition, but the blood is still there.

Donald H. Graham of Lancaster writes: I sold three spring boars at the Antelope Valley Fair. One to F. H. Ford of Los Angeles, one to Bernard Graves of Del Sur, Cal., and one to W. H. Zimmerman, Lancaster, Cal. I recently sold four spring gilts to J. Harvey McCarthy, Los Angeles, Cal. Most of my herd is now purebred. Soon I will have nothing but purebred animals. I will continue to sell the most of my animals to the packer, from whom I usually get more than mar-



$1.00 A LB. BUTTER will pay for a new DE LAVAL CREAM SEPARATOR Every Three Months

COMPETENT AUTHORITIES predict that butter will go to $1.00 a pound before the winter is over.

Even at present butter prices no cream producer can afford to be without a separator or to continue the use of an inferior or half-worn-out machine another week.

It is not only our solemn duty to eliminate every waste of food products, time and labor, but the individual dollars-and-cents interest of every cow owner is too great to delay so important a consideration.

A De Laval Separator bought now will more than save its cost by spring. It can be bought for cash, or if preferred, on such liberal terms that it will easily pay for itself in its actual savings over any other separator or creaming system.

Why not see the nearest De Laval agent at once! See a new 1917 De Laval machine for yourself. Try it to prove every claim made for it. If you don't know a De Laval agent write direct to one of the addresses below.

DE LAVAL DAIRY SUPPLY CO.

LARGEST DAIRY SUPPLY HOUSE ON THE PACIFIC COAST

Alpha Gasoline and Distillate Engines, Ideal Green Feed Silos, Acme Ensilage Cutters and Blowers, Irrigation Equipment, Centrifugal and Deep Well Pumps and Alpha Spraying Outfits. Send for Special Catalog.

61 BEALE STREET, SAN FRANCISCO

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Grapewild Farms

BERKSHIRES

Awarded Premier Breeders' Ribbon at P.-P. I. E.
Herd headed by Royal Superbus, half-brother to Grand Leader 2nd, and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering some choice boars of exceptional breeding and are also booking orders for fall pigs.

GUERNSEYS

Herd headed by Don Adonis of Linda Vista, whose five nearest dams averaged 714 lbs. Butter Fat, and by Bullion of Edgemoor, who was made Grand Champion at Stanislaus Live Stock Show, in competition with some of the best in the West.
Bulls 6 months to 1 year of age from cows with records.

A. B. HUMPHREY, Proprietor

ESCALON, San Joaquin Co., CALIFORNIA

SAVE YOUR CALVES

Raise Them Without Milk

Why throw away money by knocking them in the head or selling them for a dollar or two at birth when they can be raised or vealed WITHOUT MILK at a fraction of the cost of feeding milk. You profit both ways selling the milk and still have the calves.

The Best Milk Substitute to Use is

Ryde's Cream Calf Meal

the most successful milk substitute on the market—the standard of perfection Thousands of farmers are using it and cannot say enough for it. It is NOT a stock food—it's a complete food that long experience has proved to be right for rearing calves. It contains all the nutrition of milk prepared in the most digestible form and is sold on a money back guarantee to give results.

BOOKLET "MILKLESS CALVES" FREE

100 lbs. equal to 100 gallons milk—Try it on your calves.

Watertown Wis June 12th 1916
Ryde & Co. Chicago, Ill.
Gentlemen—Above is a picture of our 2 months old calf which I fed on Ryde's Cream Calf Meal. I followed your instructions closely. The meal, can't be beat. (Signed) Alvin Bort

GREAT WESTERN MILLS, LOS ANGELES

CALIFORNIA BREEDERS' SALES AND PEDIGREE COMPANY — PUBLIC SALES FOR THE BEST LIVESTOCK

SERVICE TO THE BUYER TO THE SELLER

Economy of time, effort, and money is only one of the many services our organization is delivering to both sellers and buyers of registered livestock in public auctions.
If you want to consign cattle for public sale, or disperse your herd to best advantage, write us about it.

California Breeders' Sales and Pedigree Co.
C. L. HUGHES, Sales Mgr., SACRAMENTO, CAL.

ket price. The most promising animals I will retain for breeding purposes.

SEE YOU AT HANFORD.

[Written by R. H. Whitten, Secretary California Poland-China Association.]

Our next meeting will be held at Hanford, Thursday night, October 18, this being the evening previous to the big sale of the Kings county swine breeders. Those royal entertainers gave us a cordial invitation to hold our next meeting in connection with the sale, and promised us fine eats. Knowing their reputation in this respect, we voted very quickly to accept their kind invitation. Say, folks, the grub that mother used to put before us—all those favorite dishes that we used to like so well—will have to be dumped into the garbage can when it comes to comparing them with the dishes that those Kings county breeders prepare. You'll get a darn sight better grub than you would at home. The stock offered for sale will be on par with the eats—each the best of its kind.

The stock that will be offered for sale is the choicest that has ever been driven into a sales ring in this State. In breeding, type individuality, prolificacy, easy feeding qualities—everything that goes to make a profitable hog—you will find just what you are looking for. The tops of some of the best herds in the State will be offered, and whether you want foundation stock to start a herd, or new blood for an established herd, here is your opportunity to get the best at your own prices. Come! Buy! And get started on the road to greater prosperity.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

Poland-Chinas.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

TWENTY OF THE BEST SOWS and two grand boars from the Bernstein herd will sell at the fourth annual Kings County Poland-China Breeders' Sale, Hanford, October 19. W. Bernstein, Hanford.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. E. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAGOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend streets, San Francisco.

A-1 BERKSHIRES — Herd boars Winona Royal Champion and Charmers Star Masterpiece. Best blood lines. Immunized stock. Ayrshire cattle. Arlington Smith, Visalia.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

FINE REGISTERED BERKSHIRE GILTS (open), sired by double grandson of Grand Leader 2nd and out of Fashion Longfellow sows. F. B. Wulff, Route C, Modesto.

BERKSHIRE GILTS—Rival's Champion Best and Bandmaster blood lines. D. B. Wentworth, Napa.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

ANDREWS' QUALITY DUROCS — Dams mostly line bred from "that great mating" of Crimson Wonder Again and H. A.'s Queen, and every one a credit to the breed; sires Good-E-Nuff and Gold Model. This breed can't be beat. Place orders now for November bred gilts and weaned pigs. W. P. Andrews, Route A, Modesto.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC JERSEY BOAR—A great breeder, two years old, from Kansas; will exchange for typy gilt or sell; come and see his pigs. Jersey Queen Farm, San Jose, Cal.

BUY A DUROC BOAR PIG sired by the Grand Champion. I have some good ones for $26. Send check today. J. M. De Vilbiss, Patterson, Cal.

RANCHO RUBIO DUROCS—Nothing to sell at present; a fine bunch of gilts and a few extra good service boars for this fall. Elmer Lamb, Ceres, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

RANCHO DEL SUR DUROC-JERSEYS—Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class, purebred hogs, both sexes, any age.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

DOS HERMANOS DUROCS — A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DUROC-JERSEY REGISTERED HOGS — River Bend Farm, St. Helena, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND — The mellow, easy feeding type; 20 bred gilts due to farrow during October and November; 50 spring pigs, both sexes, sired by Billiken; every animal is cholera immune; Billiken was grand champion boar at the State Fair; a son was reserve grand champion and a daughter was grand champion sow. Why not get started right and with the best? Write for prices and for booklet on Chester Whites. C. B. Cunningham, Mills, Sacramento county, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

HOLSTEIN BULLS from cows with records; won two firsts and one second at Modesto butterfat contest. A. M. Bibens, Modesto.

REGISTERED HOLSTEINS—Sires in service Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

Production and Show Quality

are combined in

GIBSON HOLSTEINS

Cows won First in both classes in the 3 days' butterfat contest of all breeds.

In the Show Ring, won 4 First prizes, 8 Seconds, and 3 Thirds.

IS NOT THIS THE BLOOD YOU WANT IN YOUR HERD?

J. S. GIBSON COMPANY

Box 97 Williams, California

The name GIBSON insures quality

Champion Ram P. P. I. E.

SAN RAMON SHROPSHIRES

WINNINGS P. P. I. E., 1915

Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.

Purebred Registered Rams and Ewes.

Individuals or Carload Lots.

BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

YOUNG BULLS sired by Grand Champion King Hengerveld Ormsby, grandsons of Pietertje Maid Ormsby, 35.55 pounds 7 days, test 5.31 per cent. Kounias, Registered Stock Farm, Modesto.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

WANTED — Unbred Holstein heifers not over 18 months old. State price. Box 740, Pacific Rural Press.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Modesto.

Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

YOUNG REGISTERED JERSEY BULL calves at reasonable prices. O. J. Ames, Oakdale.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS—Males from A. R. dams, $125 and up. J. W. Henderson First National, Berkeley.

FOR SALE—Young purebred Guernsey bull sired by the famous Raymond of the Preel. Box 750, Pacific Rural Press.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

VERAMONT STOCK FARM — Purebred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS — Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

WANTED—75 to 100 high-grade Angora goats, not over three years old. J. A. Swall, Bishop, Cal.

KAUPKE BROS., WOODLAND, CAL.—Breeders and Importers of Hampshire sheep.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL. Breeders, Importers of Hampshire sheep.

HORSES AND MULES.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

STOCKTON FOR PERCHERONS—Best by State Fair test. Winners for the last five years. H. G. Learned, Stockton.

MISCELLANEOUS.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., 8th and Townsend Sts., San Francisco.

FOR SALE OR EXCHANGE—18-month registered Holstein bull; fine individual; almost white heritage; want Guernsey bull of same age and same qualifications. A. J. Ludwig, Hynes, Cal.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FREE FEED FOR STOCK—Acorns for hogs, grass for cattle and sheep; get State and Government land; new booklet free. Joseph Clark, Sacramento.

Fine Display of Livestock at Fresno Fair

[Written for Pacific Rural Press.]

The Fresno Fair may be intended primarily as an amusement feature; and as such it seems to be successful. But as an Agricultural Fair its eleventh effort, September 25 to 29, 1917, was notably unsuccessful in enlisting support of a large number of breeders. The livestock this year were much less in quantity, though perhaps of equal or better quality than at Fresno last year. Considerable space was unoccupied. Coming as it did after the Modesto and Hanford Fairs, it was expected to have many of the animals from those and the State Fair, but few of them came. Those who did come, however, brought their champions and prize winners, so the Fresno Fair was an eye opener as to the quality which several of the breeds possess.

DAIRY CATTLE.

Holsteins comprised over half of the cattle. There were many magnificent specimens and the competition keen. Judge C. W. Rubel studied long before placing some of the winners, and then responded to requests from the crowd to tell why he placed them so. Holstein exhibitors were: The Bridgford Co., Knightsen; J. S. Gibson Co., Williams; W. J. Higdon, Tulare; F. A. Heroux, Oakland; F. M. Helm, Fresno; Minor & Thornton, Kearney Park; and J. P. Phillips, Fresno. The grand champion cow and bull were the same animals that won these honors at the State Fair, both owned by the Bridgford Co.

Guernseys were well represented with the entire State Fair herd of 18 animals from the Revada Farms of Yountville. Their orderly arrangement by sex and graduated from the largest to the smallest, was very effective. They go home from the Fresno Fair on account of B. E. Nixon's ill health.

Jerseys shown by J. E. Thorp of the Mossdale Ranch, Lockeford, had no competition. The herd was a representative bunch of 11 animals of both sexes and all ages, including the State Fair junior champion bull.

Dairy Shorthorns included the State Fair herd of Alexander & Kellogg. Among the 15 animals shown were the great aged bull, Glenside Royal, and the white young bull, Shasta.

BEEF CATTLE.

The conservation of food to win the war is well exemplified in a comparison between purebred beef cattle with their loads of meat made out of forage crops and feeds, with the beef cattle of no pedigree which use the same feeds in producing less than half the same amount of meat. To see T. T. Miller's nine purebred Shorthorns at the Fresno Fair was to make one very discontented with the thin, long-legged, small-steaked animals commonly found producing our scant meat supply. Mr. Miller had at Fresno his white State Fair grand champion senior yearling bull, Greendale Sultan, and the State Fair junior champion, White Mayflower heifer; also the aged bull, Diamond Choice, whose steaks are built like mammoth hams.

SWINE MOSTLY POLANDS.

In the hog section Poland-Chinas were practically the whole show, J. E. Thorp's 14 Durocs being the only other breed represented. Boys' Pig Club exhibits, under supervision of I. F. Davis, were stronger here than at the State Fair. Fifteen boys from three clubs entered 26 Poland-Chinas and 14 Durocs, including a sow with five pigs. Members of the Kerman Club entered 25, Reedley 7, and Selma 2. H. C. Peterson of Reedley had his State Fair first prize pig-club sow there, an animal that took fourth prize in a class of 26 entries at Sacramento.

Poland-China exhibitors included Will Bernstein with his big herd of State Fair champions and prize winners; H. I. Marsh with 15 head, including I B A Wonder and Model Major; John Bernstein with his State Fair herd; Fred C. Gatewood of Fresno with 18 head, all about six months and over.

SHEEP.

There was a comparatively fine show of sheep here, about 47 Rambouillets and 20 Hampshires.

DRAFT STOCK.

Draft horses were scarce and hard to find among the stalls of lighter-weights, mules, and jack stock. A blue ribbon was awarded to a grade stallion. A few head of Percherons and a Belgian or two were there. A big array of jacks and jennets by K. Shintaker of Clovis were in rather poor show shape. Burrell &

GUARANTY—

An agreement by which one undertakes to make sure and certain the existence, continuance, or the like, of something.

—Webster.

Eighty registered Holsteins, every one selected and approved for excellence of physical form and quality of breeding, by a committee of three, from among the top animals in famous herds; and all of them surrounded by health requirements and guarantees that mark a new progress in Holstein selling practice—that is the story in brief of this remarkable sale.

To pledge themselves to permit a selection from among the most desirable animals in their herds was no mean thing for Holstein breeders to do, and within the bounds of reasonable expectation the fulfillment of their pledges will bring about many a sacrifice.

These men are looking at the matter in a big, broad-minded way, and if their own sacrifices will be the means of meeting the requirements of other established breeders and beginning breeders who are insistently demanding an opportunity to buy some of the very best, then will they find recompense in the sense of a duty well done in forwarding the progress of the great Holstein breed.

Future announcements will deal with the offerings and conditions of this sale in detail.

Committee of Selection: Frank L. Morris, Woodland, Cal.; James W. McAllister, Jr., Chino, Cal.; C. L. Hughes, Sacramento, Cal.

The management will appreciate early filing of requests for catalogs so that no one may be disappointed.

Management of

CALIFORNIA BREEDERS' SALES AND PEDIGREE COMPANY

J. M. Henderson, Jr., Pres.
C. L. Hughes, Sale Mgr.

SACRAMENTO, CALIFORNIA

SCOTCH SHORTHORNS

We have just purchased the entire herd of Shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

CARRUTHERS FARMS, -- MAYFIELD, CAL.

City Address: Hearst Building, San Francisco, Telephone Sutter 1311

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE

ORMONDALE CO.

R. D. No. 1
REDWOOD CITY, CAL.

10 2-year Bulls SHORTHORNS 10 Bull Calves

H. L. & E. H. MURPHY, Perkins, Cal.

SHORTHORNS
BERKSHIRES

Hopland Stock Farm

HOPLAND, CAL.

Registered HERD and RANGE BULLS by RIGHT CHOICE 282951 and TULE KING 304655. VISIT OUR EXHIBIT AT STATE FAIR.

A limited number of BOARS and GILTS sired by IOWANA RIVAL MAJESTIC 194736, RESERVE GRAND CHAMPION STATE FAIR, 1916, and a son of RIVAL CHAMPION 112500.

San Francisco Office 1210 Flood Building

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop. DAVIS, CALIFORNIA

BREEDER OF

SHORTHORN CATTLE

AND

Shropshire and Merino Sheep

Shropshires sired by rams imported by me from England

The Famous Glide Merinos

Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
First Prize Breeders Young Shorthorn Herd at Sacramento

SHORTHORNS

Herd combines some of the strongest blood lines of this country and Great Britain.

THOMAS T. MILLER 314 So. Normandie Avenue LOS ANGELES, CALIFORNIA

Corey's four-mule State Fair team was exhibited at Fresno by the new owner, E. F. Loescher.

DAIRY FIRST PREMIUMS.

The prize for the best herd of any dairy breed went to Revada Farms. Bridgford won second and Higdon third.

Aged Holstein bull and senior champion, Gibson; two-year bull, Heroux; senior yearling, Bridgford; junior yearling, Helm; senior calf, Bridgford; junior calf, Helm; aged cows, Bridgford; two-year cows, Heroux; senior yearling, Helm; junior yearling, Gibson; senior calf, Bridgford; junior calf, Bridgford; aged herd, Higdon; young herd, Gibson; calf herd, Bridgford; produce of dam, Gibson; get of sire, Bridgford.

SWINE FIRST PREMIUMS.

Aged Poland China boar, Marsh; yearling, Marsh; six-months, W. F. Bernstein; under six months, Bernstein; aged sow, Bernstein; yearling, W. F. Bernstein; six months, Bernstein; under six months, Marsh; sow and six pigs under three months, Marsh; breeding pen boar and three sows, Bernstein.

All Duroc firsts went to J. E. Thorp, except for six-months sow, which went to Clyde Browning of Selma.

SHEEP PREMIUMS.

All prizes went to J. Bidegary of Fresno on Spanish Merinos and Rambouillets; while A. Lautre took all Hampshire prizes. Mr. Bidegary took both sweepstakes.

Breeders Bought Boar Together

[Written for Pacific Rural Press.]

Two young neighbors at Lodi were raising hogs in a small way and did not feel able to buy as good boars separately as they could together. H. S. Van Vlear had been trying out purebred sows of three breeds to determine for himself the one he should prefer. Two breeds seemed about equally desirable, but his neighbor, E. Miner, had three grade Poland-China sows and wanted to get into purebreds. These decided them to get a Poland-China boar in partnership. Efforts of Mr. Van Vlear to get animals of other breeds from the East by correspondence had failed to bring the right kind of animals, so they asked a responsible, well-acquainted party in the East where they could get good blocky stock, not too leggy. He suggested four or five breeders, from one of whom they got the six-months boar pig Ersus Jr. in March, 1916. He cost as much as a developed boar would in California, but they wanted him, partly because he was of Giantess stock and sired by a boar of Peter Mouw's breeding. They wanted the big type, which could use their pasture. Having so good a boar, he won second prize at the State Fair. Mr. Miner proceeded to get a purebred sow locally and another from the Iowa breeder. The latter sow took third prize at the past State Fair in a class of twenty-seven. The partners now have several litters from their boar. Those from grade sows are making fine pork, and those from purebred sows are likely to make a reputation for the young breeders.

ACCOUNTS ON HOGS MADE MONEY.

[Written for Pacific Rural Press.]

What weight to market hogs is not only a question of price but of the dressing percentage and cost of weight added by holding them longer. Lloyd & Tointon of Santa Rosa had eight culled purebred Yorkshires weighing about 200 pounds. As they keep accounts of feed and weight, they knew that the daily average gains of two pounds per hog were making them money. They were offered one cent above ruling quotations there by a man who needed them so much that they let him have two. They dressed 78 per cent. The rest were kept seventeen days and turned in at greatly increased weight. They dressed out 80 per cent. Thus both the buyer and seller could have made more on the two that were sold early.

UNIVERSITY FARM STOCK EXHIBIT.

[Written for Pacific Rural Press.]

To hear the Eastern livestock men say one after another that the California University Farm livestock herds cannot be excelled in quality by those of similar Eastern institutions is great delight. As was remarked, the East does not need to be reminded of what University Farm did to them at the International last year; and they are looking to their laurels, anticipating an invasion of prize winners from the wild and ——. University stock was not shown for awards, but grouped in a specially decorated shed most attractive and always crowded. It included representatives of most of the commercial breeds of livestock.

BUYS SOWS BY RECORDS OF PROLIFICACY.

[Written for Pacific Rural Press.]

When H. F. Feith of Burbank started in the hog business this spring, he made several moves count. First, he got good sows and dandy boar of Bouncer 2nd blood from the State Farm at Davis. Next he got sows with a guarantee of eight pigs or better. His boar was from a large litter of the big bone Poland Chinas. He started in January with eight sows. These have brought him two litters each. No sow gave less than nine and two litters ran thirteen. Out of all the litters of nine, the sows raised every pig.

CHESTER WHITES

Those mellow, easy feeders, that show a sure profit on a reasonable investment.

Herbert Hoover in a recent circular says as follows: "The one-sow man is the farmer who can come to the rescue of the nation in this emergency." "It is the man who will produce in small units that we must rely upon to get our increased supply of live stock."

ARE YOU GOING TO BE ONE OF THEM?

20 bred gilts due to farrow during October and November. 50 "Billiken" pigs, both sexes, that were farrowed in March, April and May. Write today for prices and see how reasonable they are. Also for the booklet that tells all about the Chester White Breed.

Every Animal is Cholera Immune and Registered.

C. B. CUNNINGHAM

MILLS, CALIFORNIA

TAMWORTHS

(The Bacon Hog)
Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM, Woodland, Cal.
W. O. Pearson, Prop.

4th Semi-Annual Sale

OF

Kings County
Poland China Breeders' Association

October 19th

AT

KINGS COUNTY FAIR GROUNDS
HANFORD, CAL.

100---Head---100

—REGISTERED—

Poland Chinas

TO BE SOLD WITHOUT RESERVE

The Best from Kings County Herds—Boars of Herd Header Quality—Gilts and Sows That Equal the Best.

CONSIGNORS:

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AUCTIONEER: COL. BEN A. RHOADES.

For Catalog or Information Write
F. D. ROSS, HANFORD, CALIFORNIA.

Bassett's Poland Chinas

GRAND CHAMPION SOW
P. P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.

$30 UP.

WILL CONSIGN SOME OF MY BEST STOCK TO THE GREAT SALE OF POLAND-CHINAS, HANFORD, OCTOBER 19.

M. BASSETT Hanford, Cal.

The World's Grand Champion Hampshires

Pure-Bred Hogs give more weight for less money in the shortest time.

Sows, Boars, Gilts, bred and open, from the World's Champion Hampshire Stock. All ages for sale.

Write to

F. V. Gordon, or F. A. Langdon Llano Vista Ranch Perris, Riverside Co., Cal.

RIVERINA PIONEER 25957
Junior Champion, Reserve Grand Champion, Champion Boar Bred by Exhibitor.
10 Months Old.

Large Yorkshires

PROLIFICACY INSURES PROFIT

We own the Grand Champion Sow at Sacramento this year (she has farrowed 84 pigs in 6 litters), Grand Champion Boar and Sow, 1916. Every time shown our herd has won a large majority of the ribbons, and on individuals that we have bred ourselves for quick maturity, which means quick money. Quoting special prices on bred sows and boars ready for service.

RIVERINA FARMS
Route C, Box 384, MODESTO

Dealers in PAPER

Blake, Moffitt & Towne
37-45 1st St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

Retained After=births

Cows can be made to clean easily without using force

When cows do not clean properly after calving, it indicates a germ infection which is likely to run through the entire herd and result in abortion and barrenness.

Our Government and other authorities assert that retained after-birth, premature calving, sterility and calf scours are all the result of infection by the abortion germ, and retained after-birth is one of the first symptoms.

The after-birth should be removed at once without force and the cow treated with a powerful antiseptic to prevent her becoming an aborter or sterile. Authorities state that while there is no absolute cure for abortion and sterility, nevertheless the infection can be controlled by prompt treatment and the animal saved for successful breeding.

B-K is scientifically correct for this work. Used as a douche for the uterus, it quickly brings the after-birth, dissolves the slimy albuminous matter, kills the germs, stops discharges and controls the infection. B-K does not cause straining, but is soothing and heals the tissues.

Other germicides, such as carbolic acid, cresol, Lugol's solution, iodine, etc., tend to irritate, do not dissolve the slimy albumins, but tend to coagulate or thicken them, thereby preventing destruction of the germs and cleansing of the tissues.

B-K is convenient. Just add water as directed, and you have your treatment for calves, bulls and cows and also your disinfectant for general use.

B-K is used so successfully by leading breeders that it is now sold over the entire world and the demand for it has increased five hundred per cent in three years. A well-known breeder of registered stock says:

"B-K is of great value in douching cows which do not clean readily after calving. Have never known it to fail to bring all things right before the fourth day."

Clean and clear as water

Awarded Gold Medal Pan.-Pac. Expo.

B-K is sold by dairy and farm supply houses, druggists, general stores, etc., everywhere. Dealers wanted everywhere.

Write us for more evidence from users and for our bulletin No. 52, "Contagious Abortion."

GENERAL LABORATORIES
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Percheron and Belgian Stallions Imported and American Bred

Pion 121249

First Prize 2-year-old and Reserve Champion, California State Fair, Sacramento, 1917.

Offering a few 2-year-olds and upwards, with heavy bone and high quality, that weigh a ton or more. If you are looking for the best come and see them or write for particulars.

EVERY STALLION GUARANTEED AS REPRESENTED

Prices and Terms Reasonable

N. W. THOMPSON
PATTERSON, CAL.

A question arose in the State Fair judging as to whether pigs bought in dam could be shown as bred by exhibitor.

Veterinary Queries

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

Milk with Bloody Particles.

To the Editor: I have a heifer which came in with first calf early this spring and the last two months in milking her I notice small particles of blood appear from one of her back teats. Is there a remedy?—H. T. S., Los Banos.

Give hexamethylamine in dram doses twice a day; dissolve in water.

Calf Deformity at Birth.

To the Editor: Will you tell me what causes crooked or deformed calves at birth? We lost 13 calves out of 21. We have been troubled the last three years.—C. W. P., Paradise.

The eating of acorns will cause this trouble. It is due to the tannic acid content.

Cow Does Not Conceive.

To the Editor: My cow has been fresh nearly five months, but does not get with calf. She has been served three times. Two days after coming in she has a bloody discharge lasting one or two days.—M. E. D., Patterson.

There is an inflammation of the uterus here which will require local treatment by a qualified veterinarian.

Pigs Nosing Each Other.

To the Editor: I raise pigs and when weaning them they keep nosing each other. Could you tell the cause of it and what to do?—L. S., Doyle.

Give a teaspoonful of pine tar once a day to each pig.

Calf Has Scours.

To the Editor: I have a calf with the scours. Its passages are bloody. The calf is getting very thin. What can I do for it?—H. P. A., Bieber.

Give three 30-grain tablets of sulpho-carbolates compound three times a day.

NOTES.

Through the efforts of the Ferndale Cow Testing Association Humboldt county cows are making a splendid showing for fat production.

Hog cholera has hit Humboldt county hard during the past few months, and conditions are now such as to demand great care on the part of hog raisers.

An organization of sheep men has been formed under the name of the Glenn County River District Sheep Association, and will have for its purpose among other things the protection of sheep from dogs and coyotes. An effort will be made by the Association to have the county increase the bounty on coyotes from $5 to $10.

The United States Forest Service is eradicating plants poisonous to stock on the Shasta, Sierra and Stanislaus National Forests, in which 44,979 head of cattle and horses and 55,256 head of sheep are grazing this summer. Areas known to contain poisonous plants are gone over by crews of men and the dangerous plants, chiefly larkspur, grubbed out.

HOW MUCH CORN WAS LOST?

To the Editor: Your work in regard to the farmers' labor supply is very much needed and greatly appreciated. It is not possible to actually estimate the loss in our corn crop caused by a shortage of labor at the right time to cultivate and weed it, but it amounts to several hundred sacks.—Farmer, Tulare.

ALL THE FARMER NEEDS.

To the Editor: Your editorials are good. No doubt the average farmer would have money to bank—if frosts would let him alone; if the red spider were exterminated; if the rainfall were greater; if interest to the man who doesn't own his place were lower.—Reader, Chico.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

SELECTING AND FEEDING TURKEYS FOR MARKET.

Birds intended for the Thanksgiving dinner should be selected and got into quarters for feeding by the first week in October. Only the heavy birds should be selected for the first market, leaving those younger and lighter for Christmas, as they will grow much better when the cool weather comes than they have done in the heated days of August and September.

FEEDING.

Then commence feeding. If your birds are not in good condition, you will have to cram them to get them ready for Thanksgiving. If you are going to feed soft-boiled mashes or any kind of soft feed, it will be better to commence by starving the birds a few days to get them hungry. But if you are going to depend on grain feed, commence at once, taking care not to crowd them at first.

Cracked corn and wheat makes as good a feed as you can give. Whole corn is hard to digest and often causes indigestion from which the birds die. If in addition to the cracked corn you keep a can or box filled with beefscrap and another with good sharp grit before them all the time, they will help themselves. Fresh milk is a good fattener and makes nice turkey meat, but it must be fresh and the drinking vessels clean.

MAKING MASHES.

In making mashes all vegetables should be well boiled and then mashed, adding salt to make them palatable and mixing in the cornmeal or ground feedstuff while hot. These mashes should be fed warm and are greatly relished, but they soon sour if left lying around in the sun, and sour feed causes diarrhoea.

If fresh buttermilk can be had, it should be given instead of water, but keep it in the shade and scald the drinking vessels often so that it will keep fresh and sweet.

MARKET GOOD BIRDS ONLY.

By sending only the best birds, males weighing from fourteen to fifteen pounds and hens not under ten, you will have birds with full round breasts that will command a good price. If green feed is served or the stock runs on an alfalfa patch, it will be best to keep them from it the last few days, because fowls that are killed while the green feed is in them very soon discolor and look objectionable to the buyer.

SHIPPING PRECAUTIONS.

In shipping, have your coops high enough so that the birds do not have to crouch or lie down and get bruised, and don't overcrowd. Put a water can in each end of the coop and also the address where shipped to and where the coop is to be returned to. Then write to your com-

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Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
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mission man and tell him how many turkeys you are shipping and the weight. There will be some loss, of course, in weight, but not so much if you ship on the right train and time your feeding. Be business like.

HATCHING AND FEEDING TURKEYS.

To the Editor: Will you please give me all the general information regarding the feeding of young turkeys from a day to two months old and if they can be hatched in incubators and brooded with fireless brooder? Also, which make the best mother—Plymouth Rock hens or turkey hens?—Mrs. C. E. S., St. Helena.

Turkeys can be hatched in incubators and brooded in fireless brooders, but they do better with a hen as a brooder. Plymouth Rock or Buff Orpingtons make the best mothers, better than turk hens because they do not ramble so far. Feed moistened cornmeal, chopped onions, lettuce and curd with a little red pepper. Boiled eggs in reason may be fed, but not too many. Boil very hard, chop and mix with onion tops chopped fine. Feed no baby chick feed or other grain until over a month old, when a little may be given once a day. But give plenty of lettuce, onions and such things, a little charcoal, and plenty of grit before them all the time. At two months old they may be fed grain, but not too much. It is better to let them rustle.

PERHAPS COCCIDIOSIS.

To the Editor: Can you tell me what is the matter with my rabbits? They vary in ages from two to six weeks old. They seem to be paralyzed in their front feet, and die within two to three hours, or sooner, after they are paralyzed. I give them plenty of water and dry alfalfa hay. Some of the rabbits are weaned and some are not. The pens are dry and clean.—J. H. B., Turlock.

No information can be found about rabbits having paralysis. If your rabbits have large pot bellies, the trouble is coccidiosis and the disease is carried from one hutch to the other when they are stacked.

Your feed is very poor, anyway, for young animals. They need some grain and rock salt to keep them healthy. Coccidiosis kills them very quickly and I can't learn of any cure except to isolate the hutches, spraying them and keep at it until you stamp it out.

Poultry Breeders' Directory

Rates in this directory, 3c per word each issue.

OUR GEESE AND BRONZE TURKEYS win again; champion sweepstakes special for the best pair of birds in show; for size, vigor and quick maturity, ours are best East or West; stock and eggs in season; also Collie Pups; correspondence solicited. John G. Mee, St. Helena, Cal.

HENRY SHARP'S WHITE LEGHORNS win at State Fair 1st, 2nd, and 3rd on cockerel; 1-2-3 on pullets; 1st cock; 1st pen and special for 2nd best pen in show. Route 1, box 187, Selma, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

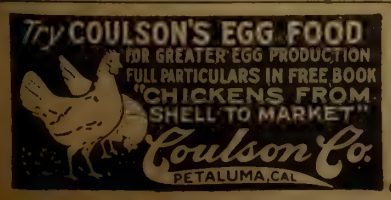
EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; fall chicks; eggs; cockerels. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal.

MAMMOTH BRONZE TURKEY HENS—Two years old, $5 each. Toulouse geese, $3 to $5 each. Mrs. Coghlan, Walnut Creek, Cal.

WANTED—Twelve finest White Minorca pullets, eight months old. Address, with particulars, F. E. Ainsworth, Los Gatos, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.



Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

COST OF RAISING LEGHORN PULLETS.

The following experiment was conducted by the Purdue University Agricultural Experiment Station at Lafayette, Ind. The feed prices, of course, were cheaper at the time of this experiment than now, therefore we will make all computations for Coast prices:

1. Based on four seasons' work and several thousand chicks hatched, it required 1.83 eggs set for every Leghorn chick hatched.
2. The cost of hatching these eggs was $0.021 per chick, which, when added to the cost of eggs, increased the total cost of a chick when hatched to $0.057.
3. Based on the first twelve weeks of life, it took 5.69 pounds of grain and mash and 5.07 pounds of milk, costing $0.1434, according to Indiana prices, and $0.1907, according to Coast prices, to feed a Leghorn chick.
4. During the same time it took 3.69 pounds of grain and mash and 3.41 pounds of milk, costing $0.084 in Indiana and $0.1377 in California, to produce one pound of gain.
5. The average Leghorn pullet 24 weeks old and ready to lay weighed 2.7 pounds.
6. The feed was by far the most expensive item in the cost of rearing chicks.
7. On the basis of 100 chicks hatched and 17 per cent mortality, the per cent pullets and the per cent cockerels were 40.1 and 42.9 respectively.
8. Early cockerels were sold at a profit. May hatched broilers sold at a loss.
9. The gross average cost of a pullet was $0.434 and about one-third more on this Coast. This, less profits in cockerels, made the net cost $0.381 and $0.48 in this State.
10. Mortality varied and influenced the final cost. The average mortality of 999 chicks was 17 per cent.
11. For every pullet reared it required the setting of 4.57 eggs.
12. Cockerels grew more rapidly than pullets.

MORE ABOUT RATS.

The following information on rats was obtained from a member of the State Board of Health: The best way to get rid of rats is to build them out; use concrete for all foundations and floors. Rats do a lot of damage and, although it may be expensive to put down cement floors, in the long run it is the cheapest. Rats consume vast amounts of grain and young chicks every season. If you already have wooden floor, trap and poison the rodents, using Electric Paste, which may be obtained from any drugstore or mercantile establishment. Put the paste on bread and distribute in runways, being careful not to let the hens get any of it. Do all you can to conserve the grain and food supply by killing the rats and squirrels.

FEEDING OATS AND BARLEY.

The reason for sprouting barley until the main stem breaks through the kernel is, if left very much longer, a lot of feed value as a grain is lost. If sprouts are left longer the feed value as a grain diminishes as the length of the roots increases. Then, again, the rootlets of barley are tough and have numerous root hairs, which are not relished by poultry. Oats, on the other hand, may be sprouted until the leaves appear. It is then green feed, and is of value only as such, as practically all the feed value has left the grain.

Whether it is best to feed barley and oats dry or sprouted is a matter that depends entirely upon the flock. If the hens are accustomed to eating dry oats and barley it will not be necessary to change unless the egg yield is falling off. Then, if the grain is partly fed in a sprouted condition and the rest dry, the egg yield will increase; say half and half, or one meal a day of each kind. Another reason for sprouting barley, the fibrous husk becomes more tender and is more easily digested. A grain ration of barley and oats is all right if wheat millfeeds are used as a mash and plenty of green feed used.

DIFFERENT WAYS OF FEEDING BARLEY.

There is no best way to feed barley. Some hens will not eat it dry, while others prefer it rolled or ground. Our hens eat it in any form. We feed barley, wheat and oats as a scratch feed. A prominent poultryman of Sacramento reports excellent results with sprouted barley, which is left standing just long enough to get the tender roots about one-eighth of an inch in length. If your hens are not accustomed to barley, it might be well to have some ground and fed in the mash and the rest sprouted. Then gradually feed a little dry until the birds become accustomed to the grain. Barley is a good feed.

SOY BEAN MEAL VS. OIL CAKE.

To the Editor: Will soy bean meal take the place of oilcake meal in the mash for chickens? We have a nice lot of pullets just starting to lay and about one hundred old hens just molting. I fear it is too rich as compared with oilcake meal and not suitable for this purpose.—C. A. E., Windsor.

[Answered by George H. Croley.]

It is safe to use soy bean meal oilcake meal or any other meal in the mash feed as a substitute for rich in vegetable oil. However, as soy bean meal is exceedingly rich in oil, not over four pounds should be used in making up 100 pounds of mash for the old fowls that are molting, and about two pounds in the mash for the pullets just starting to lay.

Straight Answers to Timely Questions

What is Pratts Poultry Regulator?

A positive tonic and conditioner for poultry of all kinds and ages. *A health-builder and health-preserver.* Not a food.

What does it contain?

Roots, herbs, spices, mineral substances, etc. Each ingredient performs a certain duty. The combination spells "health insurance."

What does it do?

Pratts Poultry Regulator makes and keeps poultry healthy, vigorous and productive. It sharpens the appetite, improves digestion and circulation, hastens growth and increases egg-production. *It saves feed* by preventing waste due to poor digestion. *It prevents disease* by keeping the birds in condition to resist the common ailments.

Has it been fully tested?

Yes! In general use for nearly fifty years. The *original* poultry conditioner. Imitated, but unequalled.

Does it give general satisfaction?

Positively! *Satisfaction guaranteed or money refunded.* Test it at our risk. Increased egg-production will prove that "Pratts makes hens lay."

How is it best used?

Daily, in small quantities. For adults, a tablespoonful daily for 10 birds. Younger stock in proportion. Mix with dry or moist mash.

What does it cost?

Nothing, because *it pays big profits.* One cent a month per hen is the *investment* required.

Where can I get it?

From 60,000 Pratt dealers. There is one near you. Direct from the manufacturer, prepaid, if your dealer can't supply you.

How can I learn more about it?

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Mrs. Best's Letter.

SOME MORE FALL FASHIONS.

My Dear Friends: One of the stores is showing wonderfully attractive sets, consisting of hat, bag or muff and cape of combinations of fur with other materials. If the hat is of velvet trimmed with fur, the bag will be of the same material and the cape will be of fur-edged velvet. Or if the hat is of satin, fur trimmed, the same material will be used for the bag and cape. Some of the sets have muffs instead of bags. They are, of course, of the small barrel shaped design. The capes, if made of fur, are not very large, but if of satin extend to the waist line with a band of fur around the bottom and at the neck. One very beautiful one had openings on either side for the arms and would answer for a short dressy coat over a one-piece dress. These sets are high in price, but in this department you can take your own material and old fur and they will do the work for you in a satisfactory manner. It seems a good season to work over old furs, for there is so much combining with other materials and such narrow strips of fur used.

FURS FAVORED.

If you have old material you wish to use, you can buy fur by the yard in all widths. This comes in many varieties, the popular ones being seal, coney, opossum, squirrel, Kolinsky and beaver, and ranges in price from $1.50 a yard to as much as you care to pay.

SOME POPULAR LACES.

For evening dresses or handsome afternoon gowns, metallic laces are much in favor—artistic designs in silver on white or black, or gold on white or black and brilliant bead work on black are shown. Some of the new models in crepe waists are prettily trimmed with Val lace, something that has not been shown before and a very attractive net jabot was made of net trimmed with Irish crochet. This had a strip of the crochet around the throat, over the net, with the points turning downward, and the frill was bordered both side and bottom with the crochet. So many of us have pieces of that lace put away that at only a very small expense for net we could have a beautiful jabot.

WAISTS FOR FALL SUITS.

The waists for the fall suits are many of them quite tailored and are made of taffetas, messalines and corded effects, as well as plaids and stripes. Other models are of Georgette crepe in the shades to match the suits or of combinations of Georgette and silk, and come in both high and low-necked models. The newest note on the waists is the square neck and rolling collar—a rather dressier model than the old V neck, for it does away with the center closing.

SMART SHOEWEAR.

One of the fall fads is the popularity of the oxford shoes—to be real smart, one must wear oxfords. The first rains, though, will probably see them retired.

New fall umbrellas are shown in colors and with leather-covered handles and in suit case style from $3.50 up.

OSTRICH FEATHERS COMING IN AGAIN.

As the season advances, ostrich feather trimming for hats grows in favor. We saw at first an occasional long plume, but now the small hats are many times trimmed in ostrich bands and fancies and some of the large hats are literally covered with plumes or tips. These sometimes cover the entire crown and other times circle the brim.

ROSABELLA BEST.

THE HOME CIRCLE

HOME PRESERVATION OF FISH BY SALTING, DRYING AND SMOKING.

[By H. D. Davi.]

The following article has been prepared in answer to many inquiries received for information upon the small scale preservation of fish:

BY SALTING.

Select fresh fish only for this purpose. For large fish, such as salmon and shad, cut off head, scales, split in two and remove spine bone and clean visceral matter. Clean all matter adhering to flesh and wash thoroughly. In splitting the fish, two slices, very much alike, should be obtained. Make incisions on skin of fish by making three or four straight successive cuts so that the brine can penetrate the inner section of the fish. Then cut slices in two.

Make up a saturated brine so that it registers 95 on a salometer, or if a salometer is not available, simply prepare the brine by adding three pounds of salt to every gallon of water and mixing well. A salometer can be obtained through any drug store for fifty cents. The reading is taken at the surface of the liquid.

Immerse the pieces of fish in the salt solution. If ice can be procured, about 25 pounds should be added to every 100 gallons of brine. The fish should be kept in this ice and brine solution for 60 hours. Ice is not necessary, but its use results in the highest grade of product. If ice is not used, then keep the fish immersed in the brine for 48 hours.

Remove fish from brine and transfer to five or ten-gallon oak or ordinary barrels. Allow the fish to stand three or four hours to drain. Place pieces of fish flesh side up in the barrel and make layers, and after each successive layer sprinkle a little salt. Cut out a circular piece of board, place on fish and load down board with weights. If barrels are not available, ordinary crocks can be used. After a month, drain off oily liquid from top of barrel and add some saturated brine to the fish. Load with weights again and observe regularly for several months. After five or six months, it is ready for use. This type of preparation preserves the fish indefinitely.

For small fish, such as anchovy, mackerel, sardine, herring, the fish is not cleaned, but simply washed thoroughly and immersed in a brine, but only kept 24 hours. The method of procedure thereafter is the same as in the case of large fish. Small fish usually make a more palatable and superior grade than large fish.

BY SMOKING.

Select fish only that are fresh. For large fish, such as salmon, halibut, tuna, cut and clean as directed in salting method. Cut slices in two or three pieces; that is, each slice should measure six inches long.

Prepare a saturated solution of salt: three pounds of salt to every gallon of water, and immerse fish in this brine 24 hours. Weigh the fish down so it does not come to surface. Remove fish from brine and allow to drain four hours.

Construct a "smoke-box." For this purpose an ordinary thick-walled wooden box is very desirable, measuring about 1½x1½ feet square and 4 feet in height. On one side of the box construct a door and fasten it to the box with a pair of hinges. Then make the box as air tight as possible by caulking or stopping up all cracks with shipbuilder's cotton, or ordinary cotton can be used. Construct four wire netting trays 1¼x1¼ feet to fit in the inside of the box as shelves; also place four supports, each six inches apart, on each side of the box to hold the trays so they will slide in easily. Dig a hole 1¼x1¼ feet and 6 to 9 inches deep in the ground. This is the "smoke-pit" and is used to generate smoke. The first or nearest tray or shelf should be two feet above the bottom of this pit.

Transfer the fish from brine and lay on trays and place trays in smoke-box. Place some wood packing or shavings used in packing fragile goods in the "smoke-pit." Other kindlers can be used, but the ordinary packing shavings are the most suitable. Light the shavings and, as soon as it is burning quite vigorously, at once sprinkle dried spent tan bark, using three pounds to every 25 pounds of fish. If the bark cannot be obtained, then corn cobs or any other material that will smoke without flaming can be used. Tan bark, however, gives the best flavor and should be used if you can get it. Spent tan bark is used for smoking. It can be obtained from any tannery. Dry it before use. Shut the door and stop all cracks and keep box well air tight and smoke ten hours.

Remove fish and transfer to a drying apparatus. If an oven is available, maintain the temperature, using a chemical thermometer, not a clinic thermometer, at 105 degrees Centigrade, or 220 degrees Fahrenheit. Dry the fish almost completely, leaving just a little moisture. Oily varieties of fish should be dried at least eight hours at the above temperature and very oily varieties of fish must be dried ten hours. This temperature is very satisfactory, as it gives the fish an excellent flavor and an excellent quality for future use. Fish with low oil content are also dried at the above temperature from five to seven hours. If an oven is not available, the sun-drying method can be used to advantage. Fish can be dried in the sun from three to five days, depending on the sun. An electric fan can be used also. It requires from ten to twenty hours, depending on size of fan. An 18-inch fan could dry the fish in about ten hours; a 12-inch fan requires fifteen hours.

SMALL FISH.

For small fish, such as anchovy, herring, mackerel, do not split completely in half, but split the fish so that the slices just barely hold together. Cut off head, scale and clean. Store fish in saturated brine as prepared in other methods for 20 hours. Remove and drain four hours.

Construct "suspension racks." Cut off several 1x1-inch rectangular cross pieces, just 1¼ feet long. Place pairs of hooks, that is L-shaped hooks, about 3 inches apart from each other. Suspend fish on these racks and smoke 8 hours.

Dry at 105 degrees Centigrade or 220 degrees Fahrenheit four hours by oven method. Sun drying requires one to three days, depending on the sun. Fan drying requires 7 to 14 hours, depending on size of fan.

Preserve fish in paraffine-coated paper and wrap again in ordinary store paper. Keep in cool and dry place, in wooden boxes if possible.

BY DRYING.

Select fresh fish only for this method. For large or small fish, cut as in salting large fish. Cut slices up in 6-inch pieces. Make up brine solution as in salting method and immerse fish in this brine 40 hours. Drain 5 hours and dry in sun, by electric fan, or in heating oven, as in smoking method. Preserve as in smoking method. This type of treatment will keep the fish also indefinitely, at least one year.

USE OF WHALE MEAT.

Much interest has been aroused in the discussion on the use of whale meat. The general public, knowing nothing about its use, will have to have instruction before accepting it. The whale being a mammal and not a fish, the flesh is not fish but beef. This year whale meat has been marketed fresh on the Pacific Coast and has been reasonably well accepted. One whale yields as much beef as twenty cattle, so if there could be a taste cultivated for the flesh it would furnish another source of food supply.

I Am Content

Happy the man that, when his day is done,
  Lies down to sleep with nothing of regret—
The battle he has fought may not be won—
  The fame he sought be just as fleeting yet;
Folding at last his hands upon his breast,
  Happy is he if hoary and forespent,
He sinks into the last eternal rest
  Breathing these only words: "I am content."

But happier he, that, while his blood is warm,
  Sees hope and friendships dead about him lie—
Bares his brave breast to envy's bitter storm,
  Nor shuns the poison barbs of calumny;
And 'mid it all, stands sturdy and elate,
  Girt only in the armor God hath meant
For him who 'neath the buffetings of fate
  Can say to God and man: "I am content."

—EUGENE FIELD.

Good Health.

[By H. E. Pastor, M. D.]

Anthrax in the Human Kind.

Not long since this writer was asked if anthrax was communicable to human beings. It certainly is, though man is rarely subject to the effects of anthrax contagion. Among animals the herbivorous species are more sensitive to anthrax poisoning than the omnivorous, and the carnivorous are the least sensitive. Man may be said to stand on a plane with the carnivora in this respect. Yet man is not entirely immune. Late press reports announce several cases of anthrax in man as occurring in Yolo and adjacent counties, where there is prevailing at present one of the worst epidemics of anthrax among cattle in the history of the State. Anthrax in man is usually communicated by direct inoculation, as a result of contact with diseased animals in the course of care, treatment, slaughtering, skinning, etc. The handling of the flesh or skin, or the washing of the hair or wool of infected animals is especially dangerous. The flesh of affected animals when used for food, or the butter or milk from afflicted cows, is liable to infect the person incautiously eating such. Fly bites may propagate the disease. Of course, human anthrax is most commonly found in districts where the disease is rife among domestic animals. Incidentally it might be observed that the summer months furnish the greatest number of anthrax cases in human beings. The infection may be external or internal, the former being the more common, manifesting itself usually in the form of a carbuncle. In the course of the disease there are fever, great weakness, loss of appetite, difficulty of breathing, sometimes mental excitement, diarrhoea, and pain in the extremities and colic. The most important point in the treatment of this somewhat rare affection is the destruction of the local symptom. The carbuncle should be cut out and the cavity cauterized with carbolic acid, nitric acid, nitrate of silver or caustic potash. After the excision and cauterization an antiseptic dressing (carbolic acid is good) should be applied, and a sustaining diet given to the patient, supplemented with a good tonic.

The Tobacco-Donating Fad.

The recent crusade in San Francisco for funds with which to buy tobacco for our soldier boys at the front is a rather questionable form of benevolent activity. While My Lady Nicotine has her worshipers, it is a notorious fact that she is a dangerous divinity to whom to pay homage. The efforts of the home stayers would be better directed in ministering to the efficiency of their fighting force rather than in impairing its efficiency by encouraging the use of a pernicious poison. A large majority of rejections of young men who were lately cited to appear for draft examination were due to physical unfitness directly traceable to the use of tobacco in its several forms. "Tobacco heart" summed up many an unfavorable diagnosis, and other disabilities are indirectly due to the use of tobacco. Tobacco smoke contains not only the active principle nicotine, which is a very virulent poison, but several other noxious principles, and while its effect on the heart is to produce irregularity of action and weakness, that is by no means its sole offense. It tends to induce, among other things, bronchitis, cancer, dyspepsia, and partial blindness. These are serious matters, and should be taken seriously by the public body. If we have at heart the best welfare of our fighters at the front, we should seek to inculcate habits that add to and do not detract from their physical efficiency. The easy toleration of "petty vices" is one of the undermining weaknesses of modern society.

Send for this Book!

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This Autumn Number of BARKER BROS. GOOD FURNITURE NEWS is planned and fashioned for the many families living away from Los Angeles—the thousands of people throughout this great Southwest who cannot come to Barker Bros. Great Home Furnishing Store, but who want and appreciate Barker Bros. Helpful Service in the matter of home beautification.

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More Comfortable, Healthful, Convenient
Eliminates the out-house, open vault and cess-pool, which are breeding places for germs. Have a warm, sanitary, odorless toilet right in your house. No going out in cold weather. A boon to invalids. Endorsed by State Boards of Health.
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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, October 3, 1917.

WHEAT.

The result of Government regulation of prices is shown by the quotations, which include cost of sacking, hauling, freight and other expenses added to the Government maximum price. Present values are firm, with no concessions for good stocks. Off grades cannot realize quotations because they are not satisfactory to buyers.

Sonora wheat	$3.80
Northern Club	3.85
California Club	3.90
Northern Bluestem	$4.10@4.15
Northern Red	None offering
Russian Red	None offering

BARLEY.

The spot market seems to be under the domination of the speculative element dealing in December and May futures. Call Board quotations have little effect on values, which are firm and unyielding. Excepting in futures, trading is light, buyers seemingly inclined to await events.

Shipping, per ctl.	$2.60@2.65
Brewing	2.60@2.65
Choice feed, per ctl.	2.50@2.55

OATS.

A noticeable amount of inquiry for red and black seed has strengthened the market and prices on those lines have advanced. Arrivals of red feed are quite numerous, but do not command the favor of buyers, as they contain a good deal of barley as an admixture. These stocks probably emanate from grain fields originally intended for hay which has been allowed to mature.

White Feed, per ctl.	None offering
Red Feed, per ctl.	$2.65@2.90
Red Seed, per ctl.	3.25@3.50
Black Oats	3.50@3.60

BEANS.

Values have advanced all along the line very materially. These enhancements in values are caused, primarily, by a great activity in the market promoted by a heavy demand and light stocks only of old beans left in the market, while new crop beans are not offering in any but small quantities, due to light receipts.

Bayos, per ctl.	$ 8.50@ 8.75
Blackeyes	7.75@ 8.25
Cranberry beans	10.00@10.50
Horse beans	4.00@ 4.50
Small whites (south)	12.00@12.25
Large whites	11.25@11.75
Limas (south, recleaned)	
Pinks	9.50@ 9.75
Red kidneys	10.50@11.00
Mexican reds	9.00@ 9.25
Tepary beans	None offered
Garbanzos	$6.00@6.25

CORN.

The continued high market in Chicago on corn militates against the shipping of Eastern Yellow to this market, and there is none to be had. Offerings of new milo maize are being made, and stocks of Egyptian corn have arrived, but in both cases there are few takers.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	None offering
California, sacked	$4.00@4.25
Milo Maize	4.00@4.25
Egyptian	3.75@3.90

HAY.

Receipts of hay for the past week have decreased from those of the previous week by nearly 500 tons. Special orders for hay out of the warehouses have been placed, but are not being received here because of the car shortage. So much of the railroad equipment is being used to transport Government supplies that box cars are entirely withheld from hay shipments. Shortage of hay transportation facilities has now spread to the boats, which are so crowded with freight that quantities of alfalfa are lying on river banks awaiting shipment. This is a deplorable situation, as the receipts are not sufficient to supply demand, and there does not seem to be any relief in sight. As a consequence the market has been well sustained and has advanced $1 a ton on all lines. This advance is not sufficient to cover storage charges on warehouse hay and higher values are anticipated. Fancy wheat and tame oat hay are in heavy demand and fetch top figures.

Wheat, No. 1	$20.00@22.00
No. 2	17.00@19.00
Tame oats	20.00@22.00
Wild oats	17.00@20.00
Barley	17.00@20.00
Alfalfa, new, first cut	17.00@20.00
Stock hay, new	15.00@17.50
Straw, per bale	50@90c

FEEDSTUFFS.

Values remain at same high plane of the past few weeks. These high prices are limiting trading considerably.

(Per ton, San Francisco.)

Beet pulp, per ton	None offering
Alfalfa meal, per ton	$28.00@31.00
Bran, per ton	41.00@42.00
Oilcake	None offering
Coconut cake or meal	40.00@41.00
Cracked corn	84.00@85.00
Middlings	52.00@55.00
Rolled barley	54.00@55.00
Tankage	None offered
Rolled oats	59.00@60.00
Rice middlings	None offered
Rice bran	32.00@35.00
Shorts	45.00@47.00

POTATOES, ONIONS, ETC.

Farmers are shipping in tomatoes rather too speedily for the market to stand, and values have already declined. String beans are scarcer and higher, while wax beans arrive fairly plentifully but of poor quality. Potatoes are strong at quotations as shipping outside of the State continues active. Onions are so plentiful that it is difficult to predict their future. All the local storage houses are crowded with stocks and the New York storage plants are well filled with our onions. There is a strong demand coming from Eastern points for our garlic.

Asparagus	None
Peas, per lb.	4@4½c
String beans, per lb.	3@5c
Wax beans, per lb.	2@4c
Hubbard squash, per sack	None
Summer squash, per box	65c@$1.00
Cucumbers, per box	50@85c
Celery, per lug	Nominal
Tomatoes, per lug box	50@85c
Potatoes, Salinas	$2.75@3.25
Oregon	None
New Rivers, per ctl.	$2.50@2.75
Sweets, per lb.	2½@3c
Onions, yellow, per sack	$1.75@2.00
Reds	None offering
Garlic, per lb.	4½@5½c

POULTRY.

The firm market still continues, with supplies and demand balancing each other. The East has begun to respond to the strong values here and three cars of young and old stock arrived during the week. Belgian hares are scarcer and strong, but larger supplies are expected.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb., young	30@32c
do, dressed, old	None offering
Broilers, 1½ to 2 lbs.	30@32c
do, 1¼ lbs.	30@32c
do, under 1¼ lb	32@35c
Fryers	28@30c
Hens, extra, per lb., colored	27@28c
Small leghorn	19@21c
Smooth young roosters, per lb. (3 lbs. and over)	28c
Old roosters, per lb.	13@15c
Geese, per lb.	18c
Squabs, per doz.	$2.50@3.00
Ducks	15@18c
Old	12½c
Belgian hares (live)	15@18c
do, (dressed)	17@19c

BUTTER.

Extras advanced again Wednesday morning. The continued warm weather of the interior is beginning to tell on butter quality, shown by the paucity of receipts of extras. Consignments of Australian butter are expected by the end of the month and some of the local dealers are feeling anxious about the effect these shipments may have on market values.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	44½	44½	44½	45	46	
Prime 1sts	43½	43½	43½	43½	45	

EGGS.

Eggs are gradually approaching the 50c plane. Values are not likely to recede materially during the next sixty days, and the peak of prices is not in sight. Buying has been pretty active lately on extras as good eggs are less plentiful.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	46½	46½	47	49	46½	
Extra 1sts	46	46	46	48	49½	
Extra pullets	43	43	43	43½	43½	
Extra 1st pul.	42½	42½	42½	42½	42½	

CHEESE.

Fluctuating prices during the week indicate that the incoming stocks about equal demand. Local consumers are absorbing more of the receipts than formerly and there is an abundance of cheese laid away in the storage houses which cannot be placed on the market at present prices. Full cream jacks are in better demand and command prices as high as 23c.

Y. A.'s	23c
Fancy California Flats, per lb.	21½c
Monterey cheese	8@23c

FRESH FRUITS.

Trading is fairly active on most kinds and receipts are generally heavy. Offerings of figs are plentiful, but the climax of receipts has about been reached. Muscats registered a little higher price today, as they are in great demand. Seedless also sell very readily. Watermelons have gone up, as receipts are becoming lighter and their day is nearly over. Casabas are selling well at a range of $5 to $10 per 100.

Apples, per box	$1.00@2.00
Pears, per box	75c@$2.00
Cantaloupes, per crate	50c@$1.00
Apricots, per box	None
Peaches, per box	50c@$1.00
Nectarines	None offering
Figs, per box	50c@$1.00
Plums, crates	50c@ 1.00
Watermelons, per doz.	$2.25@4.50
Grapes, Malaga	50@75c
do, Seedless	75c@$1.00
do, Muscats	75c@$1.25

CITRUS FRUITS.

Most stocks of lemons arriving in this market come from Santa Barbara. Prices of lemons have receded 50c a box, one reason of the decline being the accumulation of stocks which cannot be held longer without danger of loss. Grapefruit advanced due to light receipts.

Oranges:	
Valencias, fancy	$3.25
Valencias, choice	3.00
Lemons:	
Fancy, per box	7.00
Choice	6.00
Standard	4.00
Lemonettes	4.50
Grapefruit, fancy	3.75

DRIED FRUITS.

The views of holders are very rigid at an advanced market. Heavy supplies are coming in, which do not seem to have any bearing effect on values. The advancing prices certainly are not caused by active buying, for operators are very conservative because of the high prices, which have the effect of limiting demand.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop	11 @12 c
Apricots, per lb.	14 @16 c
Figs, black, 1917	5½@ 6 c
do, white, 1917	6½@ 7½c
Calimyrna, 1917	11 @12 c
Prunes, 4-size basis, 1917	6½@ 7 c
Prunes, 1916 basis	None
Pears	6@8c
Peaches, 1917	8@9c

BERRIES.

Receipts fell off this week and stocks in the market on Wednesday were light. The number of transactions was small and quotations were unaffected.

Strawberries, Banners, chest	$5.00@7.00
Longworths	None
Blackberries, per chest	$5.00@6.00
Raspberries, per chest	7.00@8.00
Gooseberries	None

HONEY.

Extremely light receipts induced a rise in prices all around. Values are held firmly at the advances. Information to the dealers is that fifteen cars of honey are being held at Modesto in expectation of an advance.

Comb—	
Water white	14@16c
Light amber	12@14c
Amber	10@12c
Extracted—	
Water white	12@15c
Light amber	10@12c
Amber	8@10c

HOPS.

Prices remain unchanged at last week's quotations, and the same quiet state of the market exists, with prices held firmly and no recession seems in view.

Baled, per lb.	35@40c
do, Oregon and Washington	35@40c

LOS ANGELES.

Owing to some unexplained slip along the line, our regular special Los Angeles market report failed to reach the publication office this week. The following report is compiled from other sources:

Los Angeles, October 2, 1917.

BUTTER.

Creamery extras, 46c per pound. The selling price to the trade is 4c higher than above quotations.

EGGS.

Fresh extras	51c
Case count	46c
Pullets	42c

All eggs sold include cases and fillers valued at 35c.

CHEESE.

California, fresh	25@26c
Eastern Daisies	28c
Twin	27c
Eastern Longhorns	29c
Oregon Longhorns	28c
Tillamook Triplets	29c
Oregon Triplets	28½c
Swiss Block	32c
Domestic Wheel	46c
Edelweiss Limburger	29@30c
Cream Brick	29c

CITRUS FRUIT.

Oranges, Valencias	$3.25@3.35
Lemons	$4.25
do, Packed	5.50
do, Juice	2.25
Grapefruit, extra fancy	$3.25@3.50
Limes, per basket	1.00

FRESH FRUIT.

Apples, Skinner seedlings	$1.50@1.75
do, Bellefleurs	1.10@1.15
do, Greenings	1.15
do, Jonathan	1.75@2.00
do, King David	1.75@2.00
do, Champion	1.15@1.25
Bananas	5.00
Casabas, per lb.	1½c
Cantaloupes, standard	$1.50
Persian	2.25
Grapes, Malagas, per lug	$1.10@1.15
do, Muscats	1.10@1.25
do, Black	1.10
do, Tokays	1.50@1.65
Figs, per box	1.25@1.50
Nectarines, per lug	1.25
Peaches, per lug	.90@1.25
Bartlett pears, per lug	1.50
do, per box	2.35
Pineapples, per lb.	.10
Plums, per lug	.75@1.25
Quinces, per lug	.75
Watermelons, per lb.	1½@1¾c

DRIED FRUIT.

(25 lb. boxes faced, 50s, ½c less.)

Apples, evaporated, 50s	12c
do, Extra choice	12½c
Apricots, choice	18c
do, Extra choice	18½c
do, Fancy	19c
Peaches, choice	11½c
do, Fancy	12½c
Prunes, 20-30s	16c
do, 30-40s	14c
do, 40-50s	13c
do, 50-60s	12½c
do, 60-70s	12c
do, 70-80s	11½c
do, 80-90s	11c
do, 90-100s	10c
Citron, per lb	20c
Lemon peel	20c
Orange peel	20c

GREEN VEGETABLES.

These quotations are for first-class shipping stock:

Alligator pears, per doz.	$7.00@8.50
Artichokes, per doz.	1.00
Wax beans, per lb.	6@6½c
Limas, per lb.	6@6½c
Kentucky Wonder	6@6½c
Beets, per sack	$1.00
do, per doz.	30@40c
Cabbage, per lb	1½c
do, per sack	$1.25
Carrots, per doz.	40c
Cauliflower, per doz.	$1.35
Corn, per lug	70@75c
Celery, per doz.	85c
Chile	3½@4c
Cucumbers, per lug	70@75c
Potatoes, Northern Burbanks	$2.90@3.20
do, Rurals	2.40@2.50
Beans (per 100 lbs)—	
Pink, No. 1	$10.00
Lady Washington	13.50
Small white	13.50
Limas, No. 1	$13.50@14.00
Manchurian reds	10.50
Baby Mexicans	9.00
Tepary	7.00
Blackeyes	8.00
Garvanzas	$9.00@10.00
Lentils	18.00
Onions and Chili—	
Strings	20c
Jap chili	20c
do, Loose	20c
Telepin, per lb	60c
Garlic	8c
Brown onions, per cwt.	$2.25
White onions, per cwt.	2.25

HONEY.

Comb, water white, per case	$4.25@4.50
White, per case	3.75
Extracted water white, per lb	12@14c
White	11½@12½c

HAY.

Tame oat hay, No. 1, $20.00@22.50; No. 2, $18.00@20.00; barley, No. 1, $19.00@20.00; No. 2, $16.00@18.00; wheat, No. 1, $17.00@19.00; No. 2, $15.00@17.00.

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., October 2, 1917.

Conditions on the whole have remained practically normal throughout the Eastern markets, the demand continuing strong on good stock.

There has been quite a heavy offering of Eastern peaches, the movement from Colorado and Utah has been at its height, but this competition has not affected the demand for California grapes.

The car shortage had not up to this past week seriously affected shipments, but during the past few days the situation has become somewhat strained and though it cannot be said that crops have suffered, reports are coming in from some districts that the expense in handling the crops on account of the car shortage, may become serious.

Both quality and prices have improved during the last few days on Malagas, and though the crop is about three-quarters marketed, we anticipate the general average will be higher than last season.

Weather conditions remaining favorable, a very heavy tonnage of Tokays will be harvested, and at prices higher than for several years. In fact, the demand exceeds supply and indications are that it will remain so, as owing to the scarcity of refrigerator cars the movement at any time will affect demand.

Sawdust packing of Emperors in the Fresno territory is in progress. The quality of Emperor grapes is better than last year and though some of the trade were speculating as to whether or not they would purchase keg or drum Emperors this season, owing to the heavy loss sustained last year, it is a conceded fact that this loss was due entirely to weather conditions. Packers have practically agreed not to pack any sawdust grapes after the rain, and an effort is being made to have the crop harvested and packed under favorable weather conditions.

A noticeable feature this season are the numerous inquiries for sawdust grapes for export. If it can be shown that these Emperors packed in redwood sawdust will stand export, California has unquestionably a bright future for this particular variety.

Following are the averages for the week:

New York: Bartlett pears, $2.92; Buerre Hardy, $2.58; Buerre Clairgeau, $2.34; Comice, $2.82; Tokay grapes, $1.47; Malaga, $1.26; Muscat, $1.32; Gross plums, $1.40; Grand Duke, $1.37; Levi clings, $1.25.

Boston: Bartlett pears, $2.72; Buerre Clairgeau, $2.47; Tokay grapes, $1.44; Malaga, $1.30; Gross plums, $1.60.

Chicago: Bartlett pears, $2.89; Tokay grapes, $1.30; Malaga, $1.15; Muscat, $1.06; Levi clings, $1.00.

Shipments for week ending September 28th, as follows: 15 peaches, 2 plums, 52 pears, 1167 grapes.

Total shipments to date, 1917, 16,709 cars.
Total shipments to date, 1916, 13,164 cars.

Walnut Growers Association Fix 21½c Base Price

Last Monday (October 1) the California Walnut Growers' Association announced 21½c as the price for No. 1 walnuts this season. Last year the price was 15½c. Prices fixed for other grades were: No. 2, 17½c; Jumbos, 25½c; and Gold State Buds, 22½c. Prices were based on deliveries within a $1.40 freight rate zone.

Vegetable Seeds of the World Very Scarce

[Written for Pacific Rural Press.]

The vegetable seed stocks of the world are much lower than normal, and the supply of many varieties will probably give out early this season, according to Manfred Meyberg of the Germain Seed Co. Normally dealers carry nearly two seasons' stocks; but the increased demand last spring took nearly all of the reserve as well as the previous season's crop. No line of agriculture has been so specialized in certain localities of various countries for each variety as seed-growing. America has depended for a large part of her seed on European countries; and they have not produced normally. In the American effort to supply this vacancy, California has had a prominent part. Local seedsmen have contracted with growers for certain quantities; but the hot spell last summer prevented many growers from delivering more than 25 per cent of their contracts. Much of the planting was less successful. On many varieties the price of seed is already 100 to 400 per cent above normal.

RAISINS, FIGS AND DATES.

Raisins, seeded, 36 16-oz., fancy, 10c; fancy, 12-oz., 8½c; Not-a-Seed, 48 12 oz., 9c; 25-lb. extra choice seeded, $2.25; 48 1-lb. extra choice seeded, $2.25; 48 1-lb. Sun Maid, $4.75 case; seedless Sultanas, 10c; Thompson bleached, 50s, 13½c. Figs, 6-oz. pkgs., $2.75; 5-layer, $1.75 box; bulk figs, 25-lb. boxes, black, $2.75; white, $2.75. Dates, Golden 60s, 13½c; 30s, 14c; Fard, 60s, 17c; 12s, 20c; Dromedary, 36s, $4.00.

NUTS.

Almonds, fancy, IXL, 19@20c; Ne Plus Ultra, 18½@19c; pecans, large, 19c; cocoanuts, per doz, $1.50; filberts, 19@20; Brazils, 20c; walnuts, Asso. No. 1, 23c; budded, 27c.

RICE.

(Per 100 lbs.)

Extra fancy head, Carolina, $8.00@8.25; Patna, $7.00@7.50; fancy head, $7.75@8.00; Blue Rose, $7.25; Red Rose, $6.50@7.00; Japanese, 6.50; California, $6.25.

POULTRY.

Prices to producers: Small broilers, 29c; large broilers, 1¼ lbs. and up, 29c; fryers, 2¼ lbs. and up, 23c; roasting chickens, 3 lbs. and up, 23c; old cocks, 10c; Leghorn hens, 19c; heavy colored hens, 24c; young ducks, 17c; old ducks, 15c; geese, 10c; squab pigeons, $2.00@3.00 doz.

LIVE STOCK.

Following are prices for live stock weighed and delivered off the cars without food or water: Hogs (hard-grain fed), 125 to 150 lbs., $12.50; 150 to 175 lbs., $13.00; 175 to 225 lbs., $13.50@14.00. Steers (on foot, gross weight): Good, $9.00; medium, $8.50; grass fed, $8.50. Heifers, good, $7.50@8.00; fair, $7.00@7.50. Cows, fair to good, $5.00@6.50 . Bulls and stags, $5.50@6.00. Calves, 125 to 150 lbs., $9.00; 175 to 225 lbs., $8.50. Sheep, ewes, $8.50; lambs, $13.00@13.50.

WEEKLY WEATHER AND CROP REPORT.

U. S. Department of Agriculture Weather Bureau, San Francisco, October 2, 1917.—Light showers occurred during the week in the southern coast counties and in the interior of the valley floor as far north as Sacramento. The amount did not exceed a trace at any of the reporting stations and consequently the damage to drying fruit was inconsequential. Unusually warm weather prevailed in nearly all parts of the state during the fore part of the week and this weather was on the whole favorable. Excellent progress was made in drying raisin grapes and the bulk of the crop has been secured in excellent condition. Prune drying is practically finished and the apple harvest is well advanced. Both crops are turning out as well as expected. The gathering of wine grapes has become general and while the crop is not a heavy one, the quality is better than usual.

The sugar beet harvest is proceeding slowly, principally on account of the scarcity of labor. Beets generally are under sized, but their sugar content is high and the crop on that account is good. The bean harvest is drawing to a close and the crop is large, more on account of increased acreage than from the productiveness of the vines, due to a number of causes, not the least of which was damage done by insect pests.

An excellent crop of rice is being harvested under favorable weather conditions. It is the best rice crop ever raised in California and from about a million acres planted to rice, yields as high as 35 to 45 sacks to the acre are of common occurrence. Late potatoes are maturing nicely and this crop has improved considerably since the rains of the preceding week. Walnut picking has become general and the crop is better than expected.

E. A. BEALS, District Forecaster.

Special Livestock Market Report

San Francisco, October 3, 1917.

CATTLE—The main difficulty slaughterers have to contend with at the present time is car shortage, due to government requirements for transportation. However, by keeping in close touch with the railroad officials, and ordering cars a few days ahead, slaughterers manage to bring in supplies that about meet the demands, and with little disturbance of market quotations. Most of the beef stock received at this time comes from the north. In a few weeks Nevada will begin to contribute its quota, and continue to do so through the winter.

Grass Steers—	
No. 1 weighing 900@1200 lbs	8¾@9c
No. 1 weighing 1200@1400 lbs	8¾@9c
Second quality	8@8¾c
Thin undesirable	6@7½c
Grass Cows and Heifers—	
No. 1	7@7¼c
Second quality	5¼@6¾c
Common to thin	4@5½c
Hay-fed cattle ½ to ¾c higher.	
Bulls and Stags—	
Good	5½@5¾c
Fair	5@5½c
Thin	4@4¾c
Calves—	
Lightweight	9@9½c
Medium	8@9c
Heavy	7@8c
SHEEP—The strained situation in the mutton sheep market still prevails. The stock coming down from the mountain pastures are, generally speaking, in good condition. While prices for market mutton are high, sheepmen are loth to let go their holdings. Feed shortage is the main incentive to doing so. Lambs are a trifle easier.	
Lambs—	
Milk	13@14c
Sheep—	
Unshorn wethers	10½@11c
Unshorn ewes	8½@9½c

HOGS—Prices of pork on foot are skyrocketing in the East again. The effect of this has been slight locally, as the consumption of cured and fresh pork has been materially curtailed by the high retail prices. The quotations remain unchanged.

Hard, grain-fed, 100 to 150	14c
do, 150 to 300, averaging 180 or less	15¼c
do, 300 to 400	14¾c
do, 150 to 300, averaging over 180	16c

HIDES—The hide market moves along on a pretty even keel, though a heavy movement in packer hides tends to strengthen slightly the situation. With a slight exception figures are unchanged:

Cattle:	
Wet salted hides, per lb.—	
Steers and cows, all weights	17@18c
Bulls and stags	14@15c
Kip	19@20c
Veal and calf	21@34c
Damaged	6@12c
Horse:	
Wet salted, skinned to hoof:	
Extra large prime	$4.00@5.00
do, medium	3.00@4.00
Small	2.00@3.00
Colts	.50@1.00

Portland, Ore., October 1, 1917.

Conditions in the North Portland yards at the week's opening have been healthy. The tone of the market throughout is good and the receipts show a volume of business that is gratifying.

CATTLE—The string of cattle offered in the yards, generally speaking, were better than those offered at the week's opening previous, but not any better than those coming at the close of the week. The general range of prices in the cattle pens is the same as for the previous week, with breeder trading very active. The following quotations are current:

Best beef steers, $9.00 to $9.75; good beef steers, $7.50 to $8.75; best beef cows, $6.75 to $7.50; ordinary cows, $4.00 to $6.75; best heifers, $7.00 to $8.00; bulls, $4.00 to $6.50; calves, $7.00 to $9.50; stockers and feeders, $4.00 to $7.25.

HOGS—The hog alleys were treated to a little aristocratic society this week by the presentation of the prize winners from the Salem Fair, and the porkers of the Marion County Pig Club, some of which are said to have brought as high as 20 cents a pound. Aside from this, one load of strictly prime light packers crossed the scales at $18.50, which was the top for the day. The general market range is as follows:

Prime light, $18.15 to $18.25; prime heavy, $18.00 to $18.15; pigs, $16.00 to $17.25; bulk, $18.00 to $18.25.

SHEEP—The volume of the business in sheep continues to increase at a satisfactory rate, but the increase does not keep pace with demand. Packers are in need of more butcher stuff, and the demand for feeders and ewes is strong. The quotations have advanced a notch, and still the sales are practically all made at the top end of quotations. The following figures are current:

Western lambs, $13.60 to $14.00; Valley lambs, $12.75 to $13.50; yearlings, $11.25 to $11.50; wethers, $11.00 to $11.50; ewes, $8.00 to $9.50.

G. W. Collins and his brother, Art Collins, arrived at Sacramento recently with 22 carloads of sheep purchased in Texas. The flocks will be pastured on Sacramento Valley grain stubble lands, a large acreage of which has been leased by the Collins brothers.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	26.65	34.91	28.16	36.90
" 16	27.83	35.83	28.10	37.00
" 23	28.85	36.91	28.50	25.00
" 30	36.33	38.48	36.66	38.87
Feb. 6	30.25	40.00	32.33	41.19
" 13	31.40	39.70	33.25	39.00
" 20	32.00	36.00	32.00	37.00
" 27	30.90	37.00	35.25	36.00
March 6	24.08	35.50	24.16	34.50
" 13	29.91	33.50	28.83	33.00
" 20	28.33	33.25	27.16	33.00
" 27	28.50	36.00	28.08	33.00
April 3	28.50	37.91	28.83	36.33
" 10	29.31	39.33	28.00	37.00
" 17	27.33	39.58	27.50	38.00
" 24	25.25	35.66	25.00	36.50
May 1	24.33	33.08	25.33	33.00
" 8	24.10	34.05	25.00	33.20
" 15	24.58	35.50	25.66	34.16
" 22	25.00	36.30	25.00	35.16
" 29	26.50	36.60	26.50	37.33
June 5	25.50	36.30	27.00	37.66
" 12	25.83	36.50	27.00	38.00
" 19	24.50	36.00	25.91	36.33
" 26	24.50	36.16	25.91	37.50
July 3	24.60	35.06	26.00	37.00
" 10	26.40	36.41	26.60	37.16
" 17	25.83	37.83	26.00	38.66
" 24	26.00	40.25	26.00	40.61
" 31	26.00	42.82	25.91	42.58
August 7	21.00	43.00	29.16	44.00
" 14	26.50	41.66	26.00	43.00
" 21	26.50	41.50	27.95	42.00
" 28	27.25	41.91	28.50	42.00
Sept. 4	30.00	42.10	30.50	41.33
" 11	30.20	42.00	32.00	41.00
" 18	30.41	45.00	31.09	43.00
" 25	30.41	45.00	30.50	45.50
October 2	31.66	44.90	32.16	....

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	31.41	37.91	32.00	38.16
" 16	30.33	41.83	30.75	40.83
" 23	34.83	32.50	34.33	33.12
" 30	36.33	32.08	36.66	33.01
Feb. 6	35.66	34.99	35.50	34.70
" 13	28.90	33.30	28.00	31.66
" 20	23.66	33.01	20.33	30.75
" 27	20.30	29.00	18.50	27.66
March 6	18.33	24.75	18.00	24.91
" 13	19.50	25.96	18.91	26.08
" 20	20.00	25.66	19.08	25.91
" 27	21.41	27.16	20.83	28.00
April 3	21.75	28.58	21.00	29.25
" 10	22.00	29.66	21.00	30.41
" 17	21.16	32.33	20.91	32.08
" 24	21.83	32.91	22.58	32.83
May 1	21.00	32.00	22.58	31.83
" 8	21.20	32.75	21.41	32.00
" 15	24.58	34.20	20.83	32.50
" 22	25.46	33.40	22.50	34.00
" 29	25.00	33.80	22.50	33.50
June 5	25.00	33.20	24.51	34.66
" 12	25.00	31.16	24.16	33.00
" 19	24.83	31.41	23.75	33.10
" 26	24.66	30.16	24.58	32.16
July 3	24.60	31.90	24.00	34.25
" 10	26.10	33.50	24.00	36.00
" 17	27.16	33.66	27.00	34.41
" 24	28.20	35.25	28.00	35.91
" 31	28.50	38.00	28.00	36.91
August 7	26.16	42.58	26.00	40.16
" 14	33.08	41.41	31.00	37.08
" 21	33.09	43.33	31.83	42.25
" 28	33.50	43.50	32.00	43.50
Sept. 4	36.13	43.80	32.00	43.58
" 11	37.90	45.08	36.00	44.91
" 18	38.83	47.83	37.00	47.83
" 25	39.75	47.58	38.66	49.50
October 2	39.75	47.00	40.50	....

The Seventh Annual Pacific International Livestock Exposition will be held at North Portland, Ore., November 19 to 24, 1917. Splendid premiums will be given for beef breeds of cattle, dairy breeds of cattle, fat cattle, breeding sheep, fat sheep, breeding swine, fat swine.

Publisher's Department.

"Around the Year in the Garden," by Frederick Frye Rockwell, is another new book just issued by the Macmillan Company of 66 Fifth avenue, New York, price $1.75. This work is handsomely printed, bound and illustrated, and contains nearly 350 pages. It is written from the Eastern standpoint and goes into details of garden work for every week of the year. For sale by the publisher.

For one reason and then another our new fourth edition of "California Vegetables" has been held up, but we expect to receive copies from the printer early next week. The book ought to be very handsome, and from the amount of work put upon its preparation by Prof. Wickson, it will be more valuable in every way than either of the preceding issues. While the book is larger and costs more to publish, yet the price will remain at $2 per copy, postpaid. Send in your orders now and get one of the first copies.

"Western Live Stock Management," a new, valuable book of over 450 pages, has just been issued by the Macmillan Co., of 66 Fifth avenue, New York. The author is Ermine L. Potter, Professor of Animal Husbandry, Oregon Agricultural College. The book is handsomely illustrated and covers live stock and its problems from the western viewpoint. The author says that he has written the book from information already possessed by experienced stockmen, and which the beginner often finds slow and expensive to acquire. Price, $1.75. Write to the publisher.

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Vol. XCIV—No. 15 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO OCTOBER 13, 1917 LOS ANGELES

Food for Allies Now Will Keep Kaiser Away

[Written for Pacific Rural Press by President Ray Lyman Wilbur, of Stanford University.]

IF THE CORN CROP of the corn belt of the United States had been frosted during the recent two weeks of cold, we would have lost the war.

The condensed milk exports of the United States to neutral countries have increased 494,000 per cent since the war began. Of this, Holland, a dairy country, took nearly seven-eighths. Unquestionably a large proportion of these exports reached Germany. The American Exports Council has now put the neutral nations on rations by embargo from America and by controlling their shipping because we control the coal. This embargo is worth a million of soldiers to us and our allies, because it compels Germany to withdraw that many men for the production of food to supply their armies and their citizens.

Germany, through her control of middle Europe, has at present won the war. She has the ports of Antwerp and Constantinople, and everything in between, and 235,000,000 men available for military training from subject races, including the peoples of Prussia, Bavaria, and Saxony.

Mastery of Food Means Mastery of the War.

We of America cannot put enough soldiers in Europe before mid-summer to amount to anything. We can furnish money and credit, but money and credit cannot feed a starving people and a starving people cannot win the war. There will be enough food available to maintain our allies, even with their present short rations, only if we save rigidly for them on this side. If we can carry things through until next April, we can then begin to see daylight. Money cannot buy food that has not been grown.

If the Western Front Breaks, What Then?

The war problem of the next twelve months is largely one of food. If the soldiers and their families at home are both fed, there is no reason to expect any material break in the western front. From our standpoint, the vital thing is to maintain the populations of France and Great Britain in the fullest participation in the war. The collapse of Russia has thrown upon the United States the burden of winning the war, which is another way of saying that without the United States acting vigorously and promptly the war will be lost. Germany now has a position of great advantage. If she could bring about peace now, it would only be a matter of time until we were compelled to again take up the gauntlet. Few of our citizens seem to realize just what President Wilson has said in his messages. We have declared ourselves through him as against the Hohenzollerns. Only by their defeat can we hope for security. Every citizen in this country is as vitally concerned in what goes on on the western front as if that front were but a few miles away. It simply must not break. It must hold and it must advance before the time comes when we can add the strength of a million men for an additional push.

Lack of Shipping Serious.

When one realizes that great quantities of wheat, the result of at least two years' harvest, are piled out in the open in Australia and yet that the world cannot spare the shipping to send for this wheat, it brings home clearly the fact that the shipping shortage, combined with the food shortage, is the most significant world problem of today. We simply must have available the necessary wheat, pork products, beef and dairy products required for our allies' needs. We need these foods because they are well known to the European people and because they can be shipped in the least shipping space. In the western part of the United States we should make every effort to get the maximum production out of the soil in the way of cereals, dairy products and beans. With the great depletion of the world's stock of animals, every endeavor possible should be made to increase our herds of livestock, and of hogs, and of sheep.

PRESIDENT RAY LYMAN WILBUR OF STANFORD UNIVERSITY.

Dr. Wilbur went with Mr. Hoover to Washington upon Mr. Hoover's return from Belgium, and has been with him practically ever since. It has given him a chance to see the growth of the Food Administration from three men to nearly a thousand. His principal work has been the development of the Food Conservation Division, of which he is Director.

Producers Safe as Well as Patriotic.

There never has been a time in the history of the country when so much attention was being paid to the needs of the producer. A careful study is being made with the hope that advice can be given in a large way to our producers in different sections, so that the harvest will be the one that this country and the world needs and will purchase most readily. A thorough study is being made of fertilizers; pressure is being brought to bear for the production of cheaper machinery; and in spite of its many difficulties, solutions are being sought in the field of labor. It is true that it is discouraging at times to find that producers are being drafted into the army, but we must remember that we are at war and that our nation is in the greatest need and that it takes time for the refinements of selective conscription to be worked out. To throw upon a country such as ours the burden of raising a million soldiers means many difficulties in many directions. As time goes by, it is probable that the War Department will be able to take up group after group and make its exemptions fit into the needs of the country.

It must be a source of great satisfaction to every producer to feel that he is playing a part in the war and that particularly now his services are appreciated in an entirely new way by the nation. One of the things that we look forward to from this war is a new position for the American farmer. As we have often said in the Food Administration, our problem is not only to increase production but to make the life of the producer as attractive as possible, and to change the current that now takes our young men from the country into the cities, so that we can send many of those in our cities back to the farm.

Consumers Help Germany or America.

As our producers are doing splendid work in helping win the war, so may all of us as consumers contribute to its success. Three times a day at the table every one is playing either the game of Germany or that of America. Each person must sacrifice until it hurts, to approach the sacrifice of the boys in the trenches. If we fail to act together in saving for them the foods they and their associates must have, and if we fail so to act promptly, it means the death of that many more of our boys. We can afford to eat corn and our more plentiful foods to save wheat, pork products, beef, sugar, and dairy products for the defenders of our coun-

(Continued on page 368.)

PACIFIC RURAL PRESS

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EDITORIALS

TROUBLED WATERS.

WE CONFESS to still being a little seasick from our marine excursion of last week and to not feeling fit to repeat at once a cruise in our light launch among the political shipping now hoisting colors in the California waters. Some of these vessels are either changing their courses so rapidly that we stand a chance of being run down, or are causing such swells with their powerful screws that our shell may be swamped. On the whole it seems safer for us to take a look at current marine maneuvers from a high point on the shore, whence, even through the thick haze which prevails, we may get a clearer and a safer view than we could by sailing out again into the jam of anchorless craft.

HAVE FARMERS BOARDED THE LABOR SHIP?

THERE IS A GREAT tooting and bell-ringing on the labor ship and even through the fog we can see much running to and fro upon the deck of it. From the meeting in Sacramento, mentioned in our last issue, and which filled the week from the call on Monday morning to the ball on Saturday night, many important things were said and done, no doubt, but the piece de resistance, if we can trust common reporters to measure it, was the enticement of some farmers to come aboard and take part in a death dance around a lot of middlemen lashed to the mast. The song of this dance, as we borrow it from the reporters, is as follows:

The much-discussed triple alliance of labor, farmers and co-operative buying societies of consumers was virtually effected when a series of committees was appointed to form a permanent organization to bring about the enactment of laws mutually beneficial to the new economic trinity.

In announcing the purposes of the alliance, President Daniel C. Murphy of the State Federation of Labor commented upon the fact that labor in the past had been seriously handicapped by the efforts of certain powerful influences to make the farmer believe that it was to his interest to oppose all legislation that was supported by organized labor.

The following representatives of the three organizations named were appointed to act as a permanent joint committee to arrange for the organization of the triple alliance:

Farmers' Educational and Co-operative Union of America—W. S. Breton, J. E. Cochran, T. Birnbaum, Fred Millard and J. J. Hardie.

Pacific Co-operative League—R. P. Brubaker, A. D. Klump, Clarence E. Todd, I. W. Zant and E. O. F. Ames.

State Federation of Labor—C. L. Meyers, H. M. Burnett, Robert Lennis, Roe H. Baker, H. J. Young, Witten W. Harris, J. J. Matheson, A. J. Rogers, D. C. Murphy and Paul Scharrenberg.

We understand that this joint committee has as its temporary chairman Fred Millard and as temporary secretary Paul Scharrenberg and that a meeting for permanent organization will be held in this city in the near future, when a fuller statement of its aims and purposes will be made.

IS THE FARMERS' UNION IN IT?

THE FARMERS' UNION is a national organization supposed to represent the farmers' points of view and interests, and it has branches in different States. In this State it has subsidiary organizations to carry out its main purposes, particularly co-operative selling of farm products and buying farm supplies. As we understand it, the membership and management of these subsidiary organizations have not the power to legislate nor assume attitudes for the State branch of the Farmers' Union nor can the State branch as a whole dictate policies for its subsidiary incorporated associations. Thus the tail cannot bark for the dog nor can the dog wag the tail. If this is correct, the larger association has not barked for the labor alliance, but the tail has wagged for it. We would, therefore, advise our readers who belong to the Farmers' Union that they are not committed to approval of the alliance by what has thus far been done. And we say this merely for clearness of understanding and with no suggestion of severing the tail from the dog. We suppose it ought to be inferred that the dog will run after its own tail because such a thing is possible in natural history and because the national Farmers' Union at its last annual convention resolved in favor of joint action with the national labor federation. If, then, we consider the great national body the real dog which has barked for political alliance with labor and the subsidiary California attachment which has just wagged for it, we find the California State branch of the Union occupying a position between the dog and its tail—until it acts for itself. However, all this is not up to us but rather to the real farmers, whose interests and business are now being entrained without their consent for the next drive for political mastery of California. The joint platform, which was framed at Sacramento and which we have sketched in the preceding paragraph, points toward "legislation mutually beneficial," etc., but of course it must be remembered that a State election must intervene.

WHY THE BUNCH DID IT.

IN THIS MATTER we are not building arguments but simply trying to state facts—which is our usual pastime. The more accurate the facts are the greater our pleasure in the game. Therefore, to answer the question why the affiliation between the commercial branch of the Farmers' Union in California and the Federation of Labor was entered upon, we asked a man for whom we have high regard and who participated in the operation, to give us his reasons for his attitude and effort. He kindly complied with our request in these words:

This move is in line with action taken by the last national conventions of both organized labor and the Farmers' Union. There has been a general feeling that there should be a better understanding between the two groups. The move taken in Sacramento is designed to further this end. The two classes have very much that is of common interest. We believe that farmers are primarily working men, although some people would class them as capitalists, in which class, no doubt, a small percentage of them belong. But the vast majority of the farmers are working men in the truest sense of the word and will always be working men. We believe that in conference we will be able better to see the other fellow's viewpoint and to reason with him. This movement may mean the gaining by one group of the support of the other in legislation and other matters that may be of mutual interest, or which matters may at least not be detrimental to either group. It is not expected that agreement will be reached on 100 per cent of the propositions that come up for discussion.

WHAT IS THE CHIEF FALLACY?

OUR FRIEND in the foregoing paragraph kindly gives us several texts for adverse preaching. We enjoy preaching, especially of the adverse kind, and it requires self-denial to keep to our prescribed course along the hard facts—even when we make them to suit our needs. For example, we have at hand no constitution or by-laws of the labor federation from which we can get facts about qualifications of membership, so we imagine the fact that employers of labor are not eligible; or if this is not quite true, is it true that interests of employers are considered adverse to the interests of labor? If this is true, there is a fundamental and irresistible conflict between the farming industry and the organization of laborers, because farming is an industry of employers. Whether farming be small or great, it proceeds by employment of laborers—either few or many, according to the nature of it. Therefore, it devolves upon farmers not to seek nor to accept alliance with organizations which exclude or are antagonistic to employers—no matter how honestly, openly and humanely they may pursue ends which are perfectly proper for laborers' organizations to pursue. Employers and employees should, through the organizations of each, strive honorably and uprightly for the interests of each, for the resultant will be fairness to both and probably in no other way can such fairness be determined and enforced.

Another fact, which we do not have to make to order, is that our friend in his reasons for alliance given above uses the term "capitalist" in the sense of "wealth" and "freedom from personal work"—neither of which conditions are indicated by the proper understanding of the word. We take a small dictionary so as to get a common definition and it is this: "Capital is the sum invested in any particular business; stock in trade; stock or resources of any kind, moral or physical: that part of wealth which is saved and is available for or employed in future production." And so, instead of agreeing with our friend that a small percentage of farmers are capitalists, we must declare the fact to be that every farmer who does any business for himself, and not as the employee of another, is a capitalist, because he cannot grow a crop of any kind without becoming such. The very seed he throws into the ground is capital invested in future production. He may not be wealthy; he may work so hard that he cannot sleep, but he is a capitalist none the less. Of course, the laborer can claim to be a capitalist also because he has saved his strength and accumulated skill, which are factors in future production and they yield him income, but he repudiates his capitalistic standing by requiring at once what he regards as the proper price of his participation in wages and by refusing to take any part in the burden and risk of future production. Thus as a capitalist he unfunctions himself and forces the employing farmer to function for him—constituting the latter, as between man and men, twice a capitalist.

And our affiliating friend makes the other and too common mistake of thinking the capitalist an idle man. The dictionary says a capitalist is "one who possesses capital"—and we have just stated the requirements of capital upon the one who possesses it. The common term "idle rich" is right and reasonable: the term "idle capitalist" is a confusion of antagonism. To complete our friend's sentence, we write it thus: "The vast majority of the farmers are working men in the truest sense of the word and will always be working men"—because they are capitalists. It is, therefore, a dangerous thing for farmers to go too far in alliance for political purposes with those who hold it to be right to oppose "capital employed in future production" and to exclude themselves from employers as though they were unholy. Without capital and employers in farming, the world would quickly starve.

NOT A HUNDRED PER CENT CONCORD.

OUR FRIEND does not expect to get a hundred per cent of agreement in the alliance and in that he is reasonable. Do his allies expect the same? They are getting some reputation for insisting on about a hundred per cent their way and that is perhaps one reason they are so efficient in their undertakings. As we see it, the interests of the farmers and the labor organizations, and necessarily the political allies of both, are intrinsically antagonistic. Their attitudes should be mutually respectful and tolerant. But each should work with all the honest faith and force there is in him for his own interests and points of view. There will probably be occasions for mutual efforts and cordial concurrence and the common humanity in both should recognize such occasions, but the millenium is still a few campaigns distant. It is still safer for the lamb to get the "other fellow's point of view" through a crack in the palings than from a share in his couch. And all these things bring us to the landing we made last week. If the farmers desire recognition for their own point of view of the conditions under which they must produce crops, they must have an organization of their own.

By the Editor | QUERIES AND REPLIES | Inquirer Must Give Full Name and Address

How We Shall Grow Our Wheat.

To the Editor: Please give me advice as to what to plant this season on 200 acres of heavy black clay loam (locally called 'dobe) land, north of Stockton. This land was cropped to wheat for thirty years continuously. It was then considered "worked out." During last ten years it has been planted with barley eight years; three or four years producing grain, balance cut for hay. The land was plowed last spring while wet and has been lying fallow ever since. Is now full of weeds. It is very strong productive land, deep and well drained. Would you plant wheat or barley or other crop for this coming season, and when? What treatment would you give the ground before planting? I have in mind to plant barley, unless you recommend something better. Have not enough capital for beets and want to avoid the labor problem.—Owner, San Francisco.

We cannot answer your question definitely without breaking our rule not to designate best crops when the choice involves more business than cultural points, because the business of a crop is up to the farmer himself to reach judgment upon, not to us. However, we will suspend our rule by taking over your land and in that way prescribe for our own land, as every self-reliant farmer ought to do. Your land is capable of wheat. Whatever of weariness there may be in the land ought to be balanced by the fact that you cannot get less than $2 per bushel—if the war continues—and you may get considerably more. It also seems to us that if the war stops in 1918 the crop of that year will not decline in value because there will be so many hungry Europeans to fill up and they cannot do much for themselves before the crop of 1919. We should, therefore, count on putting in wheat and would send to Dean Hunt at Berkeley for Circulars 169, 170 and 172, which treat of the economics, cultures and fertilizers of 1918 grain crops. We cannot give any good reason for preferring wheat to barley, but we have a notion that the world will be more hungry than thirsty—that is, will want more bread than beer—so we take chances on the former.

On such heavy land as early in the season as this we would hash up the weeds with disks—rolling first if the weeds are very tall and stiff. Do this now and let the land lie for the rains to start the weed seed. If the rains and weeds come soon, disk again and give the foul stuff another chance to start. Then plow about six inches and sow the wheat, getting it in as early in December as the rains permit. This will give you a mulchy surface and a firm seed bed below, which wheat delights in. If the rains come generously, they ought to give you a whale of a wheat crop, as your land is not likely to hold too much water. If about March 1 next the grain shows no growth which endangers lodging and looks as though it might stand pushing a little, give it a top dressing of 150 pounds of nitrate of soda per acre. If, however, soil and rainfall give you a strong growth toward the end of the rainy season, let it go at that. If you follow our schedule, our share of the crop will be 200 sacks, which please deliver to the Sperry Mills in Stockton, subject to our order.

Cos Lettuce and a Reflection.

To the Editor: Where can I purchase Cos lettuce seed, spoken of by Susan Swaysgood in her poultry article in your paper of September 29? I have tried several Oakland stores and they have never heard of it.—L. R. G., Fruitvale.

If our intelligent and reputable seedsmen would advertise regularly in the agricultural papers that they have all kinds of desirable seeds all the time and are ready to give information about them, we would not see our readers wasting time beating around the general stores for special things which the commanders of such store naturally have no time to get wise about. Any issue of a farm journal which has no seed and plant advertisements is as empty as a church without a contribution box. We have to come out that way much of the time, but the foolishness of it is not ours. Seedsmen used to keep their business before the public in an educational way all the time and that is the way great business reputations in seeds and plants were built up. More recently their successors have let the public run wild most of the time and about once a year send for Billy Sunday to try to wake up the people to planting wisdom and right practices. This is foolish because it has no rational educational foundation which the founders of the great American seed business believed to be indispensable and prospered on that belief.

Cos lettuce consists of a number of loose-heading varieties which do not make cannon balls like the cabbage heading sorts. They grow long oval leaves with thick midribs: the inner leaves being blanched, when that is desirable, by tying around the outer leaves at the top. For chicken feeding, of course, no blanching is done and the plant is allowed to make a great bunch of loose, green leaves. Some of the Cos varieties are held to be extra hardy and thrive better in cool, wet weather than the heading varieties. This is the reason why Mrs. Swaysgood commends them for winter feeding of fowls. Any good seedsman can fill your order for seed of Cos lettuce.

A Bad Case of Fleas.

To the Editor: I am kept fidgety and nervous the whole night through and declare to you that I do not know what to do. Not a moment am I at my ease. I am pestered ever with these pesky fleas and am in frantic despair, like a sot with delirium tremens. Please for fleas send me the best you have.—Subscriber, Duttons Landing.

You have a bad case. Take all the movables out of the room. Expose bedding and floor covering to the sun and whale it good and plenty with a club. Give floors, mopboards, etc., a thorough dry-cleaning, gouging and brushing out all dust, etc., from the cracks. Follow with a scrubbing with boiling soap suds, getting it into the cracks as hot as possible. Start in early and if it is a hot, dry day you can move back in the evening. Next morning scatter flake naphthalene freely on the floor and close the room tight all day. If the cleaning seems too formidable, cut it out and scatter the naphthalene from time to time on things as they are and live happily in a flea cemetery forever afterwards. If the naphthalene perfume is worse than the fleas, stand it heroically and the fleas will come back.

Only Good Gopher Is a Dead One.

To the Editor: I have ten acres of five-year-old and twenty acres of two-year-old Calimyrna fig orchard, making good vigorous growth on land that cannot be irrigated. The undertaking is working out beautifully except for the gophers, which attack the trees just below the ground line and completely girdle them up to a point about three inches above the ground. We have lost fifty or more of the two-year trees and three or four of the older ones this summer. We have thought it possible that the trees could be treated by clearing away the soil a little and applying some solution that would be harmless to the tree and distasteful to the gopher. Can you help me out? I don't like this trench warfare and would appreciate any suggestion you may offer.—R. F. D., Dinuba.

Many such things have been proposed and tried but no such warfare has come through. You must learn to poison and trap. Even if such a band of repellant would protect the spot it covered, the gophers would strike below the belt. They are autocrats and must be fought accordingly.

Figs and Peaches.

To the Editor: Can I start a Mission fig orchard in a thirteen-year-old Muir peach orchard (on medium heavy sandy loam) by taking out every other tree in every other row, making the figs 40 feet each way? We expect to remove the rest of the peach trees within three years. Would it be necessary to apply some fertilizer about each fig tree? Should we remove the peach trees now or in the spring in order to kill the roots?—Subscriber, Dinuba.

Yes, if you are generous with water and manure and cut back the peaches enough to insure plenty of light. Go to it now and blow out the trees or dig out, making large holes and getting out as many roots as you can. What is left will not grow. Let the rains settle the ground or irrigate well for the same purpose. If you do the clearing now, the ground can be settled in time for early winter planting. If you wait for clearing until spring, the planting will be so late that you will be in danger of losing many trees.

Fillers in Olive Orchard.

To the Editor: I am starting a small orchard of olives near Corning, planting trees 35 feet apart, expecting to get as much fruit and better than if planted closer. I wish to use the centers while the olives are young, for whatever fruit will give the earliest returns with profit, marketability and suitability to the locality. The soil is river valley loam, well drained and deep, having practically no hardpan.—C. W. B., Oakland.

Peaches and apricots suitable for canning and drying and Japanese plums for shipping come soonest into profitable bearing. If your place is frosty, the peach is safest, can be kept within limits by pruning, and is in our judgment about the best filler going, where the soil suits it, as yours does.

Medicine for Alkali.

To the Editor: Would superphosphate give as good result as gypsum for alfalfa growing on a slightly black alkali soil? Would either be beneficial on white alkali?—P. B. L., Tulare.

Superphosphate does not produce the specific effect upon black alkali which gypsum does, nor would it stimulate the plant in the same way. It is, however, plant food, the effect of which in your case can only be determined by trying it and watching for effects on the treated area as compared with other similar area. Neither have any effect on white alkali, the only cure for which is under drainage and washing out with copious applications of fresh water.

Salt Grass.

To the Editor: Can salt grass seed be bought? Also, is it advisable to sow it on land where there is considerable alkali?—M. S., Hollister.

Salt grass is distichlis spicata. We do not know where the seed can be bought. It is naturally very widely distributed and seems to be ready everywhere to catch on for itself if conditions suit it. It will stand much alkali or will get along with a little. Some alkali is too strong for it, and usually alkali which grows no salt grass is too strong for any useful plant until the alkali is partly washed out by drainage and rainfall or irrigation.

The Grain Weevil.

To the Editor: I wish you would tell me through your columns how to prevent weevil from getting in cracked corn and other grain.—Subscriber, Healdsburg.

Weevil must be kept out of grain by killing all the insects in the place where it is to be stored by sulphur fumigation followed by good sharp whitewash, which covers all surfaces and fills all cracks. Weevils can be driven out of grain already invaded by exposing it to the hottest sunshine you can find on the ranch and then storing in a place in which the pests have been killed as described.

Cleft-Grafting Figs.

To the Editor: Can the fig be successfully grafted? If so, when is the best time and how best to proceed?—R. C., Paradise.

Make cleft grafts with the cleft at one side of the stub and not through the central pith. Cover exposed surfaces and fill cavities thoroughly with hot wax and bind the stub with waxed cloth. Early springtime is best.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., October 9, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.68	2.08	82	46
Red Bluff	...	.80	1.20	102	60
Sacramento	...	.51	.60	100	52
San Francisco	...	.02	.51	96	52
San Jose	...	.01	.56	98	52
Fresno	...	...	.50	98	60
San Luis Obispo	...	.01	.67	102	52
Los Angeles	...	...	.10	94	56
San Diego	...	...	.16	76	60

Non-Bearing Orchards Produce Good Incomes

[Written for Pacific Rural Press by Prof. R. S. Vaile, Riverside.]

There are 75,000 acres of non-bearing citrus orchards in California. All of this is irrigated land. One of the unfortunate conditions connected with this acreage is the large amount of it which is supported to bearing age by some source entirely outside of agriculture. Many people, whose only line of endeavor—or whose best line of endeavor—is agriculture, feel that they cannot compete in orchard development with tracts subsidized by the surplus earnings or savings from other industries. Fortunately, there are many individual instances which may be cited to dispel this feeling; instances where the land itself bears the cost of orchard development as well as a large share of the family's living expense. Such instances impress one with the fact, however, that the success of companion cropping depends on the proper combination of water supply, good soil, and agricultural temperament.

Three young orchards that have recently come to the writer's attention may well be taken as illustrative of the possibilities. It so happens that each of these is situated in Orange county. In each case there is more than the average amount of water available. The important thing in each case, however, seems to be the personality of the farmer.

ALFALFA AMONG YOUNG ORANGES.

The first case is a very simple one. A young orange grove was planted in March, 1915, with the trees 13x26 feet apart. Alfalfa and barley had been sown together in October, 1914, on one-half of the space between each row of trees. In 1915 one ton of mixed hay per orchard acre was cut from the first cutting and following that there were five cuttings of alfalfa, averaging one-third ton each to the orchard acre. The next year, 1916, there were seven cuttings, totaling three and a half tons to the orchard acre. The alfalfa is irrigated twice a month and the trees once a month. The amount of water used totals about 54 acre inches per acre for the entire season. Thirty acre inches is the usual average for orchards without companion crops in that immediate district. The trees in this orchard have been fertilized with only a small amount of the alfalfa plowed in during the winter of 1916. In the summer of 1917 they are extremely vigorous for their age. Some $60 worth of alfalfa was taken off the land for each orchard acre during the first two years and the 1917 season will certainly have seen as large a harvest.

ALFALFA AND HENS WITH WALNUTS.

The second case is that of a young walnut orchard. One-third is eight years old and two-thirds four years old, with the trees planted 50x50 feet apart. Approximately thirteen acres out of a twenty-acre orchard is in alfalfa. Ever since the trees were planted the alfalfa has averaged six and a half tons to the orchard acre. This alfalfa is irrigated twice a month, giving a total application for the season to the orchard and alfalfa of approximately 55 acre inches per acre. In addition to the alfalfa on this property, 1,200 to 1,500 laying hens are kept. They are supplied with green feed from the alfalfa and a small portion of their grain has been raised on that part of the orchard land not in alfalfa. This poultry farm is in itself profitable, and gives a constant labor demand which would not be true in case of the young orchard alone. The poultry are of direct benefit to the orchard because of the manure which is furnished. During the course of a year it is estimated that nearly a ton of chicken manure per acre is produced for the entire twenty acres. The alfalfa alone, at $10 per ton, has given a gross income of $65 per acre. In 1916 the walnut crop averaged $30 per acre and in 1917 it will be at least double that. The returns from the poultry were in the neighborhood of $75 per orchard acre, making a total gross return of $170 per acre.

COWS, HENS, AND FEED AMONG YOUNG ORANGE TREES.

The third case is even more complicated and requires close attention on the part of the farmer. A seven and a half acre tract of land was formerly in old navel trees, which were taken out in the winter of 1914. Young Valencias were planted in March, 1915. In the summer of 1917 these trees had as fine a development and appearance as any of similar age in the vicinity. In conjunction with this orchard there are kept ten to twelve head of milch cows and 400 laying hens, in addition to two head of work stock. The entire amount of space which is taken from the orchard by buildings, including the residence of the owner, the milk house, and the cow barn, is only about three-quarters of an acre. The land between the trees has raised two or three crops of some sort of feed each year. Barley, sorghum, Indian corn, kale, and melilotus clover have been the principal crops raised. Three-fourths of all of the chicken feed and one-fourth of the cow feed has been raised on the orchard. A load of manure has gone back to the land for each load of feed taken off. The regular irrigation is 2¾ acre inches per acre every thirty days. An extra irrigation is used in the spring on the corn crop and an extra irrigation in the fall on the kale and melilotus crops. The owner and his family do all of the work, including the delivery of the milk and eggs on a milk route. This route distributed something over 100 quarts of milk per day and some 240 to 350 eggs per day. During the 1916 season there was a gross income from the combination of crops of over $5,000 and the net income, including payment for the family labor, must have amounted to at least one-third of this amount.

Adobe Pear Orchard Improved by Tiling

[Written for Pacific Rural Press.]

When, in March, 1913, G. H. Frith reached the forty acres he had bought near Agnews, Santa Clara county, he found pear trees heeled in ready to plant the whole place and 500 tree holes standing full of cold water.

"Where is San Francisco bay?" he asked the tree planter.

"Two miles down," was the answer.

"Can't we drain this water there?"

"Too flat," replied the planter.

Before the first rain in October, Mr. Frith had laid 10,000 feet of tiling which drained into a 4,000-foot open ditch dug in co-operation with a neighbor.

THE DIFFERENCE.

Before planting, a neighbor had plowed the forty by contract. There were great patches that the plow just slicked over because he could not get it in. It was heavy adobe, which had been puddled by cattle tramping over it for many years. Where the plow did go in it turned over chunks that were not worked down the first year.

The trees were planted and they suffered. The wet adobe ran together; then in the summer it dried and cracked and lost moisture all the way down. About the middle of August Mr. Frith got some irrigation on the orchard and then followed nine weeks of digging with six or seven men. The same work could now be done by machine with three men in two weeks, including laying and covering the tile.

But even after irrigation the men turned up chunks of a crust a foot thick as they dug the trenches, so quickly did it dry out. Next summer again the land dried out for lack of irrigation, but a well was completed late and the troubles were mostly past.

When the writer walked over the place in June, 1917, the trees showed the unevenness of replants because many had died due to the cold, wet ground they were planted in, and the drouths of the two summers following. Otherwise they are thrifty trees; and they certainly must have good root systems, for water never stays long near the surface.

At that time the orchard was covered with alfalfa, except two furrows each side of each tree row. The ground was soft, mellow, and crumbly. Mr. Frith said it was easy to plow 10 inches deep anywhere on the piece this spring. It had been submerged a foot deep last winter by overflow from a creek, but within twenty-four hours after the water was off he could walk all over the land without sinking in soft mud. Winter rains never stood more than a few hours in the furrows. As we looked across the orchard, the driest parts (right over the tile lines) showed a distinctly better growth of alfalfa. One cutting had already been taken off, an irrigation given, and new growth was well along. Alfalfa would not grow there without drainage, nor even a decent crop of grain hay.

THE SYSTEM.

Tile were laid with the fall, averaging about 42 inches deep in 4-inch laterals 200 feet apart. These drain into a main running with a fall of 33 inches square across the center of the orchard. The main is of 5, 6, and 8-inch tile to care for increasing flow.

LATERALS SQUARE TO MAIN.

The laterals happen in this case to run into the main at about 45 degrees. This may have been necessary on account of the lay of the land, but if it was not it involved a great waste of trench digging and tile; for if tile could be laid with sufficient fall square into the main, the same drainage would be effected with far less of it; and often with a better fall, which would make more certain the self-cleaning of the system.

HOW TO GET THE GRADE.

Mr. Frith uses a transit level to lay out his work; but he points out that it can be done without instruments. Look over the land to see where you can get the steepest grade possible for the laterals (not much over 3 inches per 100 feet). The main can be nearly level if convenient, provided the laterals have plenty of fall. Having decided the line of the main, stake it frequently enough to follow in digging, then lay off the laterals at right angles to it if possible.

Do the work when there is water in the ground to make soft digging. Begin digging at the upper end, using seepage water as a level. After digging a few feet, lay the tile and cover it with dirt dug from the trench as you proceed. The machine digger has an almost automatic system of digging to the correct grade and of course is much faster.

California's Vineyards Equal to the Demand

Owing to the likelihood that the currant of Greek origin will not figure largely in our domestic trade this year, more attention than usual has been directed to the seedless varieties of California raisins, and a larger volume of business in this line has been done than heretofore. Some holdover stock has helped out the emergency demand.

WHAT FRUITS WILL BE PLANTED.

[Written for Pacific Rural Press.]

If inquiries for nursery trees keep up as they have been coming to Fresno nurserymen, their stocks will be cleaned up early, especially on certain varieties. People generally have found it better and surer to reserve nursery trees early, especially big planters and those who are particular as to variety. There is a strong demand now for prunes, pears, almonds, and figs to be delivered after New Year's. The organizations of peach growers have also stimulated plans for planting both clings and Muirs and Lovells. While the late spring delayed growth of nursery stock and it may not be quite so large as usual this season, it is in fine shape otherwise; the principal pest in the San Joaquin being red spider, while cutworms did a lot of damage to the stand in the Sacramento Valley. Santa Rosa and Beauty plums are reported as selling well in all sections of the State, while other varieties may go a little slow. Calimyrna and Adriatic figs are almost equally popular, the color of black figs being against them, while the Kadota or white Indich is small and good only for cooking. The southern San Joaquin is ordering heavily all kinds of shipping grapes.

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DOES your farm need draining? Our Ditch book shows how to blast clean, smooth ditches of any size—the easiest, quickest way of making them.

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Saved Wet, Half-Dried, Moldy Raisins

[Written for Pacific Rural Press.]

Last year on the date of this issue rain had been spoiling raisins for twelve days; and many were the schemes adopted to save them. The best impromptu way we have found was that practiced by George E. Rice of Fresno county. Within a week after the first rain, his fifteen-ton crop of Muscats was getting whiskers, some of the berries were rotting, and it seemed that they would become too rotten for anything but the wineries. Some of them were half-dry when the rain began; and a few had been turned. Some were on paper trays.

Of the fifteen tons all but 1,500 pounds were later sold as number one raisins. The cost of saving them is estimated at not over $2.50 per ton for extra handling and sulphur.

Mr. Rice had four sulphur houses for peach drying. Into each of these he shoved 100 trays of partly dried, mildewed, and molding raisins at a time. Three to five pounds of sulphur were burned per 100 trays, and they were taken out as often as a new lot could be hauled in. The grapes were spread thinner by removing some from each five or six trays to an extra one. Those on paper trays were put onto wooden ones. Some of them were left in the sulphur houses over night, though Mr. Rice believes an hour in the sulphur fumes would kill the fungi. The greener grapes rotted quicker and were worse affected than those picked when riper; and the drier they were the better their toughened skins resisted the wet. Grapes which had started to rot could not be saved; but on most of them the blackened molded stems brightened up; and the mold was cleaned entirely from the berries. A slight taste of sulphur was left in the greener grapes.

After sulphuring, they were spread out to dry; and though they had to be stacked and restacked, and some had to be turned two or three times, they made No. 1 raisins. The sulphuring made them a trifle sticky, especially where the skins were broken and wet, but did not seem to shorten the time required for drying. Dipping in soda solution when freshly picked, as they do in the Sacramento Valley, would shorten the drying time, but Mr. Rice did not want the bleached appearance that dipping would give.

The success of Mr. Rice's sulphuring led many neighbors to save theirs by sulphuring in portable canvas boxes set over the stacks. If partly dried raisins ever commence to mold for him again after being wet, Mr. Rice expects to save them in the same way. He also suggests sulphuring in the big artificial driers before starting the machinery, as it cleans the grapes and stems and improves the appearance of the raisins.

How Frost Equipment Saved Its Cost

[Written for Pacific Rural Press.]

Year before last frost got a fine crop of almonds in Butte county, so last summer a great many growers prepared. That their efforts were ineffectual last spring was due probably to one or more of three causes. Rain and cold wind in blooming time prevented pollenization, smoke in blooming may have prevented pollenization, or the pots were taken up too soon.

In the Durham district many people lost whatever of a crop they had saved by two frosty nights about the middle of April, when nuts were the size of one's finger. E. J. Brans, who has 950 fine almond trees five and six years old, was ready for that late frost and saved what he estimates is 70 sacks or about three tons. If this estimate, which seemed conservative when the nuts were nearly full sized, proves correct, Mr. Brans figures that even this small crop will repay the cost of all his equipment.

INVESTMENT.

A 4200-gallon storage tank in the orchard, with tank and hose for wagon, cost $150; pots cost $275; oil $300 (only half of it was burned); and wages estimated at $100 for the dozen times the pots were lit last winter. This totals $825, including $150 worth of oil still on hand. If the almonds average 15 cents per pound, and make a three-ton crop, they will sell for $900. Since the crops were practically all lost in that neighborhood, the almonds saved by Mr. Brans' frost fighting pay for the equipment and operation the first year.

SYSTEM AND HOW HANDLED.

About 1,000 pots were used for the 950 trees, having a border of pots all around the outer edge of the orchard and set 14 feet apart. (The wind changes at night sometimes.) The border pots ought not to be over 10 feet apart, thinks Mr. Brans since last winter's experience. Two-gallon pots with soot arresters were used. "Wouldn't be bothered with one-gallon pots," says Mr. Brans.

They were lit at 33 degrees last spring during bloom. Mr. Brans says he will not light next blooming time until it gets down to 28 degrees; but will light at 33 degrees after the nuts have formed. The windward border pots were lighted first; then every fourth row, if necessary; then some between if the temperature promised to drop still further. Never were over half of the pots lighted at once.

A $1.50 thermometer in the orchard and another outside showed five degrees difference one night while the pots were lit. Crude oil 28 degrees gravity was bought by the carload at 3.8 to 3.9 cents per gallon by various neighbors and divided with the rest.

The J. C. Kubias Canning Company of Redlands is now busy canning tomatoes and is employing 100 hands.

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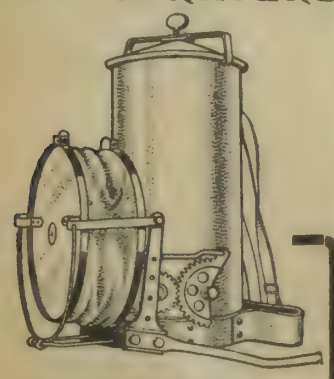

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Ogden Route: Across the Sierras and over the Great Salt Lake Cut-off. To Chicago via Ogden and Omaha; also to St. Louis via Ogden, Denver and Kansas City.

Shasta Route: Skirting majestic Mount Shasta and crossing the Siskiyous. To Portland, Tacoma and Seattle.

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

CURING AND BLEACHING WALNUTS.

To the Editor: Please publish a recipe for curing or bleaching English walnuts.—S. R., Sacramento.

Best means of curing English walnuts were described in our issue of September 1, 1917. Bleaching is most efficiently done in the packing houses of the California Walnut Growers' Association by passing them through a secret patented fluid as described in our issue of October 28, 1916. This consists of chloride of lime and monohydrate crystals of soda mixed with a solution of sulphuric acid. The salt bleach as described in Prof. Wickson's "California Fruits" is a solution of five pounds common salt in 100 pounds of water, running a 110-volt electric current through it at a temperature of 90 to 95 degrees. The sulphur bleach is applied by burning sulphur in a tight box like a fruit drying sulphur house, in which wetted walnuts are placed in trays about six inches deep, or simply on a screen bottom. Enough sulphur is used to bleach them properly in about 25 minutes. Then they are dried in trays. Cold steam sometimes supplements the sulphur.

SHELTER CAPRIFIG TREES.

Where caprifigs are often frosted and the Calimyrna fig grower has to send to other parts of the State for the wasp bearing fruits or lose his crop, it pays to give the capri trees special protection. G. B. Abbott of Tehama county wanted to sell his Calimyrna orchard for a song two or three years ago, but since then he has had better crops until the spring of 1917, when the Calimyrnas also were frosted. Most of his caprifigs were frozen dead, and the crop at the Government garden at Loomis was frosted; but a few capri trees protected by Mr. Abbott's barn carried their crop and produced a multitude of insects.

BEES POLLENIZE FRUIT.

Fruit trees close to H. A. Bassford's 150 stands of bees always set a good crop if there is any chance at all. He has had bees for 10 years, increasing them every year. They are set in a sheltered place at one side of the orchard to keep them out of the way of cultivation and to keep them warm, so they will go to work early mornings. They range several miles when necessary. Lots of people wanted to buy some last spring, but he had none to sell. Cherries and plums of all kinds are his principal fruits, but he has many apricots, peaches, walnuts, citrus fruits, persimmons, etc.

IMMUNE PEAR STOCKS.

Immunity to woolly aphis and pear blight are requirements in pear stocks, where those troubles may occur during the lifetime of the trees. French seedlings are used in Santa Clara Valley, where the trees have not been bothered yet. But in the Suisun, Napa, and Sacramento river districts woolly aphis has been damaging trees more than growers know. Japanese pear stock has proved almost immune to both blight and aphis. Chinese seedlings (pyrus usurensis) similar to the Japanese are being introduced as a trifle more blight resistant than the others and equally thrifty generally, though French stock may stand wet feet longer.

PEACH STOCK FOR PLUMS.

"You can graft Japanese plums onto any kind of a peach, but European varieties need a soft-wooded stock. Hull's Late is as soft as a willow," says Ed Ames of Placer county. Rotted peach trunks, however, should not be grafted to plums, as evidenced by many grafts that have broken out this season under a load of fruit.

GRAPE COVER CROP.

Muscat crops increased one-fourth ton of raisins per acre during the past two years for P. W. Hastie of Fresno county, largely due to a vetch crop planted on 20 acres in November, 1914. The vines were unpruned, so he had to broadcast the vetch by hand and harrow it in with a single mule. It was allowed to grow late the next spring before plowing.

SPRAY BURNED PRUNE LEAVES.

Leaves on young prune trees were burned seriously by spraying for aphis on J. N. Enlow's ranch in Tulare county. The spray was a tablespoonful of paris green per gallon of water, mixed with strong soap suds.

Cost of Almond Orchard

[Written for Pacific Rural Press.]

A man came to Paso Robles Horticultural Inspector T. W. Henry asking advice as to where he could buy some good almond land. It developed that his total capital consisted of $250. Mr. Henry told him that if he could get enough to live on for four years and could make payments on the land, he could expect to bring an almond orchard to bearing at about the following cost, which includes better care than the average orchard gets, but no better than it should have. The land would cost $25 to $150 an acre, depending on whether cleared, whether in a proved suitable location, and how far from town:

First year—	Per acre
Plowing and working land before planting	$ 5.80
Trees and planting	29.50
Cultivation after planting	7.40
Squirrels and gophers	1.00
Total per acre	$43.70

Second year—	Per acre
Pruning	$ 2.00
Replanting	2.50
Cultivating	12.20
Pests	1.00
Total per acre	$17.70

Third year—	Per acre
Pruning	$ 3.00
Replanting	1.50
Cultivating	12.20
Pests	1.00
Total per acre	$17.70

Fourth year—	Per acre
Pruning	$ 3.00
Replanting	.50
Cultivating	12.20
Pests	1.00
Total per acre	$16.70
Total per acre for four years	$95.80

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Bur Clover Strips Improve Orchard Soil

[Written for Pacific Rural Press.]

When Hughes Madeley graduated from the University in 1914, his father's deciduous fruit ranch in Placer county had been in the hands of tenants several years. Before that it had been in orange trees continuously cultivated clean since early in the 90's. The humus had burned and leached out of the granite soil so it baked if the sun winked at it; and all summer long, after cultivation ceased, no weeds or grass would grow even on the little irrigation trenches by which the trees are always watered. Good tilth in Placer county orchards seems to be measured by the rankness of weed growth, after cultivation is stopped by fruit-laden, down-hanging branches. That same soil in most parts of the Madeley orchard is now full of root fibers and vegetable matter which make it mellow and loamy, much slower to bake and much harder to get water over. The trees had been sick, but have improved steadily in most cases since Hughes started to work it in the fall of 1914. Certainly the weeds were growing last August as disreputably as he could wish. Much of the soil improvement and part of the tree improvement are due to his cover crops. Pruning, irrigation, spraying, etc., were part of the new regime.

METHOD OF HANDLING BUR CLOVER.

Rains came late in the fall of 1914. Shortly before the first rain Mr. Madeley, with a handpower sower, walked down the rows of 40 acres of peaches and plums and broadcasted 340 pounds of bur clover seed. There had been a little bur clover about the place, but it had refused to grow on certain spots. These spots were inoculated, but still refused to grow, indicating some other difficulty, believed to be need of fertilizer. The seed was harrowed in right away, a procedure pronounced wrong by John J. Fox, former Napa county horticultural commissioner, because it covers some seed so deep that they do not come up. Mr. Madeley, however, got a good stand that winter and there was lots of rain in the spring of 1915. That spring, when the ground was plowed, a strip of bur clover was left four feet wide down the middle of each space between rows. He then cultivated the plowed parts quite thoroughly by "figure-eighting" around the trees. The trees were watered carefully that summer, and improvement was noted over the previous year's growth.

The dead furrows proved disagreeable in hauling fruit across them, and in the future two or three furrows will be plowed back toward the strip of bur clover, to aid the cultivators and harrows in smoothing them down.

The bur clover ripened and dried up during the summer, and the ground baked there; for irrigation in Placer county consists in running a small stream down a diminutive furrow close to each tree row. The water spreads under the surface, especially on granite soils where bed rock is not far down. In the fall a harrowing crosswise distributed a multitude of seed over the whole area.

CLOVER IN ALTERNATE CENTERS.

In 1916 it was decided to leave the ground entirely unplowed in alternate centers, which was done. Plenty of water was applied, according to Mr. Madeley, and the trees did not seem to suffer; but it looked like too large a proportion of uncultivated land, and this plan is not proposed for the future. The ground baked, even with clover on it, so it cannot be plowed after three days of the north wind they sometimes get.

Last fall the clover jumped an inch out of the ground with the first rain on the strips which had not been plowed for two summers; but not so on the plowed ground, where it was much slower in starting, to Mr. Madeley's surprise. Last spring at plowing time, however, the growth was about the same all over.

CLEAN CULTURE.

In 1917 the whole place was plowed and cultivated clean until fruit prevented, since when a "good" growth of weeds has come, indicating to Mr. Madeley a greatly improved condition of the soil. This was corroborated in August by digging into the loose loamy soft soil that had not been cultivated for weeks.

SYSTEM FOR FUTURE.

The system of culture planned on the basis of this experience is to plant bur clover as in 1914 and handle it as in 1915, except to fill the dead furrows; then cultivate clean the following year, then repeat the cycle in the opposite direction the next two years.

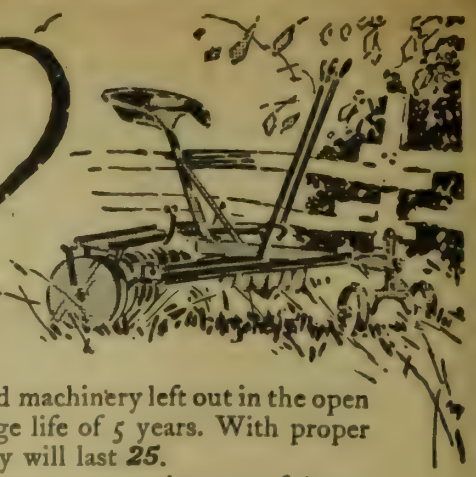
Liability Under Compensation Law

To the Editor: Can you tell a subscriber if the farmers were finally exempted from the "liability law"? I read in the papers that a bill to that effect had been sent to the Governor to be signed, but have never seen anything further about it.—I. V. R., Watsonville.

[Answered by A. J. Pillsbury, Chairman California Industrial Accident Commission.]

The Legislature of 1917 did not make the Workmen's Compensation, Insurance and Safety Act compulsorily applicable to "farm, dairy, agricultural, viticultural or horticultural labor, stock or poultry raising, or household domestic servants," but any employer desiring to operate under the provisions of the act may file an acceptance with the Commission of such provisions. Somewhere about 20,000 employers have voluntarily accepted the provisions of the Compensation Act and are now acting under the Compensation Law; between fourteen and fifteen thousand of these are farmers. It should be borne in mind that those who are not under the protection of this law are liable to suits for damages in the event that they were injured through the carelessness of the employer or fellow employee of such employer. In such cases the jury would fix the damage, and it would have to be paid in a lump sum, whereas under Compensation, the payment is fixed by law in advance, and payments may be made weekly.

5 years or 25?



Farm tools and machinery left out in the open have an average life of 5 years. With proper protection they will last *25*.

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Cultivate Big Areas Before Plowing

[Written for Pacific Rural Press by Frank C. Clark, Oakland.]

On account of the urgent call from the Government for more grain, and as the early rains are about due, the following notice is seasonable:

Now is the time to clean the acreage you intend to plant. Undoubtedly much new land will be plowed this winter and spring for summer fallow, hence I make these suggestions for the benefit of the progressive farmer, having tried them out with very satisfactory results. Where the land is clean of weeds, sage brush, or other grass growth (and any experienced California farmer who intends to have his land well cultivated after plowing knows the cheapest time to clean brush or dry grass is early in the season, before it is plowed and the growth gets too wet to burn), the plow season under normal rain conditions can be extended the entire summer, by first giving the soil a thorough 3-inch cultivation. While nearly every farmer knows that a 3-inch cultivation of damp soil will enable the land to maintain the moisture all summer under normal weather conditions, because he has had the experience, most farmers will take issue with my statement that it pays to cultivate first.

PROLONGING THE PLOW SEASON.

You will all agree, to begin with, that frequently in working new land late in the spring one to three weeks represents the length of the plow season. If you can prolong that plow season three to five months, either with a spring-tooth harrow, chisel-tooth cultivator, disk, or any other tool that permits you to cover three or four times the acreage you can get over with a plow, you have saved the moisture that enables you to do better plowing; you can pull more plows; save in sharpening and changing shares, and, last but not least, save moisture to help grow the next crop.

FEED CROPS ON SUMMER FALLOW.

I am strong for corn or cow peas on summer fallow, planted thin so as not to rob the soil of too much moisture, because it furnishes feed for lots of stock, enough, in fact, to pay for shallow plowing, and it will go a long way toward paying for deep plowing and cultivation. If not planted too thick, the stock tramping the ground prevents crusting; in fact, summer fallow planted thin and pastured while green, turning the stock in as soon as the feed is six inches high, will retain more moisture than the average California summer fallow that is not cultivated after plowing.

PREVIOUS CULTIVATION MELLOWS SOIL.

Where land has been pastured or plowed shallow, more especially land of a gravelly nature, it is inclined to plow up very lumpy when plowed deep. You will find a big difference in the physical condition of the soil, where cultivation precedes the plowing, so much so that it will cost you less than half the money to work the ground down fit to plant summer crops. Much farmed acreage in California is pastured. In most instances the land owner holds the pasture privilege and either feeds it off with his own stock or rents it to a stock man. If corn or any other summer crop is to be planted (and it should be on account of the war conditions), now is the time to make provision in the leases to remunerate the farmer for planting it. We have started to plow deeper in this State, and the cultivation of the surface soil before plowing, where the land is to be winter sown to grain, will, nine times out of ten, make the difference between a light or heavy grain yield, for the reason that you have plowed under three inches of fine soil instead of a bunch of clods. The fine dirt makes a seed bed, a condition conducive to a well-developed root system, which is one of the very best drouth resisters and has been known to enable wheat to recover from severe rust blight.

How to Get More and Better Spuds

[Written for Pacific Rural Press by Professor E. B. Babcock.]

WHY SELECT SEED POTATOES?

As the potato is propagated by planting tubers, improvement by selection is not concerned with the method of sexual reproduction in this plant. Two important questions immediately arise, however, when we consider the selection of seed potatoes. First, do new varieties ever arise from bud variations in the tubers? Second, if not, what is to be gained by selecting seed potatoes? Although the first question must be answered in the affirmative, yet it is known that the bud variations which produce valuable new varieties of potatoes are exceedingly rare; so rare in fact that the chances against producing a superior new variety by tuber selection are overwhelmingly great. Why, then, do we advocate selection of seed potatoes? Briefly, because the potato is so very susceptible to all adverse conditions. There are many diseases of the tuber, stem, and leaves, all of which weaken the plant, and tubers from such plants will not produce vigorous productive vines. Some diseases are carried over in the seed tubers and infect the next crop. From his investigations of 150 commercial varieties of potatoes Stuart determined that there are from 5 to 10 per cent of weak, diseased or unproductive plants in every unselected variety. The proportion may be larger in some varieties or where the grower has used culled potatoes for seed. Certainly with the present conditions of our commercial varieties and the prevalence of potato diseases the selection of seed potatoes should become a regular practice.

MASS SELECTION.

By hand picking of superior healthy tubers from the field run and storing them for seed something may be accomplished through the reduction of disease and the elimination of weak plants. This is a measure for safeguarding production in 1918 that no grower can afford to neglect.

HILL SELECTION.

Much more can be done by picking out individual hills and growing the selected tubers in a test plot. Unless the field is very uniform and free from disease the first selection should be made while the plants are still growing in order to choose those that are vigorous and entirely free from disease in the top. Stake about twice as many as you intend to test. The marked plants should be dug by hand before harvesting the crop, the tubers from each hill being put in a heavy paper bag. Each bag is weighed separately and the weight marked on it. The bags are then stored in a cool, dry place until a convenient time for making the final selection. At this time the bags are arranged in order of weight and tubers are spread out on each bag. The principal point to be kept in mind is the number of marketable tubers, but the person doing the work may give as much attention to other points as he sees fit.

If the field is very uniform and free from disease, or if you decide to select too late to begin with the growing plants, a more speedy method of hill selection may be followed by having several rows dug by hand, keeping the tubers from each hill separate, then walking up and down the rows picking out the best hills. The tubers from each hill should be planted separately in the test plot. Great differences may be observed in the offspring of different hills. Seed for the second test plot may be taken from the best hills in the plot and the best of the remainder used for the next crop. By repeating this procedure from year to year the yield and uniformity of the crop can be improved to an extent that will more than repay for the extra trouble. This method of improving the potato crop can be combined with seed rotation by sending selected seed to a northern grower to be multiplied.

A report rendered to the State Board of Equalization for its consideration, recommends an increase in the valuation of Nevada lands.

The Second Liberty Loan Campaign is Open

$3,000,000,000 THE GOAL.

America is sending her troops to fight abroad in order to keep the war away from home. That is the strategy of the kaiser. But there is a difference—the kaiser is fighting a war of aggression; America is waging a war of defense. War cannot be carried on without money, and immense sums of it, and to equip and maintain our own forces in the field and on the sea, as well as to help our allies, who are fighting our battle as well as their own, our Government needs and must have the financial backing of every loyal citizen. In this second appeal for the necessary sinews of war our Government asks for a minimum of $3,000,000,000 and hopes to raise $5,000,000,000. This paragraph is a direct appeal to every patriotic reader of the Pacific Rural Press to subscribe to this great loan according to his means—and the farmer today is the man of means if he never occupied that enviable position before. Furthermore, it should be borne in mind that in contributing to this loan the subscriber is not giving away one cent, as he will be repaid in full with a net 4 per cent interest, for the bonds are not taxable. So, serve your country and yourself in this hour of dire need as your means permit. He who helps quickly helps twice. It is expected to raise the full amount or more in four weeks from October 1.

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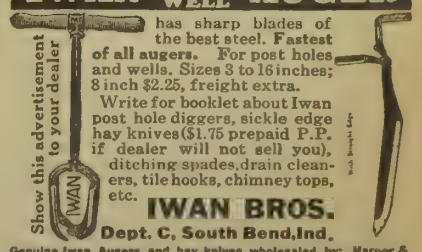

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Next Crops Depend on Seeds Saved Now

[Written for Pacific Rural Press.]

High seed prices startled some folks last spring; but there is every reason to believe that higher prices will prevail henceforth for a season or two on grains and vegetables, and that the supply will nowhere near go around unless extraordinary measures are taken at once and through next season. Never before in the world's history has there been such a need not only of plenty of seed but of the strongest seed and free from disease.

LIKE BEGETS LIKE IF NOT MIXED.

In selecting seed for next year's crops or in selecting plants from which to save or to grow seed, the best fact to remember is, "Like begets like." But do not be blind to the exceptions to the rule. Seed are produced by the union of male and female elements almost precisely as young animals are produced. Pollen is the male element, and the egg in the ovary of a blossom is the female element. Pollen must be brought to the pistil of the flower, where it sprouts and sends a pollen tube down to connect with the egg. The pollen is generally brought there by wind or insects. If it comes from a different variety of the same kind of plants, as in case of milo maize and Egyptian corn, or of cantaloupes and cucumbers, the resulting seed is most likely to produce plants or grain or melons not like the mother plant, though there may be nothing in the seed to show us the difference. This leads to the conclusion that seed had better be selected from a large area on which the plants are as nearly pure of one variety as possible, and as far removed as possible from other varieties. We know a bean grower who does this while acclimatizing new seed obtained from other localities every five or six years. We know a corn grower who has selected seed from original stock brought across the plains fifty years ago; but he failed to consider this point, and his seed is entirely mixed with other varieties now so he cannot tell what this year's seed will produce next year, except that it will be of various characters.

WEAK SEED REDUCES CROP.

Many a crop has been reduced as much as 50 per cent by using weak seed which did not come up thick enough or strong enough to compete with weeds. We were last spring the victims of the "potato-peelings-for-seed" advice so freely sent out by misguided bubblers; and we got a few marbles for a crop. With alfalfa, a poor or weak stand means thrifty foxtail and other weeds which waste the land and moisture sorely needed now for feed crops. Shriveled grain seed is more expensive than automobiles when it is put into land that is capable of bearing good crops. The grain grower could afford to pay well to have it dumped into the river rather than put into his soil. The fanning mill conscientiously used on wheat to be sown this fall would make six or eight sacks per acre difference in next year's crop on many ranches.

ADVANTAGES OF SAVING YOUR OWN SEED.

An advantage in saving your own seed has repeatedly been proved in its better acclimatization. Another is its freedom from the spores of disease such as smut on grains, blight on melons, weevils in grain and beans, etc. Another is in knowing the desirability of plants it came from, and whether they were grown under exceptional conditions. Fine seed may produce poor crops under ordinary conditions because it owes its excellence to specially good conditions but not to inherent characters.

It is still time to select our own seed in most parts of the State for the sorghums, beans, corn, potatoes, sudan grass, and many of the vegetables. The best directions as to what to select are general. Find what characters bring the greatest net profit per acre. This involves not only the character of the seed, but the amount of it produced per acre under your conditions, and the relative cost of handling and storing. It will involve selection with regard to desirable plant characteristics, such as tendency for corn to be placed at convenient heights for harvesting, resistance of grain to rusting and lodging, tendency of beans to make a surplus of vines or grow too late, toughness or earliness of vegetables, drouth and frost resistance, etc. It also involves seed plots segregated to avoid mixing seed located in the average soil conditions of your fields.

Merced Farm Bureau Holds Big Meeting

On Saturday, October 6, the farmers of Merced county affiliated in the Farm Bureau, had a get-together meeting at Merced. The general meeting was addressed by Dr. Elwood Mead, and various sectional meetings were held later in the day which were led by various other University of California professors.

The County Farm Bureau, under the leadership of J. F. Grass, Jr., has in five months accomplished several things of general value to the county, among them a cow testing organization, rabbit killing campaign and fire-fighting system extending over the county. A move is now on foot to get 1,000 acres for next year added to the 10,000 acres planted to wheat this season, and by the way the idea is being taken up it will not be surprising if the wheat acreage is doubled in Merced county in 1918. A meeting is to be held at Merced, October 18, in connection with delegations from Madera and Santa Clara counties, to help secure the building of a State highway from the coast through the Pacheco Pass.

The Crocker-Huffman Co. has recently completed near the town of Merced a 300,000-gallon reservoir of well water for the use of the town, which will free that much more irrigating water for coming seasons.

PACKED VEGETABLES MUST BE OF UNIFORM SIZE.

A vegetable dealer in the Los Angeles market was notified by the Inspector that he must not sell his tomatoes which had been packed in lug boxes. The dealer had bought them unsuspectingly from a grower who had packed tomatoes twice as large in the top layer as in the bottom. He found the grower, who was required by the Inspector to repack them immediately or he would be arrested under the State Standardization law. He was told that various sizes would be permitted if the tomatoes were just dumped in without packing.

-how to have

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of money saving bread recipes. Everybody knows there is no comparison between the delicious nut like flavor of home baked bread, fresh from the oven, and baker's bread. And now that our no-trouble bread mixer has done away with the bother and mess of the old days, thousands of housewives are making their OWN bread with

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OWENSBORO DITCHER & GRADER COMPANY, Desk 4B, DENVER, COLO.

Field and Garden Suggestions

[Written for Pacific Rural Press.]

A FINE CORN CROP.

To the Editor: I enclose a photograph of my corn, which I raised on my place in Dixon this year. This corn was planted about the 16th of May. The ground having been twice plowed and cultivated before. After the corn came up I harrowed it, then I irrigated and cultivated—in all giving it four irrigations and two cultivations. The photograph does not show the corn at its best, as it was taken some time ago, and the corn has grown a foot or more since. Its average length being about 12 feet, and is heavily eared. Several estimates have been made of it, some putting it as high as twenty tons per acre. I expect to fill my silo with it for my dairy cows. This has never been considered a corn country, but I leave it to you or those who have seen it to judge for themselves.

Dixon, Cal. C. O. PARKHURST.

[The corn is immense and justifies the estimate made of the tonnage. It is also very leafy and the cows will surely hook anybody who claims they do not live in a corn country.—Editor.]

A GOOD WAY WITH SUDAN GRASS.

To the Editor: As I have been benefited so many times by suggestions from the Rural Press, I want in turn to tell "R. D. K." of Richfield how I threshed a small lot of sudan grass last year. I cut it with a mowing machine and hauled it to the barn. I then spread a small lot at a time on a smooth spot in the yard and went over it with a team and disk harrow until it appeared to be loosened from the straw by turning it over a few times. I then pitched and raked off the coarse straw and chaff and made another layer to repeat. When it was all threshed, I raked out all the chaff I could get out and put it several times through a fanning mill with a moderate wind and feed. I got about 600 pounds of seed. A sample sent to the Agricultural Department for test gave a report of "94 per cent pure seed; 4 per cent inert matter (dirt and straw), and 2 per cent of a common weed—no Johnson grass." J. C. G.

Modesto, Cal.

FALL CARE GETS EARLY ASPARAGUS.

As soon as asparagus turns yellow in the fall, Ray Henderson of Imperial county disks it down, and after about ten days burns it off, leaving its ashes spread out where the asparagus grew, for fertilizer. Mr. Henderson has grown eight or ten acres of asparagus for eight years. He irrigates right after burning, for though the tops are dead the roots must not dry out. One November and December about two acres were allowed to dry out and it cut the yield in half.

In December, right after the irrigation, he plows three or four inches deep into the ridges, not enough to tear the roots badly, then disks crosswise and lengthwise.

This leaves the ground mellow so it absorbs heat and produces the earliest shoots. Another irrigation and disking just before the asparagus comes up, about February 1, leaves the land in good shape for the harvest.

DISPOSED OF TULE ROOTS.

In Sutter basin are 15,000 acres that had produced tules until 1916 and more that were in tules until last fall. In preparing this for beans the land was drained and the tules had to be killed. This was plowed in the fall, disked, harrowed, and worked up so the tule roots would float away when submerged by the winter overflow of the rivers. It worked fine and the water settled the ground, there not being much current. If tule roots remain till spring, it is an awful job to get the land in shape for beans.

GOOD SEED BED SAVED CROP.

Whether you get a crop of corn or whether you don't often depends on the seedbed preparation. H. C. Powell of Tulare county last year got one of the finest stands in his district on sixty acres because he overdid the preparation in the estimation of certain neighbors. The ground was plowed in the fall, double-disked twice in spring, single-disked once, spike-harrowed five times, irrigated, double-randalled twice, spike-toothed once, and planted.

AVOIDS CORN MIXING.

In planting various kinds of corn near each other, J. N. Enlow of Tulare county figures on the time they will be in tassel. He saves his own seed; and it would be mixed if two kinds nearby should tassel at once. His popcorn tassels two weeks ahead of the white field corn, and will not mix if planted at the same time. But his Arkansas corn would. The time of tasseling may be delayed by giving more or less water.

WEED CUTTER KILLS MORNING GLORY.

Use of a bar weed cutter running six inches deep and turning chickens onto the orchard has won a victory over morning glory for E. D. Seaton in Sonoma county.

AMERICAN GRAIN PRICES BENEFIT CANADIAN FARMERS.

In order to work in harmony with the Food Administrator of the United States, Canada has greatly increased the former government-fixed price to farmers for wheat in the various sections of the Dominion by establishing the same prices that apply in similar locations in the United States. To meet the advanced price of wheat, Canadian milling interests have agreed on the prices for flour as follows: Saskatchewan, Alberta, and British Columbia, $10.80 per barrel; Vancouver Island, $11.05; Ontario, Toronto delivery, $11.50, $11.00, $10.60, and $10.20, according to quality and method of packing. While the crop gain in wheat, oats, and barley for 1917 is more than 70,000,000 over the harvest of 1916, the yield per acre is less. Canadian farmers are thus benefited millions of dollars by the advance of Canadian grain prices to conform to those of the United States.

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HUDSON—H. O. Harrison Co., San Francisco—
"Many owners of Hudson Super-six cars use Zerolene. We hear nothing but praise for it."

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"we recommend Zerolene for the lubrication of Ford cars."

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HYDRATED LIME OR GROUND LIME ROCK
One ton Hydrate equals two tons Ground Lime Rock. Send for Free Booklet and Prices.
PACIFIC LIME and PLASTER CO.
HOLBROOK BLDG., Manufacturers, SAN FRANCISCO

Inexpensive Co-operative Rural Telephone

[Written for Pacific Rural Press.]

A subscriber asks for information regarding co-operative rural telephones. While the experience of the Poplar Rural Telephone Co. has not been startlingly successful, it is giving over thirty members good service at very little cost. It connects with the Porterville central at a cost of $4.80 per year per member, with 10 per cent off for prompt payment. According to Secretary-Manager Leslie Lewis, there are about twelve miles of double-wire main line on 20 to 24-foot poles, about three miles of laterals on 18-foot poles, and a lot of laterals on fence posts. The cost at the start was about $2,300 for poles, wire, instruments, labor, and all.

The association was organized six or seven years ago, disrupted and existed awhile last spring without head or financing, and was reorganized last April. During the three years previous no repairs had been made and the trouble-fixing had not cost over $75. In the first two months after reorganization trouble work cost $12. In June it cost $1.85. But meanwhile $357.40 worth of rebuilding had been accomplished. This included $214.25 for labor, and the rest for materials. No new wire was needed. The cost of this was not paid by assessments on members: that proved impossible. The service had been such that members generally would have let their phones go rather than pay the cost. It was financed by selling more stock. During the days of chaos many people had connected themselves to the line and were getting free "service." Many of these are now members in good standing. The disruption had resulted from an attempt to assess them and their refusal to pay. The old directors cut them off the line, but they were reinstated by a meeting of members. The directors thereupon quit. The books and by-laws disappeared; there had been no money.

POINTS ON ORGANIZATION.

To organize in the first place, interested parties consulted the Pacific Telephone Co., who furnished sample by-laws. Thirty shares of $100 each were taken; the cost of building the line and getting instruments to be paid equally by the shareholders. The optimistic estimates of cost were a great mistake, thinks Mr. Lewis. The cost was figured at $25 per share, but it proved to be about $77.50. When the extra cost was assessed there was a dangerous feeling of disgruntlement. Better estimate too high, then the subscribers will be tickled and harmonious. The association was not and is not incorporated. Visalia lawyers said that the trouble would not be worth while. However, that is the reason their assessments do not bind the members, and Mr. Lewis believes such enterprises should be incorporated from the start. That might necessitate their buying a right of way on the county roads from the supervisors; while the several co-operative telephone companies in the county have been using the roads free.

The original cost of $2,300 was too high, according to Mr. Lewis, because members and local people unskilled in telephone construction did the work. "By all means hire the construction by contract with responsible, experienced men, who will make secure corners, put in the necessary guy wires—and do it with no wrangling or waste effort," is Mr. Lewis' admonition, after his experience rebuilding the line.

Reports on Hairy Peruvian Alfalfa

[Written for Pacific Rural Press.]

Hairy Peruvian alfalfa, though highly favored in Arizona, had not been much tried in California last year. This season, however, many Californians tried it in a small way to watch its comparative growth and value beside their common Chilian alfalfa. Their results and impressions are printed below in extracts from letters written by themselves in September, 1917.

A. P. Moran, Boston Land Co., Fresno county: The prevailing opinion that spring sown alfalfa does not do well in San Joaquin Valley seems a mistake. We sowed a trial plat of Hairy Peruvian alfalfa early in March, 1917, on a heavy mixture of very fine sand and clay. It made a satisfactory stand and more satisfactory production. Almost ready for fourth good cutting. Would have made five cuttings with better attention.

J. S. Bardwell, Hillside Water Co., Riverside county: Seeded forty acres. Somewhat affected by extreme heat in June, but apparently good stand left. Had a small plot at Inyokern, where Hairy Peruvian made a good stand while Chilian under equal conditions gave very poor results.

W. E. Alexander, Orange county: Planted early this spring. Cut four times already. Yield nearly double old varieties, with more leaves and less stem.

W. R. Doctor, Los Angeles county: Drilled five acres March 15, 1917. Up to September 1 cut four times and sold hay for $140 in the field, the buyers preferring it to the common kind. The plants are all leaves to the bottom of stems. Expect another cutting.

W. M. Taylor, San Bernardino county: Sowed last spring a space between walnut trees 40x330 feet beside common alfalfa sowed the same day and handled the same. Not much rain after sowing, so did not do so well as if it had more water. Hairy Peruvian made a better stand, made a cutting first, more hay per cutting, and does not dry out so quickly as common varieties.

Edouard Richard, Los Angeles county: Planted 100 pounds Hairy Peruvian seed last February. Cut the fifth time September 5. Most wonderful ever seen. Will plant twice as much this fall.

W. C. Hunter, Lake county: Hairy Peruvian sowed last year didn't have a square deal on account of the unusual winter and spring. It stood the hot, dry summer well, though I do not irrigate.

S. P. Huss, Arizona: Grown this variety two years and like it fine. Makes as good hay as neighbors' and about one more cutting per year because it grows in colder weather.

P. D. Sargent, Arizona: Grown Hairy Peruvian several years. Largest hay producer of all varieties.

Care in Selecting and Storing Cereal Seeds

One of the first requisites for the increased wheat crops which the U. S. Department of Agriculture hopes to see harvested next year is sound, clean seed. This is also true of seed for the rye crop, which it is also hoped will be much larger than usual next year.

If a farmer has good seed from his own crop he should lose no time in getting it into shape for storage until planting time. The farmer should have a fanning mill, and if he has not should borrow or rent one from his neighbor. Such a mill removes weed seeds, smut and shriveled grain, and leaves only plump kernels, every one of which may be depended upon. After it is cleaned, however, the seed should be treated in order that the smut may be prevented. Scab is less likely to be prevented by treatment, but the use of the fanning mill will assist.

If a farmer dependent on outside sources for seed, buy from your neighbor if possible. In this way you will get seed best adapted to local conditions. Buy as soon after harvest as possible, as prices are then likely to be lowest. If the farmer patronizes a seedsman he should insist on getting seed grown as near his own section as possible.

The presence of stinking smut in wheat is indicated by the odor and the presence of scab by the appearance of the kernels. Purchased seed should be cleaned and treated to destroy disease spores.

FOOD FOR ALLIES NOW WILL KEEP KAISER AWAY.

(Continued from first page.)

try. We are making the greatest test of democracy ever imposed. If we can refrain voluntarily from the foods that the soldiers and our allies must have and from the thoughts and talk and apathy that give comfort to Germany, Democracy wins; if we must be forced to do it by pressure from without or within, Autocracy wins. May the battleground remain in Europe until an early and permanent peace is won for Democracy.

Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

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EGYPTIAN CORN

You can use both hands and cut twice as much in a day with the

DAVID HEADING KNIFE

as with any other instrument. You cut off the stalk and hold the head with the same hand—and you keep both hands at work, cutting as fast as you can open and shut your fingers. Pair (right and left) $2.50, from your dealer. Dealer; order from any jobber.

Lowery-David Mfg. Co. San Jose, Cal.

Alfalfa Seed Melilotus Seed

Grass Seed Vetch Seed

Write for Sample and Prices

California Seed Company

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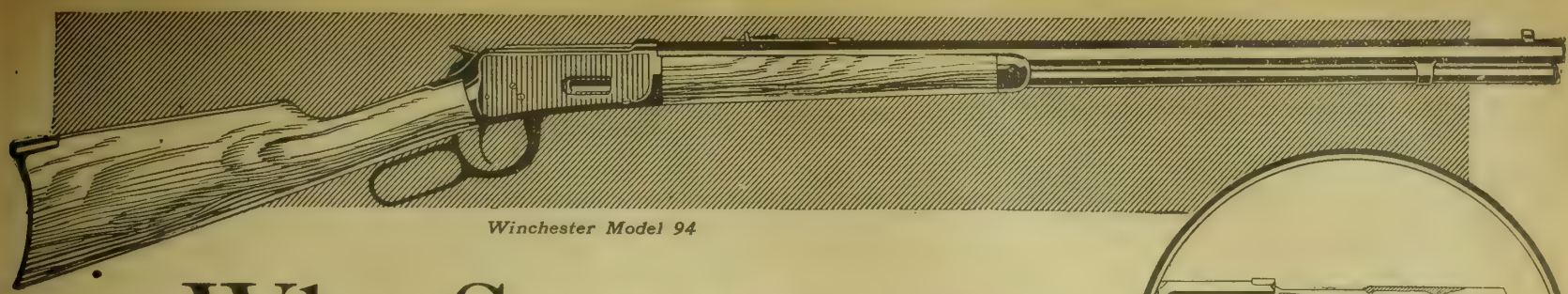
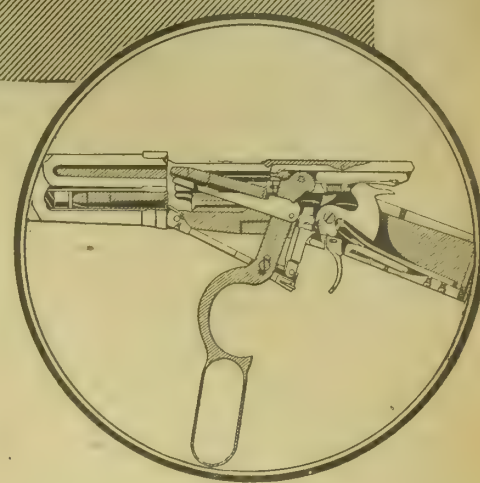


Winchester Model 94

Why Sportsmen choose the "94"



Strong, smooth action, few working parts of the Model 94

The Winchester Model 94 repeating rifle is chosen by more sportsmen than any other because of its wide variety of uses.

The Model 94, as nearly as any rifle on the market, is an all-'round rifle.

Deer hunters choose it because it is a sure game-getter within the range that most shots at deer come.

Campers and canoe hunters take it because it is accurate even for birds, makes very little noise, and will stand all sorts of rough handling.

New shooters prefer it because of its lightness and very slight recoil.

Farmers demand it because they can get it in the exact caliber they need, at a low price, and can buy the ammunition for it anywhere that firearms are sold.

Because of this wide adaptability the Winchester Model 94 is the gun for the one-gun hunter; but for the same reason it is also a great favorite with sportsmen who own many guns.

The Winchester Model 94 is furnished in a great variety of styles, in five different popular calibers, (.25-35 and .30 Winchester, .32 Winchester Special, .32-40 and .38-55 cartridges), and in an extra light-weight model (weight about 7½ lbs.). For the high power cartridges this rifle is fitted with a nickel steel barrel.

The barrel *is* the gun

Men who know guns realize that the accuracy and durability of a rifle lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard of quality of the barrels on the highest and lowest priced Winchester guns. With Winchester the barrel *is* the gun and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel.

The Winchester barrel

The barrel of the Winchester Model 94 has been bored to micrometer measurements for the cartridge it is meant to shoot. In rifling the barrel, the exact twist that is necessary to produce the best results with a given cartridge has been mathematically calculated and is verified by exhaustive practical tests before leaving the factory.

A bullet fired from a Winchester barrel spins point on with unerring accuracy to the limit of its range. The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that, with proper care, will last a lifetime.

What (P/W) means

This mark on the barrel means *Viewed and Proved Winchester.* This stamp stands for Winchester's guarantee of quality, with 50 years of the best gun-making reputation behind it.

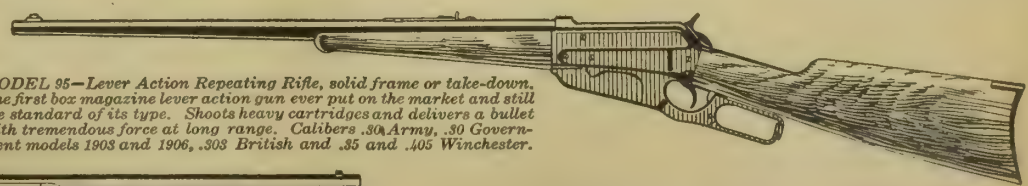
Every rifle that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times for accuracy and smooth action, and with excess loads for strength. At every stage of Winchester manufacture, machine production is supplemented by human craftsmanship. It is a *test and adjustment process.*

It is this thoughtful care in manufacturing that has produced in the Model 94 a rifle of unsurpassed game-getting qualities and that has made it the favorite with hunters the world over.

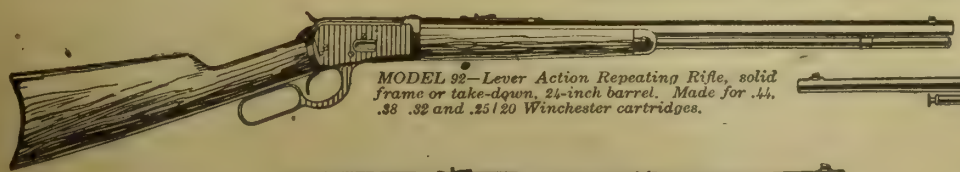
Write for details of Winchester rifles, shotguns and ammunition

The Winchester catalog is an encyclopedia on rifles, shotguns and ammunition. Every hunter should have one. It gives detailed specifications of the Model 94 and describes at length the principles on which every one of the world famous Winchester rifles and shotguns is built. Write today. We will mail you a copy free, postpaid.

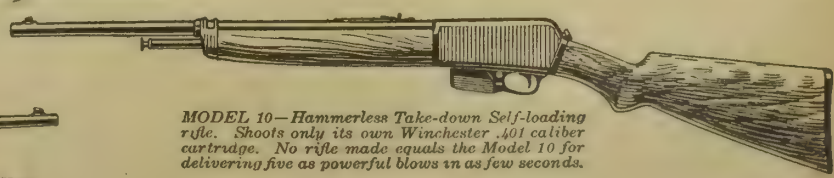
WINCHESTER REPEATING ARMS CO.
Dept. Y-2 New Haven, Conn.



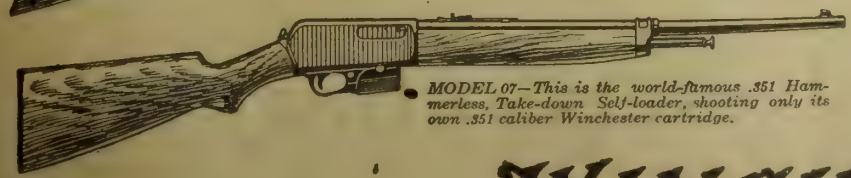
MODEL 95—Lever Action Repeating Rifle, solid frame or take-down. The first box magazine lever action gun ever put on the market and still the standard of its type. Shoots heavy cartridges and delivers a bullet with tremendous force at long range. Calibers .30 Army, .30 Government models 1903 and 1906, .303 British and .35 and .405 Winchester.



MODEL 92—Lever Action Repeating Rifle, solid frame or take-down, 24-inch barrel. Made for .44, .38 .32 and .25/20 Winchester cartridges.



MODEL 10—Hammerless Take-down Self-loading rifle. Shoots only its own Winchester .401 caliber cartridge. No rifle made equals the Model 10 for delivering five as powerful blows in as few seconds.



MODEL 07—This is the world-famous .351 Hammerless, Take-down Self-loader, shooting only its own .351 caliber Winchester cartridge.

WINCHESTER

World Standard Guns and Ammunition

General Agricultural Review

Field Crops.

Fresno county bean growers are finding it difficult to get bean cutting machinery.

Adolfo Camarillo of Oxnard is credited with raising 50 sacks of limas to the acre this year.

Practically all the hops in Oregon have been picked and it is estimated the crop will total 32,000 bales.

A movement is on foot in Sacramento to center the bean industry of the northern half of the State in that city.

The rice crop of the Sacramento Valley for this year is estimated to be between $10,000,000 and $11,000,000, and it is not yet fully developed.

Chino reports good crops in its district this year. Beans are now being harvested and their yield is large. The blackeye crop, it is said, will reach 35,500 sacks and navies 770 sacks.

A report of the Federal Government, which has been making a special investigation of rice production in California, shows there are 1,500,000 acres available for growing the cereal upon a profitable basis.

The total amount of hay hauled into Livermore this season is estimated at 16,000 tons. Fully 98 per cent of the crop has been sold. The lowest price was $16 a ton and the highest $21 a ton. The wheat hay of this section sold for $20 a ton.

News comes from Oxnard that the bean crop in the Montalvo section is running lighter than last year. Threshing is now being done. Irrigated tracts that in previous years yielded heavily in this section did only a little better than those without irrigation.

Bean growers of Ventura county are moving to have a community warehouse and will share profits on a percentage basis. They plan to sell $25,000 capital stock at par on the basis of one share of stock to each 16,000 pounds of beans produced by individuals.

The Pacific Pea Packing Company announces that 12,000 acres of land at the city limits of Oakdale has been subdivided and will be thrown open for sale. With the sale of this acreage the company intends to contract with small farmers for at least a part of its product.

Articles of incorporation of the Imperial Valley Egyptian Cotton Company have been filed. Headquarters at El Centro. The incorporators and directors are: C. R. Rockwood, E. H. Rockwood, Calexico; B. G. Walker, Charles P. Walker, and Dr. W. T. Heffernan, El Centro. Capital, $250,000.

W. W. Harris has a highly interesting, and perhaps important, cotton experiment in progress on his farm in the Woodland tract north of Esparto, Yolo county. Seven acres of the textile plant, seeded in April, is making a remarkable showing. Mr. Harris was careful in getting seed of the most desirable quality, namely the highest grade Egyptian long staple variety.

Bean threshing about Oxnard is now in full swing. The yields are about an average for the past six years, but not as large as last year's. B. Schmitz' crop on 135 acres, 225,400 pounds; last year's, 240,000 pounds. Gabriel Gisler's crop on 42 acres, 1,514 sacks; last year's, 1,688 sacks. W. P. Daily, from one tract of 120 acres, 3,838 sacks; last year, 4,270 sacks; from another tract of 80 acres, 2,016 sacks.

Notices have been sent to all Kings county land owners that they must kill the squirrels before October 15 or Horticultural Commissioner F. K. Howard will do it and collect the costs from the land owners. A "Squirrel Week" is planned for October 8 to 15 for simultaneous effort. About twenty meetings were held during August and people pledged themselves to boost for comprehensive slaughter in their communities.

Mrs. O. R. Griswold of Ballinger, Texas, has proved that the wild mesquite bean of Texas is good for human food. She took with her to the State Agricultural and Mechanical College a quantity of the beans and had them analyzed and converted into various delicious products, consisting of appetizing and nourishing bread made from the flour of the beans, syrups, jellies, candy and a beverage resembling coffee.

Deciduous Fruits and Nuts.

It is estimated that the output of dried apricots for Southern California is 7,000 tons.

Washington box manufacturers propose to advance the price to 18c each for apple boxes next season.

The California Fruit Growers' 1917 convention will be held in Sacramento from November 19 to 24.

Arrangements for the Yucaipa Apple Show, which is to be held November 1 to 4, are well in hand. A good show is expected.

The walnut crop around Saticoy, that is now being marketed, is estimated at 15,000 tons. The quality of the walnuts is said to be fine.

As it is no longer possible to ship inferior apples from Oregon into California, the growers of that State are preparing to evaporate their stocks.

California ranks first in the production of pears with a crop of 1,989,000 bushels, as compared with New York, which yields 1,629,000 bushels.

The hot weather of the past two weeks has done considerable damage to the apple crop in the Graton section. Some estimate the damage as high as $100,000.

The largest prune crop ever known in Sonoma Valley is now practically on the trays. The pear crop is also extra large, while the apple crop is hardly up to normal.

The enormous demand on railroad equipment because of military movements has left the apple growers of the Pajaro Valley without means to move their bumper crops.

Growers of Tragedy plums around Visalia are meeting with big success. One grower reports a net return from three acres of five-year trees of $1,664. Another grower received $1,435 from 125 trees eight years old.

P. J. Dreher of Pomona, who recently resigned as manager of the San Antonio Fruit Exchange, has been chosen to represent the California Fruit Growers' Exchange and the Fruit Growers' Supply Company at Pomona.

G. W. McClymonds, general manager of the Pacific Fruit Express, estimated yesterday that the deciduous fruit movement from California to the East over all the roads up to October 1 has been 16,267 cars, as against the high movement of 13,566 last year.

Pear growers of the state have fared well this year. The crop was large and sold mostly in the east at prices that netted the growers $60 and upwards per ton. Canners that were slow in contracting had to pay as high as $50, and some could not secure enough fruit. The tentative Pear Growers' Association will hold a meeting soon to take action for next year.

A new deciduous fruit district in Southern California has come into bearing this year. The upper end of the San Bernardino valley, the Mentone Heights Orchard Company there shipping last week the first car of J. H. Hale peaches ever sent out of the valley. They were packed by the Sunshine Heights Packing Company, and loaded into a refrigerator car which was iced. It went to Seattle. There are in that district 1,200 acres planted to peaches and pears. One orchard has 200 acres of Hale peaches. It is expected that in two or three years 150 to 200 cars of peaches and pears will be sent to market from that district. Less planting of citrus fruits and more planting of peaches, pears, apricots and cherries will be the rule in the upper end of the San Bernardino valley in the future, fruit men say.

Citrus and Semi-Tropical.

There will be no citrus fair in Visalia the coming December because of unusual conditions.

Prior to the war Turkey exported annually 65,000,000 pounds of figs, valued at $2,676,000.

The olive crop around Lindsay is said to be fine and $150 to $175 per ton is being offered for pickling olives.

Small supplies of Sicilian lemons on the Eastern market is given as the reason for the comparative high lemon prices which prevail in the East.

At the annual meeting of the Orange Cove Citrus Association of Dinuba last week a new board of directors and officers were elected for the ensuing year.

A decade ago the Fancher Creek Nurseries sold a dozen varieties of Smyrna figs, but all of them are now obsolete except Calimyrnas, of which they sell twice as many as of all other varieties combined.

Lemon picking has started in the Porterville district and first deliveries of fruit to the packing houses have commenced. Estimates place the probable output of lemons for the district at about sixty cars.

The fig crop of Tulare county is proving a valuable one. With an increased acreage of 50 per cent and much higher prices than last year, the crop is said to be worth $200,000. The entire crop was contracted at 6@11c per pound by packers.

The success of fig raising in Tulare county the past few years is causing increased acreage to be set out in figs there. It is announced from Porterville that 600 of the Terra Bella district will be set out to Calimyrnas the coming season.

Grapes.

The Government is authorizing the substitution of California seedless raisins in place of Greek currants for the army and navy.

Grape-picking is in full swing in Sonoma county and a serious shortage of pickers is reported. Wine grapes are selling from $28 to $30 per ton.

The biggest raisin crop in the history of California—150,000 tons—representing $15,000,000 to the vineyardists of this State, is now being hauled to the raisin-packing houses, says an exchange.

Grape growers in the Lodi district are disturbed by the reports of the decision of Judge Lindley of San Francisco. Under his ruling it is doubtful whether wine grapes or Tokay strippings can be used for wine making.

The grape crop of Sutter county is estimated at 40 per cent of normal. While the quality is not up to the standard, the growers will receive from 1 to 2 cents per pound more than last season. For fresh grapes for drying, $30 per ton delivered is being offered. Some lots have been sold at $32 per ton at the vineyard, picked, and for shipping, $35 a ton has been offered.

The grape crop of the Ontario district this year is a bumper one. The wineries of Ontario-Cucumonga are running full capacity. The grapes are two weeks earlier this year, and the wine grape crop promises to exceed last year's record. The picking and drying of raisin grapes are also going on, which insures growers against loss from possible early rains. N. S. Milliken, one of the largest raisers of table grapes in the Ontario district, has disposed of his entire acreage of Malaga grapes at $25 per ton to a Los Angeles firm and they do the picking and shipping.

WEEKLY WEATHER AND CROP REPORT.

San Francisco, Cal., October 9, 1917.

During the forepart of the week unusually high temperatures prevailed. They averaged from 10 degrees to 11 degrees above normal in the Sacramento and San Joaquin Valleys, and from 5 degrees to 6 degrees above normal in the San Francisco Bay counties and in the Santa Clara and Salinas valleys. In southern California and in the coast counties north of Point Arena the temperatures averaged only slightly above normal. The highest October temperatures on record occurred on the 3d, as follows: San Francisco, 96 degrees; Red Bluff, 102 degrees; San Jose, 98 degrees, and San Luis Obispo, 102 degrees. At Sacramento the thermometer registered 100 degrees on the 7th, which is also the highest October temperature for that city. At Fresno maxima of 99 degrees occurred on the 3d and 4th, which is one degree of a record-breaking temperature. No rain fell in the principal agricultural sections of the State.

The high temperatures and ample sunshine were very favorable for drying fruit, and by the close of the week the major portion of the Muscat raisin crop in the Fresno district was safe in stack and deliveries are now being made. Some raisin grapes are still out in Kings, Tulare, and other counties; but they will soon be safely secured. The hot weather was unfavorable for wine grapes, apples, and tomatoes. It shrivelled the grapes and made fermentation difficult. Some apples burned on the trees and dropped before they were ripe, and tomatoes matured too rapidly. The wine grape harvest is about half finished; the apple harvest is well advanced and the canning of a fine crop of tomatoes is under good headway. Walnut and almond picking has become general and both crops are turning out if anything a little better than expected. Oranges and lemons have made normal progress.

A large crop of beans is being harvested under excellent drying conditions. The rice harvest has become general and the crop is the largest and best ever raised in California. Late potatoes have matured nicely in the northern counties and the crop will be dug within a week or two. The September rains in the north were insufficient to start much new grass and the pastures and ranges are dry. Some cattle men in Humboldt county are selling their stock as rapidly as possible because of this shortage of feed. A good crop of corn is being put into silos and the weather was very favorable for this work. The sugar beet harvest is progressing rather slowly.

NOTE.—This is the last weekly bulletin of the season.

Reports will be issued monthly hereafter until spring, when the weekly reports will be resumed.

E. A. BEALS,
District Forecaster.

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THE FARMER SHOULD HAVE PLACE IN POLITICAL COUNCILS.

[Editorial from Oakland Enquirer.]

We all live on what the soil produces, and all have an interest in the producer. Just now the farmer rests under added responsibilities. He must feed us and the nations who are our allies in war. To do this he must greatly increase the production of food. "The Pacific Rural Press," peculiarly the organ of the farmers of California, has repeatedly noticed the making of rules and regulations for the farmer by those who are not farmers and who know nothing by experience of the farmer and his problems and burdens. The same paper notes, without approving, the fact that on the various war defense commissions and food regulation committees, farmers are not represented. Labor, banking, commerce, the universities, women's clubs, and various State commissions are all represented, while the practical farmers have no place. Of this, very just complaint is made. The farmer is not asking that he be put in official control of the other interests which assume control of him. He merely asks a voice in framing the policies which concern him primarily.

To secure a voice in his own affairs, "The Rural Press" advises that there be held a general convention of the actual farmers of the State, to assert themselves in the matter of farm labor and wages, the adjustment of prices to the cost of production with a margin of profit that will carry the farmer over the next seed time, and care for his crops until the next harvest. Already the price of wheat has been officially fixed on the Chicago standard, and the wheat farmers of the Dakotas and the Pacific Northwest protest the price of standard, declaring that it is below their cost of production. If this be true, it seems to indicate that the appointment of an Ohio university president, as head of the Wheat Price Commission, has failed to secure justice to the actual wheat-grower, who was entirely excluded from that commission. It is desirable that the proposed State convention of the actual farmers of California shall be held. The farmer faces all the natural perils of seed time, tillage and harvest. The enemies of his crops are insects, fungus, drought, frost, and untimely rain. The necessities of his industry require hours of labor, kinds of labor and wages, inapplicable to shop labor and manufacturing industries. This he should make plain and, having stated his problem, he should firmly maintain his view of its solution.

This, because his industry is now the most important in the world.

GLENN COUNTY'S FAIR MANAGEMENT ENCOURAGED.

So successful was Glenn county's first fair, held at Orland last week, that the Association has decided to purchase permanent grounds, put up permanent buildings and make the fair an annual event. The attendance on all four days was large and the receipts more than enough to cover all costs. The agricultural exhibits and the livestock show were outstanding features. The showing of Jersey cattle, both for quality and numbers, has seldom if ever been equaled in the State and was made up entirely by local breeders, S. F. Williams, A. J. and Nellie Morey, McLouth & Dado, W. G. Gurnett and Dr. Hand, Chas. Leonard, C. A. Whitsett, and others.

The Anchorage Farms showed their Berkshire boar, Star Leader, who was reserve grand champion at the Panama-Pacific, and some of his pigs that weighed 120 pounds at three months. Slocum & Son showed a litter of 12 Duroc-Jersey pigs with their mother, who just previous to farrowing won first prize in the show ring at the State Fair. P. K. Hicks and E. A. Kirk also showed Durocs. A. L. Stephenson of Los Molinos and W. B. Carpenter of Red Bluff showed Berkshires, and Ericson & Yates and S. F. Williams Poland-Chinas. The Butte City Ranch had a good exhibit of Shetland ponies and Shropshire sheep. McInnes & Salz showed Hampshire and Lincoln sheep and W. E. Searce of Orland Merinos and Cotswold sheep and Belgian horses. W. G. Greenwood of Orland showed his Percheron stallion, Radium, and some of his colts.

YOLO'S FAIR DISPLAYS THE RICHNESS AND VARIETY OF ITS RESOURCES.

Yolo Farm Center was awarded first prize for its booth of soil products at the Yolo County Fair last week. Wilson Oak Park Center, which won first prize last year, was placed second, while the other winners were Winters, Esparto, and Capay Valley. All the displays were good and together they demonstrated the wide diversity and richness of the agricultural resources of Yolo county. Although many prominent livestock breeders of the county, such as Glide's and Gibson's Shorthorns and A. W. Morris & Sons Corp. Holsteins, were not represented, the livestock tent housed both quality and quantity in blooded stock.

The J. H. Harlan Company showed Holsteins that won high honors at the State Fair. Ruby & Bowers showed draft horses and ponies that gathered in most of the prizes not only at our own State Fair but those in the Northwest as well. W. J. Bemmerley showed Herefords, Swineland Farms Tamworths and Durocs, W. H. Browning Poland-Chinas, Haden Smith and William Eakle Durocs, Bullard Bros. Rambouillet sheep, and Kaupke Bros. and G. N. Merritt Hampshires.

Automobile concerns no doubt are aware that Yolo county is first in the United States in per capita wealth, and naturally the auto show was a prominent feature of the fair. Up-to-date farm implements were also shown.

OLIVES AND CITRUS SCARCE.

The crop report of the State Horticultural Commission, dated October 6, shows oranges in Los Angeles county 40 per cent of normal, Orange 80 per cent, Riverside 16 per cent, San Bernardino 55 per cent, Tulare 60 per cent, Butte and Sacramento not reported because they grow less than 2 per cent of the State crop. Lemons: Los Angeles 50 per cent, Riverside 30 per cent, Ventura 20 per cent, San Bernardino 60 per cent, San Diego 60 per cent, Orange 100 per cent, Tulare 85 per cent. Olives: Butte 70 per cent, Los Angeles 25 per cent, Riverside 25 per cent, Tehama 40 per cent, San Bernardino 40 per cent, Tulare 60 per cent, Sacramento 50 per cent, San Diego 50 per cent. Grapefruit: Better than four-fifths of normal for the whole State.

SCHOOL AGRICULTURAL EXHIBITION.

The Sonoma Valley School Children's Agriculture Exhibition, held in Sonoma, Sept. 28-29, was a splendid success in every way. The competition in pigs, garden stuffs, flowers, calves, rabbits, and poultry was especially keen. The exhibition showed clearly the beneficial results of requiring each high school pupil to own a pig, a calf or poultry and care for the same according to instructions given by the agricultural department of the high school.

CALIFORNIA RICE ACREAGE.

The acreage in California is divided among the valleys as follows: Sacramento—Butte county, 18,000 acres; Glenn, 16,500; Colusa, 19,750; Yuba, 4,700; Solano, 200. Total, 78,680 acres.

San Joaquin—San Joaquin county, 175 acres; Stanislaus, 500; Fresno, 280; Kern, 875; Tulare, 350; Kings, 250. Total, 2,430 acres.

Imperial—200 acres.

The Antelope Valley Fair, held last week at Lancaster, was a good success. Notwithstanding the dryness of the country in the valley, the horticultural exhibits were most attractive and would have done credit to any country. The melons grown without irrigation were especially fine. So encouraged are the managers of the fair that steps are being taken for another and better one next year.

Our Heavy Engine Chisel is made to use with the larger Tractors for extreme deep chiseling and is an excellent tool for preparing the ground for Beans, Beets or other crops. If used before the winter rains, it will open up the ground to a depth of ten to fourteen inches, aerating the soil and allowing the moisture to penetrate below the usual plowpan, which is to be found in almost all of our land.

The frame is of the "A" type, with steel castings and extra large standards. Wheels are twenty-four inches high, with six-inch face. Any style of chisel can be used in place of the "V" blade shown in the cut.

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A Manual of Methods Which Have Yielded the Greatest Success; With Lists of Varieties Best Adapted to Different Sections of the State

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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

KEEP DUST OUT OF CARBURETORS.

Under Mechanical Power on the Farm in the last issue of the Press, there appears a short notice in regard to a number of devices used to strain the air going to carburetor on tractor engines. Unfortunately, there is no such device advertised in your columns, and as this is a problem I have been trying to solve for some little time, I would appreciate it very much if you would give me the address of a few houses handling such devices. I use a 1¼-inch Stromberg carburetor on a 4-cylinder 4⅞-inch x 4⅞-inch Kissel engine, and desire to take hot air from around the exhaust, bring it through the strainer or clarifier before going into carburetor. I am a steady reader of the Press, and the suggestions contained therein regarding machinery for farm use have repeatedly proved of value.—C. J. S-S., Stacy, Lassen county.

Clouds of dust rising at many spots on three or four hundred acres indicated the location of tractors at the Los Angeles Tractor demonstration. Only a few of the tractors themselves breathed this dust, which was more injurious to them than to the visitors. Dust removers of several kinds were used. The Samson Moisto-Rizer draws air through water before entering the carburetor. The Wallis Cub used one which draws air through a chamber in which cloth-covered projections overlapped alternately from the top and the bottom of the chamber, so the dust was caught on the cloths while the air traveled up and down through the chamber to the carburetor. Yuba tractors for the past year have been using the Donaldson Air Cleaner, which removes dust by centrifugal action. About a pint of almost impalpable dust was taken from the Air Cleaner every day of the demonstration. This dust would otherwise have worked all through the motor, wearing valve seats, cylinders, connecting rod bearings, main bearings, and finally into the oil circulation.

STEEL PRICES REDUCED.

[Written for Pacific Rural Press.]

Steel and iron prices were cut approximately in half on September 25, when President Wilson approved the scale of prices fixed by voluntary agreement of producers with the War Industries Board. The new prices will remain in force until January 1, 1918, when they may be revised if investigation proves them inequitable. The American and Allied Governments and the American public may get materials at the new prices. While we may praise the steel men for voluntarily reducing their prices, we can but wonder why, if they are still making a profit, they had been allowed to stick that 50 per cent in their pockets before. We also wonder why the Senate of the United States refused to vote the 80 or 90 per cent war profits tax on other industries, as our Senator Johnson pleaded for. The new iron and steel prices are based on cost of production plus profit, after investigation by the Federal Trades Commission at the direction of President Wilson. The entire output of iron and steel will be distributed under supervision of the War Board, which, with its priority of right to the transportation of the country, will distribute it in the way best designed to meet the country's requirements.

What the new prices will mean in the form of farm machinery remains to be seen. Already some of our California manufacturers are receiving adequate supplies of raw material and are planning great extensions of their factories.

Some of the prices fixed were as follows: Iron ore, $5.05 per gross ton at lake ports (no change); Connellsville coke, $6 net per ton, as changed from $16; pig iron, $33 per gross ton, as changed from $58; steel bars at Pittsburg and Chicago, $2.90 per cwt., as changed from $5.50; steel plates, $3.25 per cwt., as changed from $11; steel shapes, $3 per cwt., as changed from $6.

Don't try to oil the cylinders with anything but cylinder oil, as other oils burn away in the extreme temperature of the cylinders.

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Don't hesitate about what belt to buy—write to us.

We manufacture belting for every purpose.

Seventy years' experience in belt making warrants us in saying that we can satisfy you.

Write for our belt catalog. We'll be glad to answer any questions.

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Fill Out This Coupon—Mail It TODAY

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Send me samples of Belting that you will guarantee to give satisfactory service on my work and quote prices delivered at

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Horse Power	Diameter in Inches
Elec. Motor.....	Driving Pulley....
Steam Engine.....	Driven Pulley.....
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Kind of Drive

Cross .....

Straight .....

Perpendicular .....

Width of Belt.....Ply.....

Distance between centers of Pulleys.....

Rev. per minute of Driving Pulley.....

Kind of Machinery Driven.....

My dealer's name.....

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A pocket memo. booklet giving speed and power tables will be sent FREE to all who mail this coupon.

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ACETYLENE OUTFIT FOR SALE.

(Because of Installation of Electricity.)

One Pilot Acetylene Generator, Model C, size No. 100, capacity 100 half-ft. burners, 100 lbs. nut carbide. Also one Colt carbide feed, acetylene gas generator, Model N, No. 100, capacity 100 half-ft. burners, 100 lbs. carbide. Also gas fixtures; and ½-inch, ¾-inch, and one-inch pipe and fittings. Also seven handsome but simple six-burner chandeliers suitable for church or school, with brass and opal glass reflectors. Address, Thacher School, Ojai, Cal.

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Gentlemen:—I want to help maintain the honor of America by raising bigger crops. Send me a copy of Samson Siftings. I want to learn how other farmers use Samson Sieve-Grip Tractors on their farms. Send latest catalogue and name of my dealer. My farm is ____ acres. I work ____ horses.

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Remarks or special questions ____

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AWARDED PANAMA PACIFIC INTERNATIONAL EXPOSITION GOLD MEDAL HIGHEST AWARD GIVEN

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SAN FRANCISCO. LOS ANGELES.

TRICKS WITH TRACTOR PLOWS.

Two special tricks with a tractor and plows have been learned by Alan Craig of Riverside county. Plowing a red loam mesa where the ground is hard and cracked, he got stuck frequently at first. He strained the tractor going several rounds while adjusting the four ten-inch mold boards he was trying to hold six inches deep. On raising them to avoid straining, they would jump out of the ground. Finally he lowered the rear wheel and raised the points one notch. There was a wonderful change and the tractor pulled the same depth 100 per cent easier.

SLOWER FOR SAND.

There are sandy spots where the speed of the tractor must be regulated to prevent its slipping the wheels. The tractor has only one clutch speed, but this can be varied by the throttle from about two miles per hour at 500 r. p. m to four miles at 1000 r. p. m. On striking soft footing for the wheels, he watches the tracks of the grousers, and when they begin to "creep" backward, he slows down until they quit slipping. More speed would "bury" the wheels.

TRACTOR DEMONSTRATION NOTES.

Hard soil is more easily plowed with disk plows of small diameter than of large diameter, according to an operator at the Los Angeles demonstration.

The Caterpillar land leveler was raised and lowered by a friction pulley on the wheel.

A farmer observed that a tractor should run on solid ground rather than on the soft edge of the furrow. Some of the tractors ran the furrow wheel in the furrow.

Last June there were over 350 Samson tractors in orchards south of Tehachapi, according to H. L. Marsh of the Samson Sales Company of Los Angeles.

A number of Sandusky tractors were sold because at last year's tractor demonstration visitors could hold their fingers in the radiator while the 15-35 engine was pulling three twelve-inch bottoms through dry adobe.

The Samson Sieve Grip Tractor Company is now turning out four tractors a day, but will soon be turning out 15 per day. They have an order for 8,000 for France and have built a factory at Pontiac, Mich., to help fill it.

FARM MACHINERY AT TRACTOR DEMONSTRATION.

A hay-baling machine whose highest point was not over five feet from the ground was shown by L. M. Davenport.

A wagon with rubber tires and crossed reaches to make the rear wheels swing around a curve in the track of the front ones was noted in E. P. Bosbyshell's tent.

A feed grinder was run from one fly wheel of a Fairbanks-Morse engine, while a washing machine was operated from the other.

A cotton planter with a "middle buster" in front of it and on the same frame was one of the exhibits in the L. M. Davenport Company's big tent.

A manure spreader whose bed stood not over three feet above ground was shown by the A. F. George Company.

It's Construction That *Insures Lasting* "Caterpillar" Tractor Service

Expert knowledge of materials, coupled with thirty-five years of experience in farm machinery designing and building, has enabled Holt Engineers to make the "Caterpillar" Tractor a machine of exceptional service and efficiency.

It is that knowledge which has taught them to make certain parts of the "Caterpillar" Tractor steel, certain parts of special alloys, some surfaces chilled and some surfaces case-hardened.

Expert knowledge and choice of materials and solid construction insure lasting service—a feature of this tractor that puts bigger profits into the hands of "Caterpillar" Tractor owners. The experience of the thousands of satisfied "Caterpillar" Tractor owners is a safe guide for you to follow.

We will gladly send full "Caterpillar" Tractor information on request.

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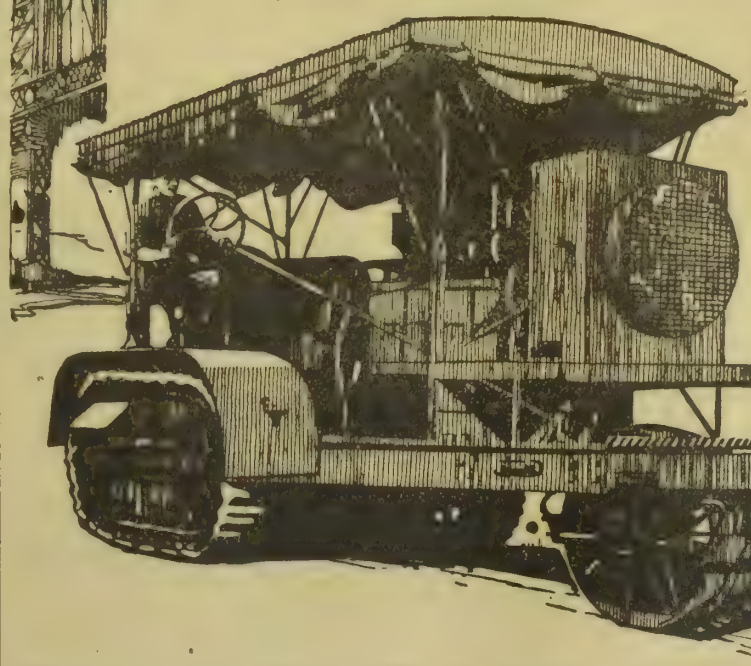

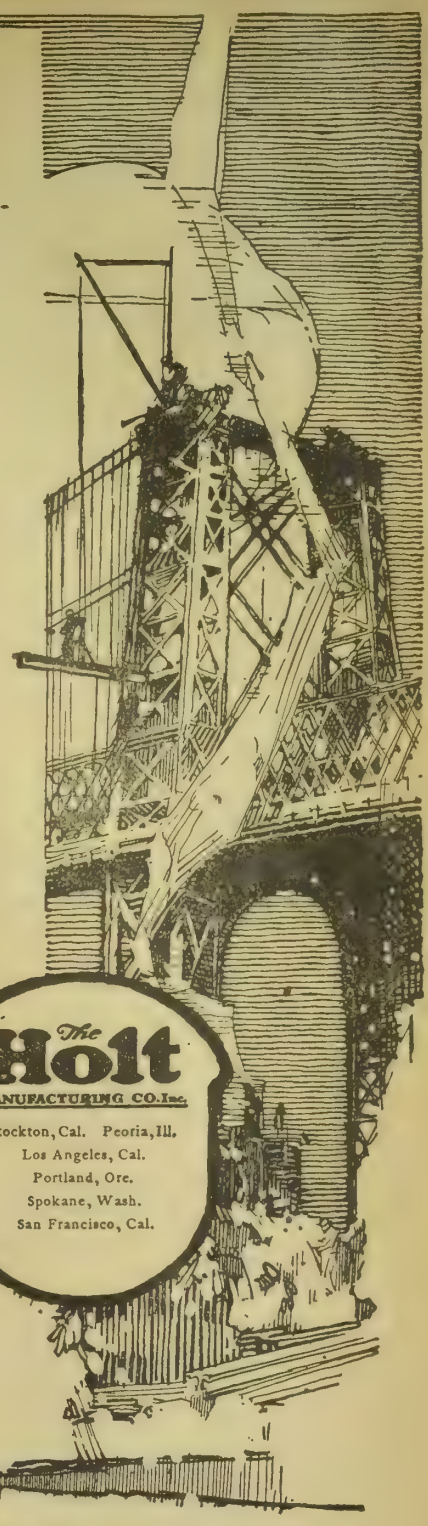

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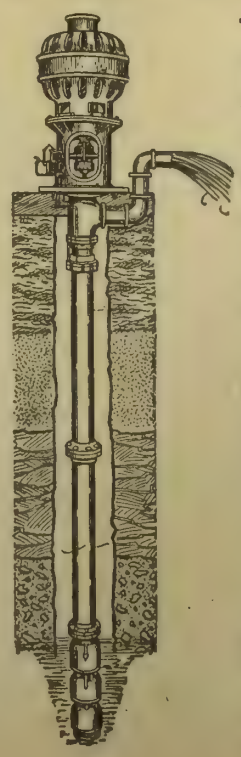
DISK PLOW BALL BEARINGS.

"Disk plows work better in hard ground if set straighter in line with the furrow," said A. G. Anderson of the A. F. George Company at the Los Angeles Tractor Demonstration. "On a disk plow there is always a heavy pressure against the lower section of its bearings. In most disk plows this wears heavily and soon loosens the disk on its bearings. In the Yuba plows we have steel ball bearings an inch in diameter. These distribute what little wear there is, all the way around, and make the plow pull easier."

THE SMALLEST TRACTOR.

The smallest tractor at the Los Angeles demonstration was the "Cultimotor," weighing 130 pounds, said to pull 200 pounds on the drawbar and having a 1¾-horsepower engine within the single wheel, which pulls seven cultivator teeth or two seeders, weeders, etc. The wheel is 23 inches in diameter and has a tread 6 inches wide.



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No valves to pack or plunger to get out of order. For use in any well ten inches in diameter or over.

A complete line of irrigating pumps of all descriptions, horizontal, and vertical for belt drive or direct connection to electric motor.

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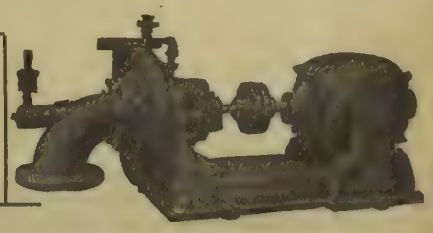


WRITE FOR CATALOGUE NO. 47.

BYRON JACKSON IRON WORKS, Inc.
SAN FRANCISCO.
LOS ANGELES, STOCKTON, VISALIA

Specializing on Poland-Chinas Benefits Kings County Breeders

[Written for Pacific Rural Press.]

"California" means "Oranges" to the Eastern mind because a restricted community has specialized on oranges and the advertising of their virtues. Holland means Holsteins to the dairy breeder. The Isle of Jersey means the refined butterfat cows. Waukesha used to mean Guernseys. Iowa means highly bred beef cattle and prize winning draft horses. Oregon means apples. Kings county, California, means Poland-Chinas. The reason is the same in all cases. A large proportion of farmers in one community raise and advertise the same breed of animals or the same kind of fruit, etc. Their market comes to them in the case of livestock, because a buyer knows he can find a wide range of the finest stock for selection with a limited amount of traveling. Production can be made safer and cheaper by using combined influence to get favoring legislation and attention to their problems by agricultural scientists, besides interchange of local breeders' own experience.

Of 63 prizes awarded to Poland-Chinas at the State Fair of 1917, exclusive of championships and futurities, Kings county breeders took 42. Of the eight senior and junior champions and reserve champions six were shown by Kings county breeders. Of the four grand and reserve grand championships, Kings county took three.

Over a carload of pork hogs were shipped every working day of 1916 from a limited area in the northern part of Kings county. A whole trainload went out one day. The purebred breeders figure that this great pork production is due to the number of purebreds. Nearly every herd in the county has a purebred boar. There are more breeders of purebred Poland-Chinas exclusively than in any other county, and they are best awake to the value of showing at the fairs. "We are making Kings county famous for Poland-Chinas, getting lots of advertising, making them easier to sell," said one at the State Fair.

There are lots of people beginning to breed registered Poland-Chinas here, including boys whose pig clubs are encouraged by the older breeders. Add to this the reputation Kings county hogs have with the butchers for being well fed, high quality pork, and we see good reason for pride of Kings county breeders in one of her best known industries. The serious importance of their vocation in these times of food and feed conservation, and the sense of doing their work well, combined with the demonstration already made of the value of co-operation: these forces are holding the Poland-China breeders of Kings county in an organization which is really doing things. On October 19 they will be holding the largest registered swine sale of any kind ever staged in the State, including 100 animals, a large proportion of which are from the State Fair prize-winning herds. They have invited everybody interested in hogs to meet them at a banquet of turkey and roast pig on the evening of October 18 in Hanford.

All of this is the outgrowth of the faith of a few pioneers in the Poland-China for this district. Elias Gallup was one of these. Mr. High was another. Mark Bassett was and is another, to see whom at the enthusiastic meetings of this year quietly taking his place and lending his support to all moves for the betterment of the breed is to inevitably dub him "The Dean of California Purebred Swine Breeders." He has been in Kings county 30 years and has been giving it a reputation for 12 years. His winnings at the State Fair have made him seem wellnigh invincible, principally from the standpoint of quality and finish. But this year his fancy medium-to-large type animals were less favored by the judges than the larger types and President Wm. Bernstein of the California Poland-China Breeders' Association carried away a larger proportion of prizes than ever before. Other breeders who have had a prominent part in making Kings county famous for Poland-Chinas are F. D. Ross, W. D. Trewhitt, John Bernstein, J. A. Crawshaw, Dimmick Bros., T. J. Gilkerson, J. L. Lane, and more. The refinement and easy feeding qualities of the small and medium types are being combined more or less by these breeders with the big frames and heavier carcasses of the large type which seems to be gaining in the farmer demand. "Kings county can produce whatever type seems best," says one, "and we can grow abundantly any feed that seems best."

Grand Champion and Reserve Champion Sows, Cal. State Fair, 1917. Owned by Will Bernstein.

Grand Champion Poland-China Sow, P.-P. I. E., and Cal. State Fair, 1916. Owned by M. Bassett.

FEEDS GROWN AT HOME.

We were able to learn from four of the leading breeders just the system they follow in feeding. All of them grow practically all they feed.

Mr. Bassett has long been known for the fine crops of Indian corn which he produced, perhaps partly in memory of the great cornfields of Miami Valley, where the Poland-China originated and was developed. We were therefore a little surprised when he told us that this year he has fed mostly barley of his own raising, keeping pigs on alfalfa pasture 12 months of the year.

"You can raise hogs on barley and alfalfa," said he. "I soak rolled barley 12 hours in a big iron kettle set under the pump so there is no dipping of water. Hogs eat more of it if soaked, and no damage is observed due to hulls. A hog over 18 months old gets half of a 3-gallon bucket per feed; under 18 months, a third of a bucket; under a year, one-quarter of a bucket, varying this according to size and condition and amount of alfalfa available. Pigs on alfalfa get not more than two pounds of dry barley rolled and soaked. Last winter I had to feed some Indian corn. That was fed to mature hogs on the cob, but to young pigs, ground and mixed with rolled barley and soaked. An acre of alfalfa carries about 10 hogs all summer with barley, and sometimes without it. Sows not suckling pigs get no grain when there is plenty of alfalfa. Alfalfa fields have to be rotated for hog pasture, preferably changing every two weeks. The hogs wear it out in four or five years, tramping and rooting it so foxtail gets in. Rotation every two weeks gives hogs the benefit of young, tender shoots, and they waste less. Sometimes, if we have a showery fall, we get lots of alfalfa all winter, and there have been times when you couldn't see pigs in the alfalfa in January."

GYP COEN HOGGED-OFF.

Mr. Bernstein, in connection with his brother, John M. Bernstein, has studied the feeding of hogs for economy of feed and greater economy of labor. About this season of the year he is hogging off 35 acres of Egyptian corn. It keeps the hogs fat all the time. Shoats and older hogs simply straddle a hill and bend it over until they can get at the heads. Eating it in the head makes them chew it better on account of the chaff, and is the one way to feed what can be used before the rains, on account of the scarcity of labor. For smaller pigs, a row or two are mashed down by running over them with a harrow or wagon, etc. Hogs are turned onto the gyp before the heads get hard, and must clean up each patch before moving to another. Never over 50 hogs are kept together, and they are held on each patch by temporary fences. Mr. Bernstein estimates that 50 hogs clean up five acres in about two weeks. He observes that milo matures better than the other grain sorghums after a barley crop.

SORGHUM FODDER RELISHED.

Just before frost, cane sorghum is cut and shocked green when the seed is fairly ripe and well developed but not hardened. This stays juicy and green a long time and furnishes succulence when the alfalfa is too wet to permit pasturing, and when frost checks alfalfa growth. If the sorghum is frosted, the leaves blacken and die. An armload of the fodder is about all that ten pigs will clean up at once. They chew the stalk from base up and drop the pulp. The amount is determined by the way they clean up the previous feed. Pumpkins are ripe then and are fed with it. Last year the last sorghum was fed in January. Succulence is one of the main parts of Mr. Bernstein's hog ration, but that part of the story must wait until another time, along with the feeding systems of other breeders.

The Livestock Kranking Machine

PREMIUMS ON THE FUTURE.

A judge at one of the fairs this season awarded grand championship to one animal rather than another, quite largely on the ground that the loser would not develop into as good an animal at the same age as the winner. Another judge expressed the desire to see a sire's progeny before judging the sire. A State Fair judge said that one animal was the best on the Coast and made her junior champion, but refused her the grand championship on the ground that she had not come to maternity. The same judge gave grand championship to a male animal born six months later. In all cases they were looking to the future in placing their present awards, though in the last-named case it looked hardly consistent. While it takes a good man to look into the future, if such can be obtained for livestock judging, this would appear one of the greatest steps in the only reason why is a purebred, which is constant improvement of livestock for the sustenance of man.

LIVESTOCK BREEDERS DRAFTED.

If there is any reason for purebred livestock rather than scrub stuff, it is because the purebred makes more and better human food from the same amount of stock feed with less of human labor. For conservation of food and labor in time of war, patriotism demands the highest breeding feasible. When Uncle Sam gets the loan bank in operation this ought to be a stimulus for pure breeding. But all of this also indi-

cates that Uncle Sam might well protect the breeders of purebred livestock who are really doing things. We know several young breeders who have spent years and all their money building up choice herds, but who are now compelled to sacrifice them because the breeders have been drafted for war.

STATE FAIR TRANSPORTATION BULL.

The reported loss of thousands of dollars worth of registered State Fair prize-winning stock due to delay of several days in getting the animals away from the fair grounds has probably crystallized the discontent of most livestock exhibitors to the extent that they will not show at the State Fair again until the intolerable transportation bull is removed. With valuable herds being rushed to the fair about the opening date, many of them in box cars, the unloading facilities are absurd and recognized as such by the State Fair officials who had promised to do better. Three carloads on each of two tracks may by loaded or unloaded at once, but when unloaded they are in the way of the rest, and there is no convenient place to put them. However, it is not yet too late to mend.

COUNTY FAIRS LOSE LIVESTOCK EXHIBITS.

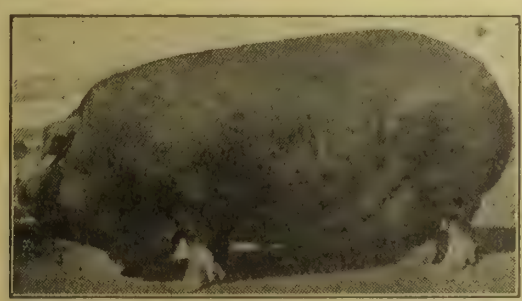
A breeder needed ready money to get home on after a California local fair previous to 1917, but was told that his premiums could not be paid for 60 days, though the secretary admitted that the horseracers and similar liabilities were paid at the close of the fair. That breeder became a booster for that fair—not. And that fair this year had a large proportion of empty livestock stalls, though it was directly in line for a tremendous exhibit. Be it said to the credit of this association that the stalls here were as good as could be asked this year. Another local fair could have had at least a certain one of the finest herds in the State, but the sheds provided were found by the intending exhibitor to be not even good shelter from the sun. He could not afford to stop at that fair with valuable animals, although it was on his way home.

The U. S. Department of Agriculture announces a decrease of 8.2 per cent in hog supply compared with that of a year ago. Georgia, Mississippi and Virginia were the only states to show an increase.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

DUROC-JERSEY
FINE MARCH BOAR PIGS
Sired by
OREGON DEFENDER
Write for pedigree and prices.
W. H. EAKLE
BOX 521 WOODLAND, CAL.

Bassett's Poland Chinas



GRAND CHAMPION SOW
P. P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.

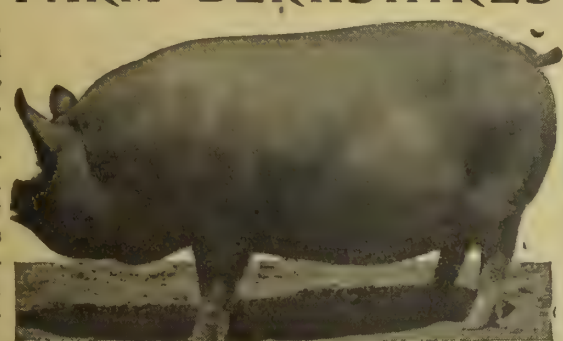
$30 UP.

WILL CONSIGN SOME OF MY BEST STOCK TO THE GREAT SALE OF POLAND-CHINAS, HANFORD, OCTOBER 19.

M. BASSETT Hanford, Cal.

RINCON FARM BERKSHIRES

Can now furnish foundation stock, gilts bred or open, and unrelated young boars out of the finest herd of sows in the State, and by such boars as Ames Rival 102nd, Winona Lee Champion 6th, Mayfield Rookwood 2nd, etc.



Princess Leader, out of World's Grand Champion Sow by World's Grand Champion Boar.

21 Awards at Sacramento, including 7 Championships and 6 Firsts.

Call and see stock or write for pedigrees and prices.

F. A. BRUSH, Proprietor C. E. BARROWS, Manager
SANTA ROSA, CAL.

Uneeda Herd DUROC JERSEYS

Our sows are rich in the blood of Crimson Wonder, Colonel Golden, Model Perfection, the best blood of the breed. We are using Uneeda Wonder, second prize boar at Nebraska State Fair, 1916, whose sire was second at Iowa and Nebraska, 1909, whose grandsire was first and Grand Champion Iowa State Fair, 1906, and whose great grandsire was Champion at Iowa State Fair, 1904.

WE ARE NOW BOOKING ORDERS FOR PIGS

H. P. Slocum & Son
WILLOWS CALIFORNIA

4th Semi-Annual Sale
OF
Kings County
Poland China Breeders' Association
October 19th
AT
KINGS COUNTY FAIR GROUNDS
HANFORD, CAL.
100---Head---100
REGISTERED
Poland Chinas
TO BE SOLD WITHOUT RESERVE
The Best from Kings County Herds—Boars of Herd Header Quality—Gilts and Sows That Equal the Best.
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MONTELENA HERD of
Large Yorkshires
Headed by

LAKE PARK KING 25211
Grand Champion Boar—California State Fair, 1917.

Yorkshires have proven themselves, in every way, the breed best adapted to California conditions.
Our herd won 21 prizes with 11 entries, including six championships, at Sacramento this year.
We offer for sale two Junior Yearling Boars, Spring Boars and Gilts, and Fall Pigs, sired by Lake Park King.

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CALISTOGA, CALIFORNIA

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
Hauser Packing Co. Los Angeles

Creamery Operators Discuss Vital Topics

[Written for Pacific Rural Press by B. J. Morris.]

In the face of the present national and State demand for the increased production of food, no more important meeting of the year has been held than the eighteenth annual convention of the California Creamery Operators. Delegates were present from Siskiyou to Imperial Valley.

The keynote of the convention, struck at the opening session and resounding through every meeting to the very close, was two-fold: First, it is the duty of every producer of dairy products to increase his output; and, second, the motive behind the performance of the duty must be "to increase the world food supply and not dollars and cents." The discussions that followed the papers were interesting and full of practical suggestions.

NEED LEGISLATIVE BUREAU.

W. B. Hopkins, in the president's address, suggested that the most important work done for the Association was by the legislation committee. This committee succeeded in getting a law passed making it necessary for "all packages of butter to be labeled and sold for what it really is." The experience of the committee made it clear that the creamerymen must be represented at the Legislature at all times by "someone who is able to get results."

CREAMERY CONSOLIDATION COMING.

Dean Van Norman of the University Farm School addressed the convention on "Some Economic Wastes in the Dairy Industry."

The dean recommends the formation of large co-operative institutions rather than to allow little concerns to multiply. He recognized that this might in a sense be against the Sherman law, but thought present conditions might work a change in the national law. "Larger and larger dairy concerns must come," said the dean.

This statement led to a lively discussion, in which it was brought out that disposing of smaller concerns would not save labor, for at the small dairies the man and his family do the work.

FEEDING SKIM MILK IS WASTE?

G. E. Frevert of the United States Department of Agriculture spoke on "Creamery By-Products." He mentioned as the leading dairy by-products cottage cheese, condensed milk, jack cheese, casein, and fermented milk.

The present custom of feeding skim milk to animals is an economic waste. California produces 70,000,000 pounds of butter per year. This means there is a by-product in the form of skim milk of one and one-half billion pounds. This would make 210,000,000 pounds of cottage cheese. As one pound of cottage cheese is equal in nutritive value to one pound of beef, it is a by-product not to be overlooked in these war times.

Casein is another important by-product. About 3 per cent of skim milk is casein. It is desirable, because of certain adhesive qualities, for the manufacture of glazed paper. The increasing demand for casein raises again the question as to whether it pays to feed skim milk to animals.

Mr. Frevert is of the opinion that the pressure of war in calling attention to the value of the by-products of the dairy will cause the dairymen to return to the handling of whole milk.

This led to a lively discussion, led by J. R. Murphy of Fresno, concerning the extra expense involved in handling whole milk. The labor of hauling the milk to the creamery would be increased seven or eight times. And then the additional cost of separation would mean an additional demand for labor, as most of the separation is now being done by the dairymen, whose families do most of the work.

The discussion also brought out various opinions concerning the value of skim milk as hog feed. Mr. Hooper said that skim milk at 50c per 100 pounds was reasonable as hog feed. The Petaluma Co-operative Creamery said skim milk proved with them to be worth 26½c per 100 pounds as hog feed. No agreement as to the actual value of skim milk as an animal food could be reached, though there was unanimous opinion that the best results can be obtained only by using it in connection with other feeds, such as alfalfa meal and barley.

W. H. Roussel raised the question of the necessity for standardizing the cases in which butter is shipped. He said that butter frequently comes into San Francisco testing 93 per cent, but on account of the bad condition of the cases it could only be passed as prime first. Also, in order to compete in the New York market, an absolutely uniform article is necessary. Some carloads have been refused entirely and left standing on the tracks, because the shipment was made up from a score or more lots and was, consequently, under the present condition of affairs, not uniform. On the other hand, Mr. Roussel said he had shipped an assignment of extra quality to New York and it tested there 94½ per cent. The high test in New York was due to the uniform quality of the butter, which had come from only three creameries.

FARM LABOR EXEMPTION.

D. O. Lively of San Francisco urged the convention to do something to impress upon the Food Administration Board the seriousness of the farm labor situation. He recommended that the convention go on record as favoring the exemption of farmers and farm laborers, at least until the last resort for raising an adequate army.

Dr. William C. Hassler of the San Francisco Board of Health gave a stirring address on the "Production of Pure Milk and Cream." He illustrated his address with lantern slides, throwing on the screen together or successively the insanitary conditions which the milk inspectors found in many places with the spick and span sanitary conditions of a modern dairy built with the idea of sanitation.

PASTEURIZATION DOES NOT LOWER FOOD VALUE.

One of the most impressive features of his address was the chart showing the effect of pasteurization. On the chart were indicated the temperatures which kill the various germs that cause typhoid, tuberculin diarrhoea, and most all infant diseases. These temperatures are all below 140 degrees F. Above this line were found the enzymes, taste, albumin, etc.

The question was raised, "If dairies are kept sanitary, what is the need of pasteurization?" In reply Dr. Hassler said that pasteurization was for the purpose of removing accidental contamination and not for removing manure from the milk. Physicians are not yet agreed as to the relative value of certified and pasteurized milk.

COW TESTING INCREASES PRODUCTION.

Dr. Hassler in his address stated almost in the form of a warning that if the dairymen did not take steps to increase their output some other power would take over their plants. It was quite to the point, therefore, when Prof. E. C. Voorhies of University Farm raised the question, "How can farmers increase dairy products?" "Farmers can increase dairy production by testing their cows." He backed up this statement by saying that there were at the present time in California 16 cow-testing associations and that nearly every herd in each association had increased the average production of butterfat per year several pounds. In some instances the increase was as high as 100 pounds. An average increase of 10 pounds of butterfat per cow would mean a total increase of 500,000,000 pounds per year for the State of California.

The convention was unanimously of the opinion that the advantages of cow testing far outweigh the trouble and expense. Mr. Swanburg of San Francisco, owner of two dairies in Sweden, each of which contains 300 cows, humorously answered all objections to cow testing by saying he did not see how a man who owns a dairy could look straight at himself in a mirror if he was not testing his cows. Cow testing, to be effective, must be repeated year after year. Some persons think a one-year test is sufficient. Experienced dairymen say it pays to test continually. Any cow that falls be-

75 HIGH-BRED HIGH-GRADE 75
HOLSTEINS
AT
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Including two great Registered Sires
ARALIA PONTIAC DE KOL SEGIS 160331
SIR HENGERVELD SARCASTIC COLANTHA 144873
Also a limited number of pure-bred
BERKSHIRES
Bred and Open Gilts and Boars.
Sale will be held
Wednesday, Oct. 24, 1917
At the James Mills Orchard Corporation, Hamilton City, Cal.
For particulars write
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DAIRY COWS
REGISTERED BEEF BULLS
PUREBRED HOGS
Large or small lots. Any order executed.
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Production and Show Quality
are combined in
GIBSON HOLSTEINS
Cows won First in both classes in the 3 days' butterfat contest of all breeds.
In the Show Ring, won 4 First prizes, 8 Seconds, and 3 Thirds.
IS NOT THIS THE BLOOD YOU WANT IN YOUR HERD?
J. S. GIBSON COMPANY
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The name GIBSON insures quality

INNISFAIL DAIRY SHORTHORNS

GLENSIDE ROYAL 408155
Grand Champion Sacramento, 1916; Modesto, 1917
Our herd of registered Shorthorns has been carefully selected from the leading milk producing strains of the breed and is being developed along the same lines in our hands. The herd is headed by
GLENSIDE ROYAL
a prize-winner at the 1913 International and grand champion at Panama-Pacific Exposition.
Sired by him and out of large cows of good milk production, we offer for sale a few choice young bulls.
Our entire herd is tuberculin tested.
Alexander & Kellogg, Suisun, Cal.
Farm on Grisly Island.

low a test of 100 pounds of butterfat per year should be eliminated from the herd.

E. H. Webster told the convention what was being done in the way of comparing the nutritive value of butter with other fats. The results so far are not yet available for publication.

Prof. C. F. Doane, cheese specialist, United States Department of Agriculture, showed that this State is far behind other coast States in the development of the cheese industry. Prof. Doane deplored greatly the fact that many dairymen from Washington to California are getting out of the dairy business as fast as they can. Leading reasons for this are: That more money is said to be made by selling alfalfa and other feedstuffs in the bulk than by feeding to dairy cows; and that the war conditions are offering more attractive opportunities to laborers and thereby draining the country of competent dairy help.

The only way to stop the tendency away from the dairy industry is for the Federal Government as a war measure to step in and remedy the economic and labor conditions.

The convention closed with a business meeting Saturday afternoon and a banquet in the evening. The results of the butter scoring contest, and the actions taken at the business meeting, were not obtainable at the time of this writing.

STATE PRISON FARM TO BECOME A STOCK FARM.

[Written for Pacific Rural Press by B. J. Morris.]

The last Legislature transferred title to the old Colonel Frye ranch in Napa county from the State Prison at San Quentin to the Napa State Hospital. Many citizens of California, mostly outside of Napa county, were sorry to see the State Prison Farm closed. Few, however, were willing to have the farm located in their own community. Now that the State Prison Farm is closed, all taxpayers of California will be glad to know that the big ranch of 27,000 acres near Yountville, Napa county, which has cost the State over $150,000, is to be handled so as to yield a big income to the State. One of the pressing needs of the country at the present time is more beef and pork. The State has, therefore, decided to turn the Frye ranch into a stock farm.

In looking for a man to have charge of this work, the directors wisely selected Owen Duffy, general manager of the Napa State Hospital. Mr. Duffy, while retaining his position at the hospital, will have direct oversight of the farm. He is well equipped for his new task, and comes from a family of breeders of high-grade and purebred stock in Napa county. Already over 1000 sheep and nearly 200 beef cattle have been placed on the ranch. Commencing this month Mr. Duffy expects to supply the hospital with both beef and mutton. This means a great reduction in the monthly bills at the hospital.

In addition to the sheep and beef cattle which are to be kept on the ranch, the dry cows from the big hospital dairy will be pastured there, rendering the dairy even more efficient in the future than it has been in the past. The purebred swine also are to be moved from the Napa ranch to the stock farm.

Extensive improvements are already under way. The palatial residence built by Colonel Frye is being fitted with modern conveniences, and Mr. Duffy will establish his home there early this month. Several hundred acres will be put into alfalfa this year, and all the remaining tillable land will be seeded to barley and wheat. Great care is being taken to find the crop best adapted to the various soil conditions and in every way the farm is to conform to the State-wide spirit of putting California in the front ranks of patriotic food-producing States.

Never before in California was there the demand for range land for sheep and cattle as at present. The hill sections range land, good only for pasturage, which formerly rented for from 25c to 40c per acre per year, is now bringing as high as $1.50 per acre a year. Because of the high price of wool and the big profits in sheep production, sheep range is exceedingly desirable.

POINTS OF A GOOD BULL.

[Written for Pacific Rural Press.]

In explaining the awards on a certain class of Holstein bulls at the Fresno Fair, Judge C. W. Rubel remarked: "The first and second are too high off the ground, but are more typey. The first is placed above the other in spite of a bump on his back, because he carries good breadth behind, while the second tapers behind. The third has a masculine head and neck and a deep body, and his skin is mellow. Fourth bull loses position because of a feminine front.

In another class he remarked: First is a little small and not veined so well as the second, and is light in heart girth, but is quite typey, has nice lines, a straight back line, masculine head, and mellow skin. The second bull is well veined, has a fine hide, but is gaunt behind the shoulders. Third has the best heart girth and an exceptionally good chest and body. Fourth is a little slab-sided, and thus objectionable.

HOLSTEIN
Friesian Cattle

PRINCE BUTTER BOY
First Prize Sacramento 1917

Herd Sires:
Prince Butter Boy
King Mead of Riverside
Toyon Valdessa Hengerveld
STOCK FOR SALE

J. H. HARLAN CO.
WOODLAND, CAL.

THIRD SACRAMENTO SALE

State Fair Grounds, Sacramento, Cal., October 30-31, 1917

125 REGISTERED HOLSTEIN COWS, HEIFERS and BULLS

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McALISTER & SONS, Chino
SANTA ANITA RANCHO, Santa Anita

The splendid cattle in this sale will abundantly justify the claim made for them that they comprise the highest average in breeding and individuality of any offering yet made at Sacramento. There are many individuals in this sale, both females and males, that match in every respect the animals found only in the highest class offerings.

This sale will be particularly attractive at this time, when breeders and dairymen are seeking the best cattle to be had, and it offers a rare selection of high-class foundation animals. Never before in the history of Holstein sales in the West have so many females bred to such high-class bulls been offered.

AND TO CAP THE CLIMAX OF RICH BREEDING AND INDIVIDUAL EXCELLENCE EVERY ANIMAL IN THIS SALE IS SOLD SUBJECT TO TUBERCULIN RETEST BY THE PURCHASER.

A brief sketch of a few of the animals listed in this sale shows the splendid breeding which buyers will find on sale day:

—A 28-lb. cow of splendid type.
—A show heifer sired by a 33-lb. son of Pontiac Korndyke and out of a 21-lb. daughter of De Kol 2nd's Butter Boy 3rd.
—A daughter of King Walker 5th out of a 29.53-lb. cow.
—A beautiful grand-daughter of Pontiac Korndyke.
—A daughter of a 37-lb. sire, bred to a 30-lb. show bull.
—A 25.89-lb. cow bred to a bull whose dam made 847.55 lbs. butter in one year.
—A heifer whose dam is a 21-lb. grand-daughter of De Kol 2nd's Butter Boy 3rd, bred to a 35-lb. sire.
—A daughter of a 29.50-lb. cow, bred to the only sire in the West with three 30-lb. daughters.
—A daughter of a 38-lb. sire and out of a 24-lb. dam.
—A grand-daughter of Colantha Johanna Lad.
—A grand-daughter of Sir Veeman Hengerveld.
—A daughter of Segis De Kol Pontiac Burke.
—Four grand-daughters of Tilly Alcartra.
—Four grand-daughters of King Korndyke Sadie Vale, one of them out of a 24-lb. dam.
—Four grand-daughters of Prince Gelsche Walker, out of good A. R. O. dams.
—A daughter of King Korndyke Pontiac out of a 17.23-lb. junior two-year-old.
—Two daughters of a 31.42-lb. sire bred to It.
—A daughter of a 26.98-lb. cow.
—A daughter of Prince Gelsche Walker Korndyke out of a splendidly bred dam.
—A daughter of King Korndyke Pontiac out of a daughter of Prince Gelsche Walker.
—A daughter of King Morco Alcartra out of a daughter of Prince Gelsche Walker.
—A grand-daughter of Aralia De Kol, out of a 29-lb. daughter of De Kol Burke.

This list by no means covers the outstanding females in this sale, and the sires to which they are bred are a story by themselves, for no sale in the West has ever approached this sale in respect to the outstanding breeding of the bulls to which the offerings are bred. We find a very large number of females in calf to such sires as Prince Gelsche Walker; King Mead of Riverside; King Morco Alcartra; Sir Aaggie De Kol Acme, son of Aaggie Acme of Riverside 2nd; Prince Gelsche Walker Korndyke; It, son of the first 37-lb. cow and the first cow to make 1200 lbs. butter in one year; Sir Skylark Ormsby Hengerveld, the only sire in the West that has three 30-lb. daughters; King Segis Alcartra Prilly, son of the $50,000 bull and out of a 30-lb. grand-daughter of Prilly; King Segis Alcartra Abbekerk, son of the $50,000 bull and out of a 30-lb. daughter of Tidy Abbekerk Prince.

The unusual offering of high-class bulls in this sale will win the approval of the many discriminating buyers now in the market for extra good herd sires. These are typical of those to be sold:

—A grandson of King Korndyke Sadie Vale out of a 29.39-lb. three-year-old daughter of King Segis Pontiac.
—A son of Prince Gelsche Walker out of a 29-lb. dam.
—A son of Prince Gelsche Walker Korndyke out of a 27-lb. dam.
—A son of Prince Gelsche Walker out of a 24-lb. dam that made over 800 lbs. butter in one year.
—A son of Prince Gelsche Walker out of a good two-year-old daughter of a cow that made over 800 lbs. butter in one year.
—A son of King Segis Alcartra Abbekerk out of a 26-lb. junior two-year-old daughter of a 30-lb. sire.
—A show bull sired by a 34-lb. sire out of a 19-lb. two-year-old whose sire is a 33-lb. son of Pontiac Korndyke.
—Two sons of King Mead of Riverside out of a 27-lb. dam.
—A son of King Mead of Riverside out of a dam that made 24.75 lbs. butter in 7 days 5 months after calving, and 29,545 lbs. milk and 1,077.75 lbs. butter in one year.

The catalog of this sale will not be available until close to sale day. Write for a copy now and one will be mailed at the earliest possible time.

MANAGEMENT OF
CALIFORNIA BREEDERS SALES AND PEDIGREE COMPANY
J. M. HENDERSON, Jr., Pres.
C. L. HUGHES, Sales Mgr.
SACRAMENTO, CALIFORNIA

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

Dairy.

L. D. Smith of Berkeley sold two registered Guernsey bulls at the Stanislaus Fair.

H. J. Higdon of Tulare has sold seven head of purebred Holsteins to Gonzalo Campo y Compania of Talagrante, Chile. Price $4,000.

H. L. & E. H. Murphy of Perkins, Sacramento county, have just received a shipment of yearling and two-year-old heifers bred to a son of Cumberland's Type, the bull which won 36 grand championships at 36 fairs.

Representatives of 100,000 organized milk producers recently met in Washington and accepted appeal by the Food Administration that they make only month-to-month contracts with distributors pending a promised reduction in the price of cattle feed.

Valdessa Scott 2nd (41.88 pounds butter), the dam of Toyon Farms bull Finderne Soldene Valdessa, is the only 40-pound cow in the world with two 30-pound daughters. The bull's dam made a world's record with her first calf—35.34 pounds at three years.

In buying registered animals make the seller show absolutely that there has been no tuberculosis or abortion in his herd for 60 days, says De Lancey Lewis of San Jose. If that is impossible, then keep the animal separate from the home herd until the tests can be made.

Toyon Farms of Los Altos are putting a large number of cows on semi-official ten-months' test. According to Tester H. E. Lilly, four will freshen in October, five in November, three in December, four in January, six in February, ten in March, and eight or ten in April. This long-term record-keeping is what is demanded by the farmers.

Kings County grand champion Holstein bull Juliana De Kol King Segis, owned by A. B. Comfort of Guernsey, was sired by King Segis Pontiac Emperor and out of Juliana De Kol, which held the world's record as a two-year-old for 30, 60, and 100 days' production. This was Mr. Comfort's first showing at a fair, though he has been breeding purebreds.

Swine and Swinemen.

A great number of hog growers in Kern county have quit during the past year on account of high-priced feed, according to A. E. Beckes of Wasco.

An auction sale of high-bred Holsteins and some blooded Berkshire swine will be held at Hamilton City by the James Mills Orchards Corporation at 10 a. m., October 24.

California in a very few years will be the leading hog and livestock producing State in the Union, is a recent statement of Dr. Charles Keane, State Veterinarian.

Grain-fed hogs in the Tulare section are bringing practically twice as much money as a year ago, according to stock buyers who are paying the producers there 14c a pound.

Marsh's Poland-China I B A Wonder weighed 1,010 pounds when he left Lodi for the State Fair. Less than three weeks later the journeying and excitement of the fair circuit had reduced him 64 pounds.

A ten-months' brood sow at the State Fair was less favored by the judge than she would have been if she had not been fattened so fast with so little exercise. This made her a trifle weak on her pasterns and toes.

D. P. Ward, Duroc breeder of Ceres, has sold so much stock that he has a surplus of feed, for which he would like to buy young hogs; but he says his neighbors want $10 each for 50-pound pigs, and he can't afford to feed at that price.

"The farmer wants a big, roomy sow," said Judge Walter T. Gatton as he awarded first prize to a young sow which he pointed out was not so strong in certain respects as even the third prize animal, which was well nigh perfect, but smaller.

F. A. Brush, cashier of the Santa Rosa National Bank, prize stock breeder, swept the board clean at the National Swine Show at Omaha last week with his Berkshire herd, winning both grand championships in one of the largest and classiest aggregations ever brought together in American porkdom.

The A. L. Tubbs Co. of Calistoga reports the following recent sale of Yorkshires: Thomas E. Jones, Elko, Nevada, two bred sows and boar; C. J. Wetmore, Livermore, Cal., bred sow; McCreery Estate Co., Middletown, Cal., boar; J. Donaldo F., Santiago de Chile, boar; Gonzalo Campo y Cia, Talagante, Chile, boar.

I. F. Davis, pig club leader, is starting pig clubs in Imperial Valley this October. Purebred breeders furnish pigs to the boys, who feed and keep cost records and weights, and at the finish write essays on how they did it. Pig club exhibits were a prominent feature at the State and other fairs this year.

R. H. Whitten of Los Angeles, owner of the Whitten Ranch at Terra Bella, has purchased of R. W. Halford, Manning, Iowa, the top boar pig of Mr. Halford's spring crop. The boar was sired by the 1,100-pound Big Bob, the breed's greatest sire of herd headers, and was out of a mammoth, prolific sow by the noted 1,106-pound Long Jumbo. This Big Bob-Long Jumbo cross has produced many Eastern prize winners, and Mr. Whitten is expecting great results from his new boar, which has been named Whitten's Big Bob. This gives Mr. Whitten six herd boars.

List of sales of Durocs made by J. M. De Vilbiss during the State Fair: Bay City Livestock Co., San Francisco, three service boars; Elmer Lamb, Ceres, Cal., a sow; Dr. L. J. Belnap, San Jose, two sows and a boar; Charles Williams, Colusa, a sow; Ab Waller, Le Grand, a sow; J. S. Reese, Leesville, a boar; F. C. Heggie, Glen Ellen, a boar; S. H. Karchman, Sheridan, two sows; W. J. Fulgram, Visalia, a sow and a boar; John W. Bourdette, San Francisco, a sow. These were all sired by his grand champion boar, except the three service boars, which were sired by a second prize boar of 1916 State Fair.

A. D. McCarty of San Francisco, owner of the Riverina Farm at Modesto, has joined the ranks of the Poland-China breeders. While at the State Fair he bought some very fine gilts from the University Farm at Davis, sired by a son of the great breeding boar, Big Bob. He commissioned Prof. J. I. Thompson, formerly of the University Farm, to purchase an Eastern boar for him, and word has just been received that Prof. Thompson selected Kansas King, by King of All, paying $300 for him. This boar was first senior yearling at the recent Kansas State Fair, and has already made an enviable reputation for himself in the East. Mr. McCarty is buying the right kind of foundation stock and undoubtedly will develop a fine herd.

Beef Cattle.

John Parkinson, Los Angeles architect, seems interested in Shorthorns, as if he were thinking of establishing a registered beef herd.

O. J. Ames of Oakdale, new in the show ring, won six prizes, including two firsts, on his Jersey cattle at the Stanislaus Fair at Modesto, September 17 to 22.

A fine red Shorthorn bull, 25 months old, and weighing 1,410 pounds, was shown at the Kings County Fair by John Montgomery of Hanford. The calf had sucked until he weaned himself. His mother's milk was extra rich in butterfat, but you couldn't milk her with ten-foot arms, so the calf did it.

Three carloads of calves were shipped out to the bay markets from Oakdale last week. Scarcity of feed and the high price of alfalfa is responsible for the clean-up of young calves at this time. The three carloads brought nearly $10,000.

C. J. Pierce of San Benito county has been feeding some two and three year old steers mixed chopped alfalfa and grain hay for the last six weeks. They have taken on a good deal of weight, but not enough to suit Mr. Pierce. He intends feeding a small ration of ground barley with the chopped hay and will increase the amount as they get accustomed to it, until he is feeding about six pounds a day to a steer.

Horses and Mules.

The registered saddle stallion, Denvul, shown by James McCord at the Kings County Fair, gets colts all of which naturally go the five saddle gaits with practically no training. Mr. McCord's wife and children all drive him.

A splendid span of big mules was shown at the Kings County Fair, larger than their dams, which are common farm mares. They were sired by two jacks of James McCord's raising. Though they had been on nothing but salt grass pasture until a week before the fair they were in fine condition.

The champion Shire mare at the State Fair, Black Hawk Chessie, belongs to Easton & Ward of Diablo instead of to the Jack London Ranch of Glen Ellen.

Shorthorns

PAICINES RANCH COMPANY

offers for summer and fall delivery both registered and unregistered weanling bull and heifer calves.

For prices and particulars apply to

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Shropshires sired by rams imported by me from England

The Famous Glide Merinos

Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
First Prize Breeders Young Shorthorn Herd at Sacramento

10 2-year Bulls SHORTHORNS 10 Bull Calves

We have just received a shipment of yearlings and 2-year-old heifers, bred to a son of Cumberlands Type, the bull that won 36 Grand Championships at 36 Fairs. This is the best lot of females we have ever offered for sale.

Better look them over soon, as they will sell quick.

H. L. & E. H. MURPHY, Perkins, Cal.

SCOTCH SHORTHORNS

We have just purchased the entire herd of Shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

CARRUTHERS FARMS, -- MAYFIELD, CAL.

City Address: Hearst Building, San Francisco, Telephone Sutter 1311

ORMONDALE SHORTHORNS

Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

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Herd combines some of the strongest blood lines of this country and Great Britain.

THOMAS T. MILLER

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LOS ANGELES, CALIFORNIA

During the past two months eleven carloads have left San Jose with horses purchased which are to be used by the army, the point of destination being withheld by the consignors.

Livestock Miscellaneous.

Wheat is being fed to livestock as a substitute for corn in many counties of northeastern Oklahoma.

Cattle rustlers are reported in the Laton district. A reward of $1,000 has been offered for their arrest and conviction.

Farm Adviser J. F. Grass, Jr., reports that a cholera epidemic has broken out in four widely removed places in Merced county.

It is believed that with the continuance of vaccination the peril of anthrax to the cattle in Yolo county will be removed.

H. A. Jastro of Bakersfield and Dwight B. Heard of Phoenix, Arizona, have been appointed members of the committee to mobilize the livestock industry of the United States.

Report from Petaluma says that A. S. Mann, who owns a ranch in the Orr's Spring section, has invested $10,000 in sheep and is engaging in the industry exclusively.

COW-TESTING RESULTS.

The following cows were tested by the Sacramento-Yolo Cow-Testing Association and found to be making over 50 pounds of butterfat per cow in 30 days. The cows all through the Association showed a slight increase in production this month, owing to the fact that nearly every one had good pasture for their cattle:

Owner of Cow—	Cow No.	Fat 30 Days
F. W. Kiesel	2	65.1
F. W. Kiesel	338	58.2
F. W. Kiesel	56	57.6
John Herzog	316	52.5
F. W. Kiesel	50	50.7

The San Joaquin County Cow-Testing Association reports the following cows as having produced 50 pounds butterfat during the last testing period of 30 days:

Owner and Name of Cow—	Total lbs. Butterfat
Oak Grove Dairy, Blucher	68.9
J. DeCarli, 237	57.5
Gotshall & Magruder, Hengerveld Pietertje	57.2
F. M. Thorp, Nellie	56.2
County Farm, 125	53.2
Bruml & Thorp, Miss B	51.4
Oak Grove Dairy, Lady	50.0

The herd of N. H. Locke & Co., with 73 cows entered, produced 23.7 pounds butterfat in the 30-day period, with the high test of 5.3 per cent.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

Poland-Chinas.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

TWENTY OF THE BEST SOWS and two grand boars from the Bernstein herd will sell at the fourth annual Kings County Poland-China Breeders' Sale, Hanford, October 19. W. Bernstein, Hanford.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG-TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland Cal

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

BEAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend streets, San Francisco.

A-1 BERKSHIRES — Herd boars Winona Royal Champion and Charmers Star Masterpiece. Best blood lines. Immunized stock. Ayrshire cattle. Arlington Smith, Visalia

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRE GILTS—Rival's Champion Best and Bandmaster blood lines. D. B. Wentworth, Napa.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, Cal.

Duroc-Jerseys.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

ANDREWS' QUALITY DUROCS — Dams mostly line bred from "that great mating" of Crimson Wonder Again and H. A.'s Queen, and every one a credit to the breed; sires Good-E-Nuff and Gold Model. This breed can't be beat. Place orders now for November bred gilts and weaned pigs. W. P. Andrews, Route A, Modesto.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

DUROC-JERSEY SPRING BOAR — Sire, dam, dam's dam and three litter mates of dam were 1916 Riverside winners; a high-class boar priced to sell. H. C. Witherow, Palo Cedro, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC JERSEY BOAR—A great breeder, two years old, from Kansas; will exchange for typy gilt or sell; come and see his pigs. Jersey Queen Farm, San Jose, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

RANCHO DEL SUR DUROC-JERSEYS—Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

WINTON DUROC-JERSEY FARM, Winton, Cal.—High-class, purebred hogs, both sexes, any age.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

DOS HERMANOS DUROCS — A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal

THE DeVILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

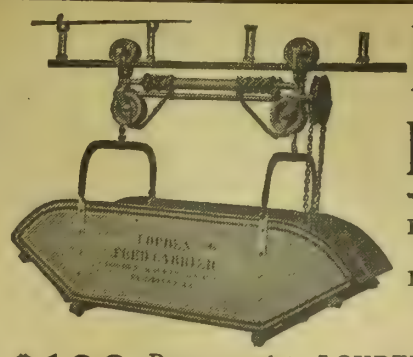
LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal

Chester Whites.

THE BILLIKEN BRAND — The mellow, easy feeding type; 20 bred gilts due to farrow during October and November; 50 spring pigs, both sexes, sired by Billiken; every animal is cholera immune; Billiken was grand champion boar at the State Fair; a son was reserve grand champion and a daughter was grand champion sow. Why not get started right and with the best? Write for prices and for booklet on Chester Whites. C. B. Cunningham, Mills, Sacramento county, Cal.



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Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

HOLSTEIN BULLS from cows with records; won two firsts and one second at Modesto butterfat contest. A. M. Bibens, Modesto.

REGISTERED HOLSTEINS—Sires in service. Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland Cal

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

YOUNG BULLS sired by Grand Champion King Hengerveld Ormsby, grandsons of Pietertje Maid Ormsby, 35.55 pounds 7 days, test 5.31 per cent. Kounias, Registered Stock Farm, Modesto.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

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VETERINARY QUERIES

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

[Subscribers wishing an immediate reply should send money order for $1.00. No charge for questions answered through this department. Name and address of subscriber must accompany each query.]

Tuberculosis Suspected.

To the Editor: Out of a bunch of about 40 shoats from four to six months, I have lost one and have two more suffering with some disorder, the symptoms of which are as follows: A swelling of the front of the throat directly under the lower jaw, and a gradual wasting away of the flesh from the entire frame, especially the back and hips. The internal organs of the one pig I killed were normal and apparently healthy. The swelling on this animal had become very large, and on dissection was found to be made up of fatty degenerate tissue with considerable fluid stored in the layers of same, but in no sense a pouch or sack. The appetites are good, and in every other way they appear healthy. The progress of the disease is slow, and the results stated above were noticed gradually.—G. L. H., Winton.

Symptoms described are hardly enough to make a positive diagnosis. Advise sending one of the affected animals to the veterinary division, College of Agriculture, University of California, where the animal can be examined and a pathological examination made. Tuberculosis is suspected.

Heifers Contaminated; Horses with Depraved Appetite.

To the Editor: I have 20 heifers that got with calf while they were away in pasture. I have heard since then that there was abortion in the pasture. Is there anything I can do to check this or cure it before the heifers come fresh? I have several young horses that are not doing much and are kept in a board corral most of the time. They are about to eat the corral fence, barn and every board they can reach. They seem to crave something. What is it? They are fed mostly alfalfa hay.—J. L. McD., Lemore.

Have these heifers vaccinated with an abortion bacterin by a qualified veterinarian.

Give the colts one dram once daily powdered alum and dried iron sulphate; also place salt where they can have free access to it.

Jersey Won't Breed.

To the Editor: Can anything be done for a 28-month Jersey heifer that fails to get in calf? Has been bred to various bulls for the last six months, but persists in coming in heat every 19 days. Always had the best possible care, but had no grain since grass got good last spring.—G. L., Auburn.

An examination must be made in this case and treatment given by a qualified man.

Bloody Milk.

To the Editor: A young cow came fresh about May 14. Ever since she has given bloody milk from one teat. Some days it is hardly perceptible in the separator bowl, again the bowl is quite red.—B. S., Santa Barbara.

Give potassium iodide, one dram, dissolved in water three times a day.

AN ORIGINAL CURE FOR FISTULA.

To the Editor: In the Rural Press of September 8, I see an inquiry from M. H. Riego, who has a horse developing fistula. I would like to tell my experience. I had a horse with fistula when I was living in Iowa. I took her to a veterinarian before it broke and he doctored her for several months. It got worse. A neighbor told me that he had cured one by washing it out once a day with a solution of carbolic acid, then packing it full of common salt that we used to get in barrels. I tried his remedy, and in a few months it was entirely cured. The mare was in foal and some said the colt would have fistula. I watched it and when it was about two months old there was one started, and I bathed it a few times real good with turpentine and it never bothered any more.

ERNEST THAYER.

Greenfield, Monterey Co., Cal.

The prices of meat animals—hogs, cattle, sheep, and chickens—to producers of the United States increased 3.3 per cent from July 15 to August 15; in the past seven years prices increased in like period 0.9 per cent. On August 15 the index figure of prices for these meat animals was about 47.1 per cent higher than a year ago; 75.7 per cent higher than two years ago, and 70.1 per cent higher than the average of the past seven years.

Steps are being taken to prevent a spread of blackleg among the stock breeders of Tulare, many of whom are vaccinating their herds now.

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35 years in this business. I sell direct to the consumer. You act as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2057.

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CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

One Farmer's Labor Problems.

To the Editor: I have just finished reading the last Rural Press of September 1 and am going to venture an account of our recent labor experiences, in the hope that, along with other similar reports, we may gain for Atlas a little firmer footing and a more advantageous position than the back of a school geography!

ONE GOOD MAN IN SIGHT.

We have 130 acres of Egyptian corn to pick and cure this fall. It will yield between 1,800 and 2,000 sacks. We have one man on whom we can depend to help my husband harvest this crop. He is my brother-in-law and we induced him to leave his occupation in the city the first of May and come and work for us until we got our crops off in October, because we had to have at least one skilled and dependable man with us and we knew of none we could get from the usual labor supply. This, in a sense, leaves him out of the present discussion, but I will note what we pay him, which is the same as we would pay any man of equal knowledge and ability. At present, for general farm work (mowing weeds, hauling straw, etc.), $2.50 per nine-hour day, including board, same bathing accommodations we ourselves have, etc.

We will begin harvesting our corn next week. We would like to run two wagons and four men if we could get the men, but we are doubtful, and my husband and his brother are rolling up their sleeves and taking a good deep breath, with the expectation of picking it all themselves.

GETTING ANOTHER GOOD MAN.

If they do this we must have another man who can handle young mules and a big team, because a plow team must be started in three weeks, so that all land not in corn may be in proper shape to seed by the time the first of the corn fields is ready to clear and plow. We knew of but one man who would fill the bill and we drove seventy-five miles down on the lake bottom last week to see if we could hire him, and we did—$2.50 a day for nine hours until November 1, and from then until spring $50 per month straight time. Until he starts the plow team, this man will do general ranch work and some grain hauling. He will have a first-class bunk house with a heating stove and wood to burn in it, the use of the laundry room to wash his clothes if he so desires, a good horse and buggy to use whenever he cares to go to town. We consider ourselves quite lucky to have these two men. If we should lose either of them, we would not know where to turn to get more of any kind.

If we cannot hire two more men who can pick enough corn in a day to earn their money, it is going to throw us so late in the fall with our corn that some heavy rains will undoubtedly catch quite a lot of unthreshed corn. In order to prevent a large amount of spoiled corn as well as extra labor to cover, uncover and dry wet corn piles, we are going to make a trip to San Francisco in hopes of buying a quantity of old sailcloth or tarpaulins for use in covering corn piles. This will mean an investment of at least $100, but with proper care will last us a number of seasons.

A PROCESSION OF BAD MEN.

Last year in corn harvesting season we tried to run three wagons and six men, but we could not keep that many going more than a third of the time. We could get nothing but "hoboes" and not all we needed of them. The parks were full of men, but they refused work, no matter what wages were paid. Those we did get worked from two to four days, when they considered they had a sufficient stake and would walk off, leaving one or two teams idle. This meant a good part of another day of my husband's time lost going to town to hunt up more men. One man we brought out was a city boy. He smoked cigarettes, as did all the men. A creek runs through the place and has a small trickle of water in it at that time of year. This boy threw his cigarette at the water and never looked to see where it landed, which happened to be in the dry broncho grass on the bank. Fortunately the wind was not from the right quarter or the fire thus started would have burned over two sections of dry wild feed and stubble. As it was, it destroyed about five acres of feed, part of a big bridge, and cost us the wages of six men for a quarter of a day fighting it.

SOME CONCLUSIONS.

This spring we headed our crop with one wagon because we could not hire a second man capable of handling four lines and keeping the wagon under the spout a reasonable majority of the time. Our experience has demonstrated to us that not only is ranch labor of any kind scarce, but that skilled ranch labor is almost impossible to get. A man cannot drive a header wagon, nor milk cows, nor build a proper hay stack, nor drive eight or ten mules, without experience, and at the present wage scale no farmer can afford to take a green "hand" and teach him, even if he could. Farm laborers cannot expect to gain their experience to the tune of $2.50 or $3 per day and board. City labor, therefore, will not fill the bill.—Farmer's Wife, Visalia.

Wants State Supervision of Butterfat Testing.

To the Editor: I have noted since subscribing to your paper quite a number of suggestions in regard to the conditions of the dairy business. But I think there is one vital thing that has been overlooked—that is the testing for butterfat. This seems to me to be entirely in the hands of the creameries, and the producer has no recourse against possible dishonesty in this line. Now, should a firm maintain a dishonest scale, that is a criminal offense; but they can employ a man to do the testing who takes care of their interest to the loss of the producer. This has been forced on our attention rather forcibly since the change in the ownership of a local creamery. In my own case a difference of 9 per cent from the test of the former man who had been in employment nine years to my knowledge. I think they did not hand it to anyone quite as hard as they did to me—but there is a kick all along the line. If it is necessary that the testing outfit must be in conformity with the State law and stamped to that effect, why not have the tester under State control and give it to him the way you would any common thief if he is caught? I think every farmer in the dairy business would gladly welcome a square, honest test, guaranteed by the State. I hope this may catch the eye of some of our law makers that will be able to frame a relief for this condition.—W. F. S., Bonsall.

The level of prices paid producers of the United States for the principal crops decreased about 9 per cent during August; in the past nine years the price level decreased about 0.7 per cent during August. On September 1 the index figure of prices was about 73.1 per cent higher than a year ago, 111 per cent higher than two years ago, and 101 per cent higher than the average of the past nine years on September 1.

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Sacrifice of Poultry Stock in California

[Written for Pacific Rural Press.]

Are poultrymen really selling their laying stock or their heavy breeds shorter than normal? How is the present pullet crop? What demand is there now for baby chicks? Why are conditions as they are? Answers to these questions in the notes below cover the principal poultry sections of the State. The time to produce eggs is when others are not. The time to begin getting ready for scarcity is right now.

Southern San Joaquin Valley.

[By Secretary I. N. Foss, Tulare Co-operative Poultry Association.]

I am glad to have an opportunity to send out a word of cheer and encouragement through your columns to the poultry people of the State. With the hen keepers in this section it is all bright skies as to the present and the future. It is true that we have had a few who have been troubled with cold feet and quit, but this is the regular thing at all times and in all vocations. However, more new ones have gone into the business and more old ones enlarged their plants and stocks than would be required to offset the few who have quit. Tulare has become one of the poultry centers of the State. During the past season the output of this section has been forty to fifty thousand dollars per month for eggs alone. Despite the heavy culling of stock, there is a tremendous increase in the number of laying hens in this section. Nearly double the usual number of baby chicks were grown last season, and I am safe in saying that we have two pullets about ready for business where at this time last year we had one. During the past two months the Tulare Poultry Association's output of eggs has fallen off a little from the same period last year, which fact, however, does not prove a shrinkage in the number of laying hens in this section. The shrinkage is explained by the fact that a large San Francisco concern has located an egg and poultry packing plant in this city and through its offering of high prices for eggs direct from the ranches has diverted a considerable quantity of the section's eggs. There is no question but that the production of eggs in this section is far greater than for any like period in the history of the place.

The poultry people here are turning their attention more and more to the keeping of the general purpose breeds and the production of winter eggs and the highest grade of poultry for meat purposes. To illustrate this point, out of the dozens of orders we have handled this fall for baby chicks, there has been but an occasional one for Leghorns, or any of the light breeds. Judging from the baby chick business here, both for last spring and at present, it will soon be a Rhode Island Red section. Today, wherever we are getting a good production of eggs, in most cases inquiry reveals that these parties are keeping the Reds.

Our people here have had no panic over the feed question, and whatever feelings of fear may have been entertained earlier in the season, they are now thrown aside for all time. Tulare is a dairying, alfalfa-producing and grain-growing section of the Valley. Many of the people grow their own feed. Those who do not are now assured of a year's supply of corn at $2.50 to $2.75 per hundred. The last year's supply of corn averaged around $2. It will thus be seen that the average advance in eggs at the present market quotations more than offsets the advance in the price of feeds.

Sacramento Valley.

[By Morris Brooke, Sacramento.]

In my opinion, the pullet crop in the Sacramento Valley is some fifteen to twenty-five per cent short of last year among the larger breeders, who generally carry from 1000 hens up. The reason is very apparent. In the first place, on account of the excessively high price of feed the larger producers have found that it is very difficult to make ends meet. Then, again, the producer who has more than he can take care of himself and who is compelled to hire labor has very unusual conditions to meet, as the able-bodied man he could formerly get to work on the chicken ranch has either gone to war or has been able to get a job at better wages than a chicken man can afford to pay and also get work that is more to his liking. The average laborer does not like working on a poultry farm, and is sure to seek other fields when better financial inducement is offered.

There has been unquestionably a considerable increase in small flocks. There are probably fifty per cent more pullets this fall with the small farmer, the back-lot farmer and the farmer who wants a bunch for his barnyard; so take it all in all I believe there are more pullets in the Sacramento Valley this year than last year. Old hens have been culled down very, very close, and I don't believe there are within fifty per cent as many old hens being carried over this year as in former years. The price has been very attractive in the last month, and I have noticed that people have been bringing hens to the market that, under ordinary conditions, they would not think of selling.

This is about the situation as I have observed it in going over the Sacramento Valley. One of the biggest grocery stores in Chico told me recently that they were not getting in half the eggs that they were a year ago at this time. I give as a reason the fact that the poultrymen in the Chico district do not have many more than half as many hens as they had a year ago, and I think you will find just about the same situation all over the valley.

Petaluma District.

[By Geo. P. McNear.]

Our hatcheries usually do a large business in the fall of the year, but this year there is almost nothing doing, which will make a shortage in young stock next spring. The usual number of pullets were not raised this year, on account of the high prices of feed, although we advised all our customers in the spring to raise pullets. There has been a large decrease in the number of hens—in fact, we estimate a shortage of about one-third. After the laying season was over, many sold the old hens rather than keep them for several months, for the cost of the feed during that time would be more than the value of the hen. We estimate that it costs about 20 cents per hen per month for feed, and in two and a half to three months the hen eats her value. Many of our poultrymen have gone out of the business, on account of the high prices, and others have reduced their flocks. The shortage will be felt next spring in the output of eggs.

Southern California.

There has been a heavy slaughter of laying hens in Southern California, according to President M. A. Schofield of the Poultrymen's Co-operative Association of Los Angeles. This has amounted to about 15 per cent more than normal near Los Angeles; up to 40 per cent in San Bernardino and neighboring counties; and 50 per cent around San Diego. The pullet crop is about 15 per cent short, but even at that the demand this fall for the 15,000 baby Leghorns on the Schofield-Olsen Pullet Ranch at Van Nuys is less than in previous years.

A U. S. Department of Agriculture investigator has been studying conditions with relation to the request of cooperative association officers and poultrymen that the Government set a minimum price on eggs to be effective next spring, in order to remove present fear and uncertainty which is preventing producers from stocking up adequately. Last spring eggs were for a short time at 23½ cents, and every season, about the end of February and early in March, just before storage season opens, eggs are at the mercy of the distributers. Some people are recommending a minimum spring price of 33 cents per dozen on case count, while others recommend 36 cents minimum for extras.

"There is no question," says Mr. Schofield, "but that heavy breeds have been sacrificed more than layers. Fifty to 60 per cent of the poultry in Southern California previous to the panic among poultrymen this year were of the heavy breeds, mostly carried by people with small flocks. In the sale of baby chicks, orders for heavy breeds are largely in box lots, while orders for Leghorns are for thousands in each lot. During the past season the 'back yards' have disposed of more than the big ranches, very few of which have sold out entirely."

Northern San Joaquin Valley.

[By W. E. Bridegroom, Turlock.]

As for the poultry interest in the San Joaquin Valley, it is a fact that poultrymen have found it unprofitable to feed such stock as they have at a profit. They did not seem to notice the loss when feed was cheap. As the feed advanced they discovered that their stock was not paying. The first thought, then, was to sell, which they did. Why they did not pay was in many cases lack of feed and care.

Very few of our poultrymen have suitable houses; hence the trade winds we have here cause our chickens to have diphtheretic roup. With the present price of feed, quite a number will not put in a supply of baby chicks this season, unless the price of eggs advances and feed gets cheaper.

When our poultrymen get wise and build proper houses and give proper care and feed properly, then cull their stock as they should, they can make good profits.

I am very glad to state that we are getting quite a number lined up all along the line of proper housing, feeding and care, and those who are lined up are well pleased. I will be very much surprised if we do not find many more who will line up this season.

I have been teaching close culling for the past three years and find many are practicing it with profit.

USUAL SUPPLY OF THANKSGIVING TURKEYS IN SIGHT.

Summarizing the local situation as to the prospective holiday trade in turkeys, a Merced exchange says that the great American bird will be in normal supply, inasmuch as the turkey is essentially a range feeder, requiring grain in quantity only within two weeks of fattening time. A high-price market is anticipated, however, in view of the thinning out of the chicken population forced upon poultry raisers by abnormal feed prices. A forecast of 32c is made for dressed and 25c for live turkeys.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

SEASONABLE SUGGESTIONS.

"Coming events cast their shadows before." And right now you are either feeding your stock for winter egg production, or you are going to be one of those who go out and look into nests that are empty for a good many days during the winter months. Cull out all the old stock you intend to dispose of, as quick as they slack up in their laying. This serves several good purposes—it saves the feed bill on the dead-heads and leaves more for the layers and the coming-on pullets, besides saving labor and room that can be given to the ones that are paying for it.

HOW TO FEED.

For molting hens that you are keeping over, you can't be too generous with the ration, which should be rich in feather-making material,

Poultry Breeders' Directory

Rates in this directory, 3c per word each issue.

OUR GEESE AND BRONZE TURKEYS win again; champion sweepstakes special for the best pair of birds in show; for size, vigor and quick maturity, ours are best East or West; stock and eggs in season; also Collie Pups; correspondence solicited. John G. Mee, St. Helena, Cal.

HENRY SHARP'S WHITE LEGHORNS win at State Fair 1st, 2nd, and 3rd on cockerel; 1-2-3 on pullets; 1st cock; 1st pen and special for 2nd best pen in show. Route 1, box 187, Selma, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

DON'T QUIT — We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

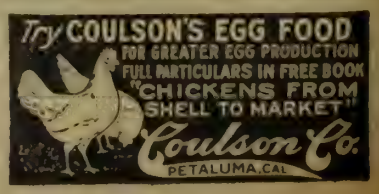
S. C. RHODE ISLAND REDS—220-egg record, bred from big show winners; breeding pens, cockerels and pullets. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; fall chicks; eggs; cockerels. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal.

MAMMOTH BRONZE TURKEY HENS—Two years old, $5 each. Toulouse geese, $3 to $5 each. Mrs. Coghlan, Walnut Creek, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.



and generous enough to supply the elements for eggs and feathers both. Good hens, if fed properly, won't stop laying until the molt is well advanced, but no hen will lay unless supplied with material. Keep both pullets and hens right up to the notch by feeding an abundance of green feed, beets, sprouted oats and barley, some oil cake meal or flax seeds, and a little more meat, if they are not already receiving a liberal allowance of meat, and you will be repaid. Plenty of green feed is a fine tonic for old and young and a great saving to the feed bill.

GET RID OF VERMIN.

This is just as important as the feeding—indeed, it is more so, because there are tons of good feed given to hens that only serve to keep them alive for vermin to prey on. Lice on chickens are what the idle rich are on the body politic—just "parasites." They live without ever making any returns to anybody or anything.

TICKS AND FLEAS.

To the Editor: Please advise me how to rid my chickens of ticks and fleas. How do they originate?—Mrs. J. E. G., Arlington.

I don't know where ticks and fleas originated, but I know that they breed and harbor in filth of all kinds. Ticks usually hide behind boards during the day, sallying forth at night to prey on the chickens. They can get on chickens in one night and often kill some, too, if the ticks are very hungry. Ticks are very hard to manage. Spray your houses with some strong compound. Crude oil and crude carbolic is good at the rate of one quart of carbolic to one gallon crude oil or distillate. Or some good sheep dip will do the work; but you will have to get up early in the morning to catch them. Dip your hens in a solution of Pearson's Creolin, one teaspoonful Creolin to a quart of water. This is safe for the hen, but death to flea and tick. Put hens out in strong sunshine to dry.

TOMATOES BAD FOR FOWL.

To the Editor: I have a dozen six-months-old pullets, most of which have not been laying for some time. They have been eating tomatoes, which my neighbors say is bad for laying hens. They say the pullets are ruined for life. What do you think about it?—F. P. C., Sunnyvale.

If these pullets have been fed too many tomatoes, the acid in them would naturally prevent, or even stop them from laying, but it is foolish to say it will ruin them forever. Just change the feed and they will show your neighbors that they are wrong. Pullets at six months need a good egg-laying ration, one with some animal food in, such as Croley's mash, and they will quickly respond.

SCALY LEG.

To the Editor: Please give me information on the following: We have turkeys whose legs have become covered with a heavy scale, which they seem to pick until legs become raw and bleeding.—W. E. B., Bakersfield.

This is scaly leg. Dip the legs in crude oil or some good sheep dip. Do it several times, and when you have it about killed rub the legs with bacon fat and sulphur mixed together. Clean up your coops. This is a parasite disease and comes from dirty coops and grounds.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

SELECTING A POULTRY PLANT.

This is generally the season when we make changes in our poultry plant. Yards are not conveniently laid out, a house is built in the wrong place, or the wrong kind of house was put up. Your poultry house must be built according to climatic conditions. A house erected according to New York plans will not be satisfactory in California, for several reasons. First, the climate in the East is severe, while ours is mild and temperate.

LOCATION.

Factors influencing the determination of the final choice are: Price of land; the best land is not necessary to successful poultry culture; the droppings will soon improve impoverished soil. Location of markets; some of the best poultry sections climatically and in soil conditions are too far from the best markets; the express and freight rates may be too high. One of the advantages of Petaluma is the low express and freight rates that prevail. A river steamer makes regular trips to San Francisco. Sometimes a point a few miles up the railroad will have double the freight rates of a point near a natural waterway.

Avoid, if possible, heavy clay soil. Catarrh, roup, rheumatism and tuberculosis prevail where drainage is poor. Ideal conditions are sandy loam and an even rainfall throughout the year, an even temperature of 80 degrees and little wind, with good air drainage. A poultry farm on bumpy roads in summer and impossible in winter are fatal to success. A broken egg as a result of a jolt will soil several dozen and lessen the value of the whole case.

Last, but not least, neighbors, do not settle where you must keep one eye on the neighbors and the other on the hens. A lock-and-keyless neighborhood would be the happy medium.

SIZE OF PLANT.

Four hundred fowls to the acre, allowing 100 square feet per fowl, is really necessary. In the city of Sacramento is a concern maintaining 1400 fowls on three-quarters of an acre, the fowls being allowed to run outside the scratching pens only once a week. The Oregon Experiment Station advocates 100 fowls in a yard 20 x 100. The more fowls are concentrated in a small space, however, greater care is necessary in these cases to keep down disease. The Petaluma district, according to the Davis Farm, is bothered very much with worms, the worm eggs being in the soil. One man can properly care for from 2000 to 2500 fowl, providing an extra man is hired during the brooding season.

ALTERNATE YARDS.

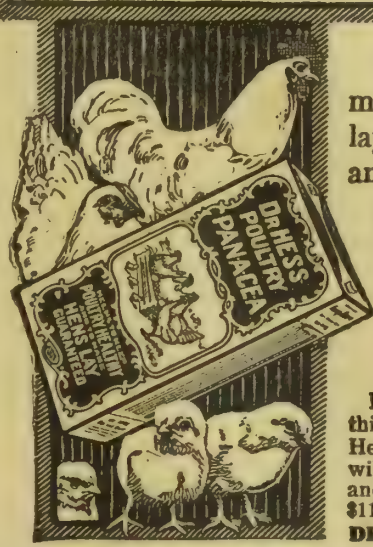
Alternate yards are advocated by all practical poultrymen. Frequent cultivation and the growing of green stuff tend to kill the eggs and larvae of obnoxious bugs and insects. With the alternate yard system, one field may be utilized as a run, while another is sown to barley or a similar crop, the fowls being turned into a second yard when the plants have attained a height of perhaps eight inches.

LAYING OUT THE YARDS.

There are numerous ways of laying out the different buildings and yards. The idea should be, however, to reduce the labor item as far as possible by eliminating duplication and unnecessary walking. For instance, a field may be subdivided into a number of smaller pieces, in the center of each being a colony house. Considerable walking would be saved by making the number of strips long and narrow with a road running down the center and houses on either side of the road. Grouping of the houses of adjoining pens would eliminate side wall. By enlarging the run per unit the number of houses may be reduced to four, two, or even one. Any one of these methods lies open to the poultryman, but for laying stock the long house, subdivided into the pens holding the unit flock, seems to give most satisfaction. For breeding stock and for young stock, the colony houses give fairly good satisfaction.

Remove chicks whose toes have been picked from the rest of the flock. Dip their feet in iodine and keep them isolated until the smell of blood has disappeared. Feed the flock raw meat, raw fish or ground bone.

DR. HESS POULTRY PAN-A-CE-A



Hens are coming out of the moult—now for a long season's laying. Start your moulted hens and pullets right.

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Dr. Hess Poultry Pan-a-ce-a will do these things to your satisfaction. That is the Dr. Hess guarantee. If it does not, the dealer will refund your money. Packages, 25c, 50c and $1.00. 25-lb. pail, $3.00; 100-lb. drum, $11.00.

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BESGRADE POULTRY MASH

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There is a reason why it pays (dollars and cents) to use it.

Do not be penny wise and dollar foolish. Give your hens a Mash that contains pure beef scraps and pure materials; a mash that you can depend on to maintain a uniform, standard quality.

This Mash is "BESGRADE." You cannot help but get eggs and lots of 'em.

Your dealers or Ninth and Alameda, Los Angeles, Cal.

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Science Says Buttermilk

Bulletin 162, just issued by the Department of Agriculture, states that Buttermilk is the only preventative of White Diarrhoea. It has been proven that many birds apparently in perfect health have these germs in their system and that they are transmittable to their progeny. Science has discovered that the Lactic Acid Bacilli of Buttermilk kills these poison germs. Write to Berkeley for this important bulletin, free.

The Dry Buttermilk in GLOBE A-1 BUTTERMILK MASH contains 10,000 live Lactic Acid Bacteria to the cubic centimeter.

Globe A-1 Buttermilk Mash is a high protein feed, free from any filler.

Globe A-1 Buttermilk Mash will prevent bowel troubles, keep your flock in glowing health, produce more eggs to market, better eggs to hatch.

Costs no more than non-buttermilk mash.

Satisfaction or Money Back.

GLOBE MILLS, LOS ANGELES

Write at once for valuable feeding information and sample, free.

Buttermilk GLOBE A-1 Dry Mash

Mrs. Best's Letter.

KNITTING BAGS AND NEEDLES.

My Dear Friends: Next in importance to the knitting that everyone is doing now is the knitting bag. Everyone is carrying them almost everywhere they go, and the gayer they are the better style they seem to be.

All the shops show them, but you can buy material and make your own just as well. The most popular and least expensive are made of cretonne in gay colors, and these are usually unlined. The shifu cloth that can be purchased at the Japanese stores, commonly called Japanese calico, makes very pretty bags, but as it is more sober in coloring a bright lining or gay tassels are almost necessary to get a good effect. That is only 65 cents a yard.

The wool challis in striking colors is very popular now for bags, and when lined with a contrasting color is a joy to behold. I saw one on the street the other day of brilliant scarlet with peacock design in natural colors, carried by a woman in a severely tailored blue suit with black hat and the effect was very good.

There seems to be only one somber bag that is good style and that is the bag made of patent leather. It looks like a magnified shopping bag, but would no doubt appeal to older women more than the gay ones for street use. It may be this knitting craze will bring back to popularity the old Boston bag made of leather that was so popular at one time.

Bags of silk can be made either from silk wide enough for the bag or from ribbon joined together. The rods for the bags come with fancy knobs in colors or natural woods.

MONOGRAMMED NEEDLES.

The newest thing in knitting needles are those with silver or enameled ends. The silver ends may have the monogram placed upon them.

One of the stores had this week a window display of what were termed garden smocks, and they were most attractive for informal wear. They were shown in soft shades of cream, rose and old blue. Some of them were embroidered in wool in bright colors, and they all had belts and turnover collars of white or a pleasing contrast.

END-OF-THE-SEASON SALES.

One of the best stores is having an end-of-the-season sale on refrigerators. They have several good makes, both large and small, and the reductions are generous enough to justify one buying for another season if there is a need. This same store has a reduction sale on porch furniture as well. This includes chairs, both rockers and straight, tables and stands suitable for use on a porch or in a garden.

Those of you who have no cedar chests or closets will be glad to learn that you can buy small pillows made of cedar shavings covered with cretonne at the furniture stores. These pillows are made with a loop so they can be hung up if desired.

COLLAR AND CUFF SETS.

Many new designs in collar and cuff sets for the one-piece dress and tailor suit are shown, one of the newest being made of satin or corded silk. These come in all the fashionable styles — shawl, long rever, sailor, roll and round—and are attractively priced from $1.00 up.

ROSABELLA BEST.

THE HOME CIRCLE

REMOVING STAINS.

To give clothes a longer period of service and to conserve garments which may appear to be hopelessly stained, is the duty of every thrifty housewife. To aid her, the U. S. Department of Agriculture at Washington, D. C., has issued a new publication, known as Farmers' Bulletin 861, which will be furnished free on application. This contains information as to fabrics and the effect of certain substances upon them. Some stain removers may be very satisfactory, used on cotton or linen, but if used on wool or silk, will remove pieces of the fabric as well as the stain. Similarly, treatment which will remove some stains immediately will cause those of a different nature to take firmer hold on the fabric.

The second important principle in spot removing is to work while the stain is fresh. Cold water is the safest remedy to use first, if the article will not be spoiled by water. Hot water will set stains from meat, blood, egg or milk. There are many chemicals, as oxalic acid, ammonia water, and the like, that may be used successfully, if the right one is used at the right time.

SCALLOPED FISH AND HOMINY.

Place in a baking dish alternate layers of boiled or steamed hominy (hulled corn), seasoned to taste, and minced fish with a white sauce over all. Have a layer of fish on top and sprinkle over it bread crumbs. Place in oven to heat thoroughly and brown. Rice, macaroni or potatoes may be used in place of the hominy.

USE OF WASHING SODA.

Washing soda has a very proper place in the household, although it should not be used for laundry purposes if the life of the wearing apparel is considered.

Used regularly in the kitchen sink it will reduce the annoyances of stoppages by keeping the pipes free from grease. By way of prevention, it is a good plan to pour boiling water and washing soda down the pipes at least once a week.

In keeping the kitchen utensils clean and bright, nothing is better than washing soda, if care is taken to keep the hands out of it. Use a large kettleful of water to which is added three or four tablespoons of washing soda. Drop in the utensils that need cleansing and after they have boiled five or ten minutes lift out with a wooden paddle, rinse in clear water and they will be perfectly clean. Then boil the dish mop, sink brush and strainer. This is more effective than scouring.

THRIFT THOUGHT.

If you have left-over cereal mush from breakfast and scraps of meat, combine them and make an appetizing supper dish. Put alternate layers of cold cereal (mashed into fragments) and minced left-over meat into a baking dish. Make the top layer of minced meat and bread crumbs. Pour over gravy or milk to moisten. Place in oven until heated through and brown on top.

ORIGINAL "HOOVER" RECIPE.

The following recipe for breakfast mush is furnished by Alfred Guillon of Windsor: One cup of yellow corn meal, ¼ cup of Germea or Cream of Wheat; mix dry, stir into 1 quart boiling salted water. Cook in double boiler 45 minutes, the night before if preferred. Does not lump.

A Wonderful Kitty

Winifred Arnold.

My Uncle Jim is a terrible tease,
And he laughs at my kitty, Fluff,
And calls her "a common, or garden, cat"—
(Now what do you s'pose that he means by that?)—
And makes believe she's a muff!

And even mother can't quite believe
That Fluffy would win a prize
In a great big show. But I do—yes, sir;
And I'm sure you'd think so if you knew her,
She has such wonderful eyes!

To begin with: first, they were shut up tight
When she came to our house, brand-new;
And then when I thought they were shut to stay
They opened up like a bud one day—
Oh, the sweetest shade of blue!

And then they changed to yellow and green,
And now some days they are black,
When the slit swells out to a great round O,
And her tail grows big, and she spits, you know,
At Fido, and hoops her back.

But that's not all that that cat can do:
When the lamps are lit at night,
In the pitch-black dark she can light her eyes!
My Uncle Jim just gasped with surprise
When I showed him; they shone so bright!

So do you think it is fair to call
A kitten that does all that,
And can see in the dark, and sparkle her fur—
A wonderful, int'resting kitty like her—
Just "a common, or garden, cat"?

CANADIAN WAR-CAKE.

No recipe has been more popular than the one for Canadian war-cake. Many people like this plain cake better than the cakes that call for butter, eggs and milk: 2 cups of brown sugar, 2 cups of hot water, 4 tablespoons of lard, 1 teaspoon of salt, 1 teaspoon of ground cinnamon, 1 teaspoon of ground cloves, 1 cup of raisins. Boil all these ingredients for five minutes after they begin bubbling. When cold, add 3 cups of flour and 2 teaspoons of soda dissolved in 1 teaspoon of hot water. Bake in two loaves in slow oven an hour and a quarter.

NEW BREAKFAST FOOD.

A new corn breakfast food which can be canned at home for future use is made from ordinary field corn when it is between the milk and dough stage and comes from the can in a solid mass that can be sliced and prepared in a number of appetizing forms. To prepare, select the corn and can the same day if possible. Blanch the ears in boiling water or live steam for 10 minutes. Dip quickly in cold water and cut the corn from the cob with a sharp thin-bladed knife. Put the corn through a meat grinder and grind to a pulp. Cook this product in a kettle, adding 1 level teaspoon of salt to each quart, a little butter and sweeten a trifle with sugar until it is a paste-like mass. Then pack in wide-mouthed glass or tin jars to within ¼ inch of the top. Seal jars with rubber and cap and seal tin cans completely. Place in wash boiler and sterilize for 3 hours. To use, remove from jar and slice into uniform slices; fry in fat in frying pan or bake in the oven, serving hot with sauce, gravy, syrup or cream and sugar.

A GARBAGELESS MEAL.

In the interests of food conservation it has been urged that housekeepers plan, in addition to wheatless and meatless meals, a garbageless meal.

The planning of such a meal would furnish the finest kind of mental exercise, as waste must be eliminated and the correct quantity of the food chosen with precision. Such a meal might consist of soup, lettuce salad with French dressing, boiled beef, eggplant fried in batter, steamed rice or baked potatoes with fresh fruit for dessert.

The subject of food conservation is presented to housekeepers on every hand, and while it appears to be a war emergency demand it has always been practiced by the thrifty housewife. All that is asked is that food materials should be served in a nutritious, appetizing way without too great expense.

DRY BREAD MADE APPETIZING.

Waste no dry bread. Cut it in thin slices and toast it. Crisp toast is appetizing with almost any breakfast drink.

Cut dry portions of loaves into cubes about three-fourths of an inch square, put in a shallow pan and toast in the oven to a golden brown. Serve for use in soup.

Revive the old-fashioned dish of bread and milk—an excellent use for dry bread. Make into bread pudding, using raisins liberally to give flavor and make the dish more attractive and nourishing. Or break up the dry bread into small pieces and crush with a rolling pin, saving the bread crumbs for future use in the place of flour. A covered glass jar is a convenient receptacle for storing them.

FRIED MACARONI.

Parboil potatoes, dice or slice thin. Fry an onion light brown in butter, add equal parts potatoes and cooked macaroni, salt and pepper to taste, turn a plate over closely, fry brown, turn with pancake turner, fry other side, add ½ cup creamy milk, cover close again and steam a few minutes before serving.

Good Health.

[By H. E. Pastor, M. D.]

Criticising a Ruling Passion.

It is never safe to criticise a popular vice if you value the personal comfort which the serenity that freedom from fault-finding bestows. Discreetly or indiscreetly, we undertook last week to stem the tide of misdirected sentiment which found expression in a hysterical crusade to raise funds to buy some shiploads of tobacco for "our boys in France." The morning following the appearance of the issue of the Rural Press containing this item we found on our desk a two-column article, laid there presumably by some dissenting critic as a protest against the views therein expressed. If tobacco be a human necessity, as the writer of that clipping contended, it seems strange that its use calls for a two-column apology. The fact that the human race got along very nicely without tobacco altogether up to a few hundred years ago is a sufficient answer to the necessity plea. While it is true that many tobacco users go through life without suffering serious consequences, it is also true that many young men, and elderly men, too, have their physical and mental powers seriously impaired by the chronic saturation of their systems with nicotine poison. It is useless to prolong argument on a subject of this kind, however, for, as we all know, "a man convinced against his will is of the same opinion still."

Grapes as Food and Medicine.

As this is the grape harvest season, it is but natural that attention should be called to the wholesomeness of the grape, both as a food and as a remedial agent. Grape juice ranks high in food value and should be used more generally than it is in grape-growing California. From the nutritive standpoint it compares very favorably with other foods, both in quality of nourishment furnished and in comparative cost. The grape cure is much in vogue in Europe. It is resorted to in cases of diarrhoea and dysentery which will not yield readily to other forms of treatment. It is said to be of service also in those forms of systemic depravation spoken of by the medical profession as dyscrasiae, of which "consumption," scrofula and skin diseases are examples. In beginning this grape-cure treatment it is customary to start with about a pound a day, increasing the quantity progressively until about five, six or seven pounds are taken. As there is in grapes a deficiency of nitrogenous matter for the needs of the human organism, it is customary to add some bread and butter to the bill of fare.

Anthrax a Real Menace to Man.

Last week we made mention of anthrax as being communicable to human beings. Since writing that item we learn that several deaths have occurred among the ten or twelve patients who have been unfortunate enough to contract this somewhat uncommon disease. The last victim, a ranch hand, is believed to have become infected with the anthrax germ through the bite of a fly or mosquito. Most of these cases, however, have been traced to carelessness on the part of the person stripping the skin off animals which have died of this disease. During the prevailing epidemic, which is unusually widespread and virulent in its character, too much caution cannot be exercised by those living in the plague-stricken districts.

What Are Adenoids?

Adenoids are soft, fleshy growths in the vault or upper part of the naso-pharynx and interfere more or less seriously with the breathing. Removal is the only remedy.

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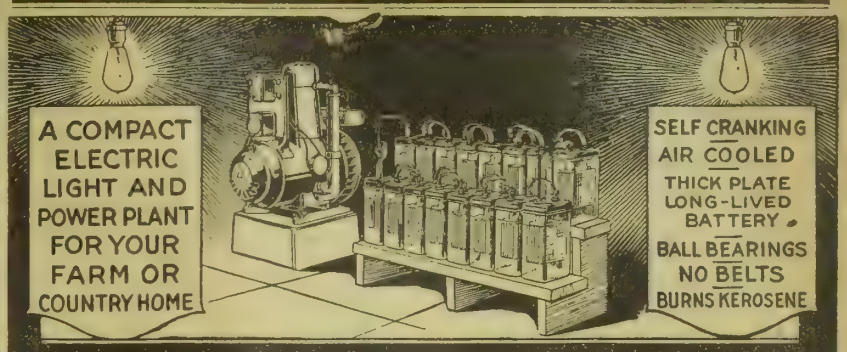

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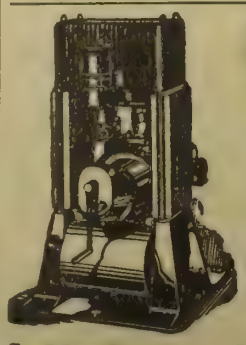
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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, October 10, 1917.

WHEAT.

According to the new rules, there are no call board meetings on wheat in San Francisco. Notwithstanding the Government prices established for this market, the following quotations record actual sales made on the street.

Sonora wheat	$3.80
Northern Club	3.85
California Club	3.90
Northern Bluestem	$4.10@4.15
Northern Red	None offering
Russian Red	None offering

BARLEY.

The market has a speculative tinge to it and there is little doing in spot stocks. Receipts are light and the few transactions have had no effect on prices, which remain firm.

Shipping, per ctl	$2.60@2.65
Brewing	2.60@2.65
Choice feed, per ctl	2.50@2.55

OATS.

Stocks of black oats coming in are of such inferior quality that they have declined in value. In almost all lines the incoming stocks need recleaning. The oat market seems to be affected by the general dullness pervading all grain markets, but no disposition to recede from quoted prices.

White Feed, per ctl	None offering
Red Feed, per ctl	$2.65@2.90
Red Seed, per ctl	3.25@3.50
Black Oats	3.00@3.50

BEANS.

New crop beans are now well established on the market and some heavy buying has taken place, which has advanced prices sharply on nearly all lines. Experts estimate this season's bean yield as falling very little short of 5,000,000 centals.

Bayos, per ctl	$ 9.00@ 9.25
Blackeyes	8.00@ 8.50
Cranberry beans	11.00@11.50
Horse beans	4.00@ 4.50
Small whites (south)	13.00@13.25
Large whites	12.00@12.25
Limas (south, recleaned)	
Pinks	10.25@10.50
Red kidneys	10.50@11.00
Mexican reds	9.00@ 9.25
Tepary beans	None offered
Garbanzos	$6.50@7.00

CORN.

Offerings of Eastern Yellow are again on the market, although stocks in sight are limited. Only samples of Milo maize and Egyptian corn are on the market, and there are no available stocks. Some of the California corn arriving is of poor quality.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	$3.00@3.25
California, sacked	4.00@4.25
Milo maize	None offering
Egyptian	None offering

HAY.

Receipts of hay aggregated only 1,102 tons this week, a falling off from the previous week's receipts of over 1,000 tons. The continued car shortage is responsible for more hay not being shipped to this market. Only gondola cars are available for shippers and a shipper takes chances on the weather holding good while the hay is in transit. The light receipts have had the effect of maintaining prices, as the demand is weak in this city and any heavy arrivals would undoubtedly force down values. Arrivals of alfalfa from river districts have been fairly numerous, with a good demand. Straw is offering from all sections and is weaker.

Wheat, No. 1	$20.00@22.00
No. 2	17.00@19.00
Tame oats	20.00@22.00
Wild oats	17.00@20.00
Barley	17.00@20.00
Alfalfa, new, first cut	17.00@20.00
Stock hay, new	15.00@17.50
Straw, per bale	50@90c

FEEDSTUFFS.

Demand for feedstuffs is checked by the high prices, and stocks are not moving. Holders, however, are very unyielding and are not inclined to let go at lower figures.

(Per ton, San Francisco.)

Beet pulp, per ton	None offering
Alfalfa meal, per ton	$28.00@31.00
Bran, per ton	41.00@42.00
Oilcake	None offering
Coconut cake or meal	40.00@41.00
Cracked corn	84.00@85.00
Middlings	52.00@55.00
Rolled barley	54.00@55.00
Tankage	None offered
Rolled oats	59.00@60.00
Rice middlings	None offered
Rice bran	32.00@35.00
Shorts	45.00@47.00

POTATOES, ONIONS, ETC.

Some Hubbard squash is offering, but not in large quantities. Summer squash is a little scarcer and higher. Tomatoes are being taken readily by the canners and supplies sent to this market are dropping off somewhat. The supply now about equals demand. River potatoes have dropped sharply, and this decline is attributed to the fact of the cheaper stocks of Idaho and Colorado capturing the California shipping trade. Speculators are buying onions freely and the amount of onions already in the storehouses is very large. Heavy Eastern buying of garlic has caused it to advance again.

Asparagus	None
Peas, per lb	4@4½c
String beans, per lb	3@5c
Wax beans, per lb	2@4c
Hubbard squash, per 100 lbs	$1.50
Summer squash, per box	75c@$1.25
Cucumbers, per box	50@85c
Celery, per lug	Nominal
Tomatoes, per lug box	75c@$1.25
Potatoes, Salinas	$3.00@3.25
Idahos	1.85@2.25
Oregon	None
New Rivers, per ctl	1.50@2.00
Sweets, per lb	2½@3c
Onions, yellow, per sack	$2.25@2.50
Reds	None offering
Garlic, per lb	6@6½c

POULTRY.

There has been no recession in values of any line, excepting turkeys, which have declined 4c. Domestic requirements seem able to absorb supplies so evenly that the arrival of a car of Eastern stock had no downward effect on prices. Belgian hares are reported by dealers to be scarce and in demand.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb., young	26@28c
do, dressed, old	None offering
Broilers, 1½ to 2 lbs.	30@32c
do, 1¼ lbs.	30@32c
do, under 1¼ lb	32@35c
Fryers	28@30c
Hens, extra, per lb., colored	27@28c
Small leghorn	19@21c
Smooth young roosters, per lb. (3 lbs. and over)	28c
Old roosters, per lb.	13@15c
Geese, per lb.	18c
Squabs, per doz.	$2.50@3.00
Ducks	15@18c
Old	12½c
Belgian hares (live)	15@18c
do, (dressed)	17@19c

BUTTER.

The market continues strong, with receipts about taking care of demand. No large purchases are being made by the Government and the market's strength seems a natural phase. Consumers are taking supplies readily, undeterred, apparently, by high prices. This is said to be the highest market on the Pacific Slope except Los Angeles. Seattle, a few days ago, wired for supplies which could not be obtained in this market.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	46	46	46	46	46	46
Prime 1sts	45	45	45	45	45	45

EGGS.

The 50c mark has been reached and eggs are still firm at that price. Values are likely to stay around this figure for some time, without any notable advance beyond it.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	49½	49½	50	50	50	50
Extra 1sts	49	49	49	49½	49½	49½
Extra pullets	43½	43¼	42½	43	42½	43
Extra 1st pul.	42½	42½	42	42	42	42

CHEESE.

The consistent firmness of cheese is almost surprising. Evidently domestic consumption has very materially increased during the year, for stocks seem to be absorbed all the time now.

Y. A.'s	25c
Fancy California Flats, per lb	22c
Monterey cheese	5@23c

FRESH FRUITS.

All lines are active and prices are advancing, in accordance with decreasing supplies. Plums are arriving in better supply than other lines, while figs of good quality are none too plentiful. The wide range in watermelon prices is caused by the lack of uniformity in size. They are becoming scarcer in this market and local demand is not so good now. Casabas are worth now from 75c to $1.50 a dozen, according to size.

Apples, per box	$1.00@2.00
Pears, per box	75c@$2.00
Cantaloupes, per crate	75c@$1.25
Apricots, per box	None
Peaches, per box	50c@$1.00
Nectarines	None offering
Figs, per box	75c@$1.25
Plums, crates	50c@$1.00
Watermelons, per doz	$1.50@4.00
Grapes, Malaga	None offering
do, Seedless	$1.00@1.25
do, Muscats	75c@$1.25

CITRUS FRUITS.

Grapefruit is higher, owing to a good demand and rather light receipts lately. Lemon values during the week have been maintained by the shortage of supplies and not by demand, which is slacking. Oranges are firm.

Oranges:	
Valencias, fancy	$3.25
Valencias, choice	3.00
Lemons:	
Fancy, per box	7.00
Choice	6.00
Standard	4.00
Lemonettes	4.50
Grapefruit, fancy	4.00

DRIED FRUITS.

Heavy Government buying has placed this market on a firm basis and all lines of apples are strong. No advance in prices has been made, mainly for the reason that Government purchases do not specify prices.

(Net to growers, bulk basis, f. o. b. shipping point.)

Apples, new crop	11 @12 c
Apricots, per lb	14 @16 c
Figs, black, 1917	5½@ 6 c
do, white, 1917	6½@ 7½c
Calimyrna, 1917	11 @12 c
Prunes, 4-size basis, 1917	6½@ 7 c
Prunes, 1916 basis	None
Pears	6@8c
Peaches, 1917	8@9c

BERRIES.

Stocks of berries are becoming light and a good movement has raised values on straws and blacks.

Strawberries, Banners, chest	$5.00@8.00
Longworths	None
Blackberries, per chest	$7.00@8.00
Raspberries, per chest	7.00@8.00
Gooseberries	None

HONEY.

Arrivals continue very light and prices remain very firm without change. Several cars of honey have been shipped lately from interior points to London and Glasgow.

Comb—	
Water white	14@16c
Light amber	12@14c
Amber	10@12c
Extracted—	
Water white	13@15c
Light amber	10@12c
Amber	8@10c

HOPS.

The market is dull and listless and declines have taken place owing to buyers keeping out of the market. The war tax on beer has also had a "bearing" effect on values of hops.

Baled, per lb	30@35c
do, Oregon and Washington	35@40c

RICE.

Values of California rice are held very strongly, with a good demand. Advices from the rice fields indicate a heavy crop, and the weather is most propitious for harvesting.

California No. 1 pack	$6.85
do, No. 2 pack	6.75
do, No. 3 pack	6.65
Japan, No. 1 pack	7.50
do, No. 2 pack	7.35

LOS ANGELES.

Los Angeles, October 9, 1917.

BUTTER.

A steady and rather firm market was had the past week. The consumptive demand holds up very well, notwithstanding the high prices. While the receipts were better than the same week last year, 313,000 pounds, they were not heavy. There was withdrawn from cold storage last week 4,040 pounds against 19,628 pounds the same week last year. It was a steady 46c market for extras up to Monday. An unchanged market in San Francisco and Chicago up to Monday and a decline in New York of 1½c failed to influence the market here. Tuesday the receipts were very light.

We quote:

California extra creamery	47c
Prime first	46c
First	45c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	46	46	46	46	47	47
1916—						
Extra	32	33	33	33	33	33

EGGS.

With receipts running much lighter than a year ago and San Francisco up ½c up to Monday, the market here for the same time advanced 1c on extras and 3c on case count, while pullets remained unchanged. The trade has had to draw pretty freely on cold storage to piece out with. Withdrawals from cold storage last week were 5,086 cases against 2145 cases the same week last year. Receipts by rail for the week were 508 cases. Tuesday there were very few fresh ranch eggs in, not enough to encourage trading.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	51	51	51	52	52	52
Case count	46	46	46	49	49	49
Pullets	42	42	42	42	42	42
1916—						
Case count	41	41	41	43	46	47

FRUITS.

The market firm. Peaches coming in less freely and freestone are sharply higher. Clings show no change. Figs continue steady. Grapes steady and selling fairly and pears are steady and firm. Apples are moving a little better.

We quote from growers:

Apples—	
Bellefleur, 4-tier	90@95c
do, 3½-tier	$1.00
do, 4½-tier	80@85c
Peaches—	
Freestone, local, per lug	75@90c
Clings, per lug	40@75c
Figs	50c@$1.00
Grapes—	
Malaga, per lb	2½@3c
Muscat, per lb	2½@3c
Tokay, per lb	4½@5c
Black Hamburg, per lug	70@75c
Mission, per lug	70@75c
Pears, per lb	4@4½c
Quinces, per lug	60@65c
Local apples, per lug	40@50c

VEGETABLES.

There is little change. All good fresh stuff in fair demand. Potatoes are slow sale and rather weak; so are onions. Tomatoes dull and weaker. Peas steady and firm. String beans in fair demand. Cucumbers sharply higher. Cabbage higher. Bell peppers are higher and so are Chiles. Sweet potatoes lower and slow sale. Lima beans coming less freely and higher and in fair demand.

We quote from growers:

Potatoes, Northern, per cwt	$2.00@2.25
do, local	1.90@2.10
Peas, Northern, per lb	7@7½c
Onions, Yellow Danvers, cwt	$2.00@2.25
do, Australian Browns	2.00@2.25
do, White Globe, per cwt	2.00@2.25
Garlic, per lb	3@4c
String beans, per lb	3½@5c
Tomatoes, No. 1, local, per lug	25@30c
do, No. 2	15@20c
Summer squash, per lug	40@50c
Cucumbers, per lug	70@75c
Green corn, per lug	50@55c
Cabbage, per 100 lbs	65@70c
Lima beans, per lb	4½@5c
Okra, per lb	5@6c
Bell peppers, per lug	25@30c
Chile peppers, per lb	2@2½c
Celery, per crate	$2.25@2.35
Eggplant, per lb	1@1½c

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., October 9, 1917.

There has been a slight decline in the Eastern auctions during the past week on Tokays, due principally to the fact that shipments have been heavier and in some instances the quality has been below standard and fruit arriving over ripe. Good quality, sound fruit, well colored, has been bringing top prices.

Due to the improved quality of the Malagas that have been going forward during the past ten days, they have in many instances outsold the Tokays. The demand, however, for both varieties continues active, and especially so for sound fruit.

What few cars of pears that have sold in the past week have brought as high prices as at any time during the season, but the general average will probably be below the general season's market on account of the stock being late, which has caused it to arrive over ripe.

The heavy movement of Eastern peaches is practically over and on account of the car shortage throughout the East, which prevents wholesalers from re-distributing cars to smaller markets, in a great many instances car loads, and even train loads, have been placed in cold storage to be used in re-shipping later when transportation facilities permit.

The car shortage in California has been very severe and in a great many instances has worked a hardship on the growers, and some districts are already reporting losses on account of over ripe fruit. There is little to indicate that the situation will be relieved within the next week or two and the only hope of harvesting the balance of the grape crop is open weather. Should a rain come at this time, a heavy loss would occur in most districts, as the berries are getting soft on account of the continued warm weather. A strenuous effort has been made on the part of all shippers, even going so far as to acquaint the authorities at Washington with the serious situation that confronts the growers of this State on account of the car shortage. It is appreciated that the authorities at Washington have instructed the railroads to exert every effort to compel Eastern railroads to forward as quickly as possible refrigerator cars west bound, but the railroad records show that during the past week but from 40 to 55 per cent of the shippers' orders for cars have been recognized and unless some action that will positively relieve the situation is taken shortly growers will be confronted with a very serious problem.

Following are the averages for the week:

New York: Bartlett pears, $3.20; Buerre Clairgeau, $2.53; Buerre Hardy, $2.95; Levi peaches, $1.02; Tokay grapes, $1.36; Muscat, $1.27; Black Prince, $1.35; Alicante Bouchet, $1.39; Malaga, $1.24.

Boston: Malaga grapes, $1.23; Black Prince, $1.15; Tokay, $1.22; Muscat, $1.20; Bartlett pears, $3.12; Buerre Clairgeau, $2.45.

Chicago: Malaga grapes, $1.19; Cornichon, $1.33; Tokay, $1.15; Thompson seedless, $1.28; Black Prince, $1.01; Levi peaches, $1.02.

Shipments for the week ending October 5, as follows: 5 peaches, 1 plum, 59 pears, 1,205 grapes. Total shipments for the season, 1917, 17,158 cars. Total shipments for the season, 1916, 13,918 cars.

Special Citrus Market Report

Los Angeles, Oct. 9, 1917.

Shipments of citrus fruits from last November to October 7: Oranges 39,124 cars and lemons 7,569 cars. Same time last year: Oranges 30,717 cars and lemons 6,726 cars. The Eastern markets continue to hold up for the best Valencias of popular sizes. For poor stock the market is said to be weak. Locally there is little new. Deciduous fruits and grapes continue to command most attention of buyers. Prices show no change. Local packers are still bidding 2@2½c per pound for Valencias delivered. But are only taking a few at this. Grapefruit is in little better request and bringing a little more money. Local packers bidding 2½@3c per pound delivered. Best lemons are firm, but demand only moderate. Weather against them. Local packers bidding 2½@3c per pound. At the East choice lemons continue to hold their own for best.

AUCTION SALES.

New York, Oct. 8.—Twenty cars of Valencias sold. Market is doing better on Valencias. Weather partly cloudy. Valencias averaged $1.55@5.15. Lemons, no sales.

Boston, Oct. 8.—Nine cars sold. Market steady on Valencias, strong on lemons. Valencias averaged $2.35@3.50. Lemons averaged $4.25@6.35.

Philadelphia, Oct. 8.—Seven cars sold. Market higher on Valencias and demand good at prevailing prices. Lemons lower. Valencias averaged $2.25@3.80. Lemons averaged $5.25@5.85.

Production of Lima Beans.

From reports of voluntary reporters and special inquiries concerning the bean crop, the Bureau of Crop Estimates, United States Department of Agriculture, estimates the production of lima beans in California this year at 1,552,000 sacks of 80 pounds each, equivalent to 2,069,000 bushels, the unit of measure in general use by the Bureau. Figured by counties, Los Angeles county is given credit for 198,000 sacks, Orange county 270,000 sacks, San Diego county 60,000 sacks, Santa Barbara county 72,000 sacks, and Ventura county 952,000 sacks. These figures indicate a decrease in the production of limas compared to last year, though a slightly larger acreage was planted in 1917. The decrease in average yield per acre of limas is generally attributed to the late cool spring, which prevented the crop being planted under the best possible condition, thus causing a poor root development early in the season, although the extremely high temperatures prevailing in the lima bean growing sections about the middle of June probably affected the crop to some extent.

E. E. KAUFMAN,
California Field Agent for Beans, Fruits and Nuts.

Sweet potatoes, per cwt.....2.65@2.75
Hubbard squash, per lb.....1c

MELONS.

The season is fast drawing to a close and what really good watermelons are coming in bring more money. Casabas and Honeydew melons continue in good supply, but are not moving well. Paul Rose cantaloupes are the only kind arriving in sufficient quantities to quote. They have a fair demand and bring more money.

We quote from growers:
Cantaloupes—
Paul Rose, standard crate.....$1.25@1.30
Watermelons, per lb.....1@1¼c
Casabas, per jumbo crate.....$1.00@1.50
Honeydew melons, per lb.....1@1¼c

BEANS.

A fairly active and firm market was had the past week. Notwithstanding good receipts, the trade has concluded that prices will remain up and is taking hold more willingly at full quotations.

We quote from growers:
Limas, per cwt.....$12.25
Large white, per cwt..... 12.50
Small white, per cwt..... 12.50
Pinks, per cwt..... 9.75
Blackeyes, per cwt..... 7.50
Tepary 8.00

HAY.

Prices continue steady, but supply is light owing to scarcity of cars. This is keeping prices up. Plenty of hay is said to be in the country.

F. O. B. Los Angeles:
Barley hay, ton .....$23.00@24.00
Oat hay, ton ..... 24.00@25.00
Alfalfa, northern, per ton..... 21.00@22.00
Alfalfa, local, per ton..... 21.00@23.00
Straw, ton ..... 9.00@10.00

POULTRY.

Receipts light, demand fair. Good market for everything. Turkeys are showing a little more life. We quote from growers per pound live weight:
Broilers, 1¼ to 2 lbs.....29@30c
Fryers, 2½ to 3 lbs.....27c
Hens over 4 lbs.....25c
Hens under 4 lbs.....20@22c
Ducks .....20@21c
Geese 13c
Roosters, 3 lbs. up (soft bone).....25c
Turkeys, heavy, 12 lbs. and up....29@30c
Turkeys, light .....24@25c
Squabs, live, per doz.....$3.00@4.00
Dressed ..... 3.50@4.50

WALNUTS.

The market is active and firm. The Association is shipping about ten cars a day and are loading them heavy. The trade wants good walnuts even at the high price. We quote f. o. b. California shipping points:

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.90c
Jumbo	24c	17.50c
Culls	6@12c	....

Special Livestock Market Report

San Francisco, October 10, 1917.

CATTLE.—There are a number of cattle buyers from Los Angeles and the Pacific Northwest scouring the northern part of the State for marketable cattle. This lends considerable activity to the situation. The price level has been advanced. The calf market is easy.

Grass Steers—
No. 1, weighing 900@1200 lbs...8¾@9¾c
No. 1, weighing 1200@1400 lbs.....9@9½c
Second quality .....8@9c
Thin undesirable .....6@7½c
Grass Cows and Heifers—
No. 1 .....7@9c
Second quality .....6½@7c
Common to thin .....4@5½c
Hay-fed cattle ½ to ¾c higher.
Bulls and Stags—
Good .....5¾@6c
Fair .....5@5½c
Thin .....4@5c
Calves—
Lightweight .....9@9½c
Medium .....8@9c
Heavy .....7@8c

SHEEP.—Adequate mutton sheep supplies are difficult to find, and the feed shortage avails little in forcing the growers' hands.

Lambs—
Milk .....14½@15c
Sheep—
Unshorn wethers .....10½@11½c
Unshorn ewes .....9½@10c

HOGS.—Hog values are advancing, partly in sympathy with the price rise in the Eastern market, which at this writing is easing up some, but due mainly to scarcity in the local supply. Following are today's quotations for hogs, weighed and delivered at the yards of the Western Meat Co.:
Good weights, 150 to 300 lbs.....17c
Light weights, 100 to 150 lbs.....15c
Heavy weights, 300 to 400 lbs.....16½c

A SENSATIONAL DROP IN PORK.

Chicago, October 10.—Pork dropped again today, making a total break of $2.17 a barrel in the past twenty-four hours. The prevailing belief that the Food Administration will seek to force hog prices down to $10 per cwt. is thought to be responsible for the drop.

HIDES.

There is a slight upward trend to hide values, due to a more active movement of the market, especially in heavier qualities.

Cattle:
Wet salted hides, per lb.—
Steers and cows, all weights.....17@18c
Bulls and stags.....14@15c
Kip .....20@21c
Veal and calf.....21@23c
Damaged .....6@12c
Horses:
Wet salted, skinned to hoof:
Extra large prime.....$4.00@5.00
do, medium..... 3.00@4.00
Small ..... 2.00@3.00
Colts ..... .50@1.00

Los Angeles, Oct. 9, 1917.

CATTLE—Market situation unchanged. Killers were all in the market and wanted some cattle. No urgent demand. Cattle coming in are in fair flesh.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs.....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers..... 6.50@7.00
Calves, per cwt..... 8.00@9.00

HOGS—Killers again bid prices up 50c per cwt. all round. Even this advance brought few hogs in. The high price at which pork has to be sold limits consumption.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 250@300 lbs..$13.50@14.50
Mixed, 200@250 lbs..... 15.00@16.00
Light, 175@200 lbs..... 15.00@16.00
Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—Killers bid prices up 50c to $1.00 per cwt. This, however, failed to bring more than moderate receipts. Most of the arrivals came in from Nevada and Arizona.

Per cwt. f. o. b. Los Angeles:
Prime wethers .....$ 9.50@11.00
Prime ewes ..... 10.50@11.00
Yearlings ..... 10.50@11.50
Lambs ..... 14.00@15.00

Portland, Ore., October 8, 1917.

CATTLE.—The cattle market continues steady with last week's prices in all departments. The operations in the feeder cattle department have been rather slow for the day, whereas the feeder department has been extremely active. Of the entire volume of 1500 cattle, probably 50 per cent were feeders, which changed hands at current prices. Buyers for this class have been plentiful in the yards for some time past, and many of them left without getting what they came for, so that the feeder market continues strong at this writing. Feeder cattle are by no means a drug.

Quotations: Best steers, $9.00 to $9.75; good steers, $7.50 to $8.75; good cows, $6.75 to $7.50; ordinary, $4.00 to $6.75; heifers, $7.00 to $8.00; calves, $7.00 to $9.50; bulls, $4.00 to $6.50; stockers and feeders, $4.00 to $7.25.

HOGS.—One load of hogs changed hands at $18.25, though this perhaps should not be considered characteristic of market conditions. While the top extended to $18.25, the bulk of the sales were about $17.75, with one load at $18.00.

Quotations: Prime light, $17.75 to $18.00; prime heavy, $17.50 to $17.75; bulk, $17.75; pigs, $15.50 to $17.00.

SHEEP.—Conditions continue firm in the sheep department with the volume of business somewhat smaller than the previous week. Neither packers, feeders or breeders are receiving enough sheep to meet their wants.

Quotations: Yearlings, $11.25 to $11.50; wethers, $11.00 to $11.50; ewes, $8.00 to $9.00; Western lambs, $13.50 to $14.00; Valley lambs, $12.75 to $13.50.

RICE GROWERS' ASSOCIATION FIX PRICE AT FOUR CENTS.

A minimum price of 4c a pound for No. 1 grade 1917 crop of California rice has been fixed by directors of the Pacific Rice Growers' Association, said to control between 75 and 80 per cent of the State's production, which is estimated at 2,750,000 bags for this season.

COMPARATIVE STATEMENT DECIDUOUS FRUIT SHIPMENTS.

Sacramento, Cal., October 6, 1917.

1916		1917
164	Cherries	295
289½	Apricots	403
1909½	Peaches	2428¼
1998½	Plums	2649
3645¾	Pears	4587
5782½	Grapes	6564
51½	Misc.	33
13,841¼		16,959¼

Publisher's Department.

Will subscribers, when requesting a change of address, kindly give their old, in addition to the new address?

H. C. Baum of Placerville writes: "Find check for $5 and renew my subscription for five years." This would indicate prosperity at Placerville and a brisk demand for the second liberty bonds from El Dorado county.

Mr. Jay C. Loomis, for several years a member of the editorial staff of this paper, is now associated with the Bomberger Seed Company of Modesto. The firm makes a specialty of guaranteed alfalfa and other seeds, and their announcement will be found in the advertising columns.

F. F. Britton of San Jose writes that the Rural Press has been read with interest in his home, after the hurry of the week, every Saturday evening for over forty years. He also sends us a new subscriber. May he be spared to read it 40 years more, is our wish.

Although unavoidably delayed nearly a month beyond the date we originally announced, the fourth edition of "California Vegetables in Garden and Field," by Prof. E. J. Wickson, is now ready for distribution, and those who have favored us with orders for this valuable work will have received the book ere this. The price is $2 per copy, postpaid, and the books will henceforth be mailed out the day the order is received.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of Pacific Rural Press, published weekly at San Francisco, California, for October 1, 1917. State of California, County of San Francisco—ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Frank Honeywell, who, having been duly sworn according to law, deposes and says that he is the publisher of the Pacific Rural Press, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Frank Honeywell, San Francisco, Cal.; editor, E. J. Wickson, San Francisco, Cal.; managing editor, E. J. Wickson, San Francisco, Cal.; business manager, Frank Honeywell, San Francisco, Cal.

2. That the owners are (give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock): Frank Honeywell, owner, San Francisco, Cal.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are (if there are none, so state): None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is ..... (This information is required from daily publications only.)

FRANK HONEYWELL.

Sworn to and subscribed before me this 28th day of September, 1917.
(Seal) C. B. SESSIONS,
Notary Public in and for the City and County of San Francisco, State of California.
(My commission expires May 26, 1917.)

Classified Advertisements

MISCELLANEOUS.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero St., San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

APPLES DIRECT FROM PRODUCER—Fancy Bellfleurs, $1 per box; No. 2 grade, 70c; Newton Pippins at same prices; bulk pack. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

ALL SIZES OF PIPE and screw casing, both new and second hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

SECOND-HAND PIPE—Absolutely first class. Write for prices. San Francisco Iron & Metal Co., 256 North Point St., San Francisco, Cal.

FOR SALE—1 Holt Caterpillar, 1 Beet Plow. Good work stock. Prices right. E. Morris, Owensmouth, Cal.

MAN—To wear fine suit, act as agent; big pay, easy work. Banner Tailoring Co., Dept. 738, Chicago.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market St., Stockton, Cal.

WANTED—Position as ranch superintendent after December. For information address M. S. B., Box 368, Exeter, Cal.

COUNTRY LANDS.

HUMBOLDT STOCK RANCHES—1700 acres $8 with stock cattle. Long lease; additional land. C. E. Robertson, 105 Montgomery St., San Francisco, or J. E. Wilson, Carlotta, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

FOR LEASE—150 acres level land, with farm buildings; suitable for dairy, hay or grain; adjacent to Redwood City. W. F. Chipman, 625 Market street, San Francisco.

FOR RENT—At Paradise, Cal., forty acres apples, forty acres pears; abundant irrigation water. Address Dr. C. A. Oliver, Chico, Butte county, Cal.

FOR SALE—160 acres rich valley grain land near Tracy, Cal.; $75 per acre. A. W. Huggins, 150 Post street, San Francisco.

WANTED TO LEASE OR BUY—a suitable stock ranch. John Sagehorn, Willits, Cal.

SEEDS, PLANTS AND TREES.

ALFALFA PLANTERS, fill your fall requirements now with Green-Gold seed; high quality because of personal field selection; low price because of direct dealing; send for samples and prices. Bomberger Seed Company, Desk A, Modesto, Cal.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar Sts., Oakland, Cal.

OLIVE TREES—Mission, Manzanillo, Ascolano. Propagated by me from trees of known bearing qualities. Guaranteed. L. T. Schwacofer, Hemet, Cal.

DOGS.

AIREDALES AND GREYHOUNDS—Best blood in America; Airedales by International champion, Abbey King Nobbler, ex Bilmer Mayflower, she a litter sister of champion Bilmer Birgo; satisfaction guaranteed, otherwise money refunded. Lloyd & Hendry, Davis, Cal.

Dealers in PAPER — Blake, Moffitt & Towne, 37-45 1st St., San Francisco; Blake, Moffitt & Towne, Los Angeles; Blake, McFall Co., Portland, Ore.

ALFALFA LAND for DAIRYING

Leveled, checked and in stand of Alfalfa. Also first-class Orchard, Bean and Sugar-Beet land, with plenty of water for irrigation. For sale in tracts of 20 acres and up.

BRENTWOOD IRRIGATED FARMS

50 miles from Oakland in Contra Costa County.
For prices, etc., address
BALFOUR, GUTHRIE & CO., Land Dept., 350 California Street, San Francisco

FISK

The Only Real Non-Skid Tires

Non-Skid on All Roads in All Seasons

IT'S the tread! And this is the period of the year when your safety and peace of mind must be assured by tires that *actually* prevent side slipping.

Fisk Non-Skid Tires give this surety on all roads. They hold fast on hard, wet, slippery surfaces, and take a firm grip for the pull ahead on softer road beds. They are the ideal all-year-round tire.

When you buy a Fisk Non-Skid you are getting more than temporary anti-skid protection. The buttons wear—they preserve the non-skid character of the tire through month after month of usage.

There is an extraordinary amount of mileage in the buttons alone, and throughout their entire long life you have the perfect protection which makes Fisk the safest non-skid tire you can buy.

Examine this illustration

The basic principle of Fisk Non-Skid protection is perfectly simple. When you understand it you will realize why the Fisk Non-Skid Tires are the only auto tires that furnish such complete protection.

Fig. 1 is the outside rib that makes an uninterrupted counter against direct side slipping or skidding—Fig. 5 is the same protection on the other side of the tread.
Fig. 2 is the outside row of buttons, connected by a second rib of solid rubber. The buttons which are slightly higher than the connecting rib, offer perfect resistance against skidding and because they grip the road so firmly, make the pull forward in soft ground even so much more positive and certain—Fig. 4 has these identical qualities, but from the opposite directions.
Fig 3 is the master button around which the Fisk Non-Skid tread is constructed. It supplies resistance against slipping in any direction—no matter which way there is a tendency to skid there is always a flat resisting surface to prevent that skidding, and to assist the sure forward movement of the wheel.

The Company behind the tire, its ability and eagerness to make the best product it knows how to build, the Fisk policy of insisting that users shall have full satisfaction and the product itself which embodies and justifies the policy—these explain why Fisk is the best dollar-for-dollar tire value now for the motorist.

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General Offices: Chicopee Falls, Mass.

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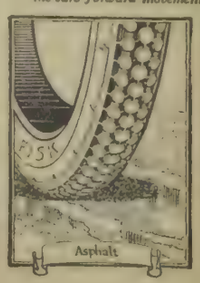

Vol. XCIV—No. 16 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO OCTOBER 20, 1917 LOS ANGELES

Dedication of Hilgard Hall at State University

[Written for Pacific Rural Press.]

TO ONE standing in the portico of the building shown in the engraving on this page and facing the Golden Gate, which is about fifteen miles distant, there appears in the immediate foreground a westward slope, beyond that the buildings and streets of central and western Berkeley and in the background the shimmering waters of San Francisco bay extending to the hilly islands thereof and to the costal mountains of San Francisco and Marin counties, through which the strait known as the Golden Gate opens a vista of the Pacific Ocean. With this beautiful distant view we are not at the moment concerned; it is the common delight of all who dwell on the uplands of the east bay region, for they all look westward over rapidly growing cities upon the waters of one of the greatest and most beautiful land-locked harbors of the world.

Hilgard's First Field Experiment.

It is our present purpose to remind Californians of this generation that it is the foreground of the picture we have sketched above, which embodies one of the most significant historical phases of the industrial development of California, because it was on that western slope of the University domain at Berkeley that Professor E. W. Hilgard carried out his first field experiment to demonstrate the applicability of natural science to the promotion of greater success in practical farming operations. And this first field work of his has much wider historical importance than its relation to the advancement of California agriculture. It was, in fact, the first institutional effort in the name of an American government experiment station, to interpret science in terms of field demonstration. It began in the winter of 1874-5. In frankness it should be stated that California has a narrow margin of priority in reaching this achievement because Professor Atwater of Connecticut was on the same trail at the same time, but Prof. Hilgard struck his plow first into the soil of actual field work and we hold ourselves justified in awarding him the credit of first arrival.

"TO RESCUE FOR HUMAN SOCIETY THE NATIVE VALUES OF RURAL LIFE."

Showing the north half of the west facade of Hilgard Hall, which bears on its entablature the legend given in full above. This facade alone is about 180 feet in length; only about one-quarter of the exterior outline of the building.

And now there arises on the east crest of this slope a stately University building, largest of the group devoted to agriculture, which bears the name Hilgard Hall in honor of the man whose work for California lies in the foundation of all our future achievements in agricultural science and whose work in California made his name distinguished in the leadership of agricultural science in the civilized world. Thus California pays her tribute of appreciation to the memory of a man who for more than thirty years worked heroically and successfully to demonstrate the truth about California and to win the devotion of all Californians, young and old, to the embodiment of this truth in their lives and works.

Culture Through Industry.

It is particularly fitting that the west facade of the building of which our picture shows a portion looks down also upon the commercial center of Berkeley and across the waters to the metropolis of California, and it is the part of the University most clearly visible from the west. Thus it may express the close relationship between agriculture and commerce. They will first catch the eyes of those who approach on the overland railways, and directly toward them will be pointed the prows of incoming ocean ships. They will be surrounded by instructional fields and gardens; and in their geographical relationship to other University buildings, which will occupy the higher slopes, they will express the great opportunity of approach to culture through industry—the newest educational discovery, which is now profoundly influencing our pedagogical philosophy and methods. The power of this suggestion in the advancement of education is itself the product of American university effort for agriculture, and its future depends upon the maintenance and development of agriculture in the universities. The relation of all other educational effort for agriculture to university agriculture will be that of a stream to its source.

How Hilgard Came Through.

Professor Hilgard was not the first professor of agriculture in the University of California, but he was first to bring to his work adequate training in the sciences underlying agriculture and a vision and force of character and effort which could command the respect of the people for his undertaking and recognition of its great possibilities in the advancement of the farming vocation of men. His ideals were so high, his scientific support of them so irresistible, his insight into the relations of scientific investigation to practical problems so clear that he could penetrate public indifference and baffle those disposed to scoff and ridicule the idea that practical farming could only be advanced by sound learning in agricultural lines and the relations of them. And thus he most efficiently served not only the recognition of university effort in agriculture, which is now universally conceded and honored, but his whole career was a great force in commanding popular recognition of sound university training in preparation for all the activities of manhood and womanhood and for the responsibilities of democratic citizenship.

A concrete idea of the wonderful change in the public attitude toward agricultural research and teaching brought about by Professor Hilgard's foundation work is shown by contrasting the enrollment of students and the public funds provided for research and instruction at the beginning of his career and during a recent year. Professor Hilgard began in 1875 with an appropriation of $500. Dean Hunt, during the last four years, has been provided with funds annually to an amount of $350,000—not including the cost of the building which is now added to his equipment. Professor Hilgard had two students taking the agricultural course in 1876, one of whom graduated. Dean Hunt in 1916 reported 637 students in the University courses in Berkeley, of whom 108 received degrees in that year, while the total number of agricultural students resident at Berkeley and on the University Farm at Davis was 1,187. This is wholly apart from the enrollment in correspondence and other extension courses, in which educational activities 37,759 persons participated during the year ending in June, 1917.

A Unique Memorial.

On Saturday, October 13, there was a great gathering from all parts of the State to participate in the formal opening of Hilgard Hall. It is a great building of irregular outline and several fronts of dignity and nothing but the eye of a bird can completely encompass it. Our picture includes but a glimpse which indicates the general dignity of it. The building is a popular tribute to the memory of Hilgard, for the funds to cover the cost of it (upwards of $370,000, including equipment) were provided by initiative vote of the people of California in 1914. The building is the headquarters of seven divisions of the University Depart-

(Continued on page 393.)

PACIFIC RURAL PRESS

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Member Audit Bureau of Circulation.

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PACIFIC RURAL PRESS - SAN FRANCISCO

ONE DOLLAR PER YEAR IN ADVANCE

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LOS ANGELES OFFICE, 239 So. Los Angeles St.
NEW YORK OFFICE - - 381 Fourth Ave.
CHICAGO OFFICE - - - Conway Bldg.

E. J. WICKSON - - - - - Editor
FRANK HONEYWELL - Publisher and Manager
W. H. SCHRADER - - Advertising Manager
D. L. SCHRADER - - Subscription Manager
R. E. HODGES - - - Assistant Editor

EDITORIALS

STATUS QUO ANTE.

WE SHALL endeavor to write this week as though the midsummer madness of 1914 had never brought storm to the brain and anguish to the heart of mankind. We shall try to write as we used to write of current events in their relation to the advancing interests of California and to the development of our journal as an exponent thereof—rejecting for the moment all phases of our industrial advancement which have arisen through the state of world war and blotting from our vocabulary all words and phrases which have found birth in the most unique and picturesque, and at the same time the most barbaric and unpardonable, conflict in which mankind has ever participated. It will be a dull performance, of course, for practically a new world was born in 1914 and is now advancing to a vigorous adolescence, and to get its thoughts out of the mind and its words off the tongue is difficult. For this is the time of which Isaiah wrote, 2500 years ago:

Who hath heard such a thing? Who hath seen such things? Shall the earth be made to bring forth in one day? or shall a nation be born at once? for as soon as Zion travailed she brought forth her children.

Shall I bring to the birth and not cause to bring forth? saith the Lord.

For by fire and by his sword will the Lord plead with all flesh.

For I know their works and their thoughts: it shall come that I will gather all nations and tongues and they shall come and see my glory.

And all nations and tongues have now been gathered to crush from the hearts of men the last great unholy ambition for subjugation and tyranny with its attendant inhumanity and slavery. Status quo ante? The world has rolled over it!

And so, though it will never be possible for the heart of mankind to outgrow the reddening of the refining fire which is burning this great evil from it, and though the languages of mankind will be irrevocably enriched with words and metaphors born of the conflict, we haste to try to write as though it had never been—while still there is chance of forgetting so much. If readers care to follow the effort with a view of detecting any word or phrase which has its origin in the war or any reference to the event itself, we shall award to any such successful literary sleuth the unique privilege which we have never given to any human being before—our permission to discontinue his subscription to this journal during all the earthly years which remain to him.

THE ACHIEVEMENT OF DEAN HUNT.

OUR LEADING space is given this week to a great agricultural event at the University of California—the formal opening of Hilgard Hall—which indelibly inscribes the name of the great founder of agricultural research in California upon the tablets of all coming activity in the line of his foundation. We have indulged elsewhere in some reflections which seem to befit the fact and to indicate its historic significance. But the glory of the past is always best reflected by the success of the present. Hilgard led no lost cause. His life was prolonged so that he had great joy in the expanding achievements of his successors and, though in the fullness of time he passed away, his surviving associates of the pioneer period feel that they still share with him joy and satisfaction over the wonderfully great attainments of the current administration. Hilgard Hall will surely be what the commemorated pioneer would have chosen for himself—a working monument. And what an amount of work will fill, encircle and emanate from it! We have given elsewhere some measure of the increase in students and of funds to provide further needs and for the public service of the institution. More fundamental than these are two things: first, the mutual relations of the college and the industry it serves, and, second, the attitude of the staff in promoting these relations. Of these fundamentals in the future of the institution we select two declarations made by Dean Hunt at the dedicatory exercises.

First, on the mutual acceptance of leadership, he said:

"At the dedication of the first building of the new agricultural group five years ago, it was stated that the College of Agriculture, if it were to be effective, must be the leader in all that relates to the development of agriculture. To fail to accept such leadership on the part of the institution would be to fail to understand the responsibility that was placed upon it. Any other attitude upon the part of the people, whose child the institution is, would be reprehensible. The character of that leadership is perhaps difficult to comprehend. It is not the leadership of control. It is the leadership of counsel."

Second, on the attitude and qualifications of the staff for leadership, he said:

"The members of the staff, nearly 200 in number, have mostly risen out of the soil. They continue to sleep in the homes of the people and break bread with them at their tables. They are part and parcel of the industry. They are not exotic. They are indigenous. What more natural, therefore, than that the farmers of California should bring not only their trials and their troubles, but also their hopes and aspirations, to this body of men and women, who are an intimate part of their daily lives. This is the leadership that the College of Agriculture accepts.

"After five years of work among them, I wish to thank the farmers of California, not only for myself personally but for all the members of the staff, for the opportunity they have given us, and for the cordiality with which they have received our achievements—achievements which have always been short of our ideals and much less, very much less, than their desires or needs."

PARASOLS FOR DUCKS.

WE DESIRE to make these declarations by Dean Hunt very clear at this time so that all may understand the motive and spirit of them. Dean Hunt went East at the close of last week for a two months' absence. We doubt if he has been off the job for even half as long before during the last five years. He has accomplished marvels in the expansion and localization of his work in all parts of the State and it should be generally known that no item nor location of such expansion has been undertaken without the declared desire and actual co-operation of the people in every installation. We have heard some outcry that the extension of the influence of the college was coming down upon the rural districts like hailstones and some have even tried to raise storm shelters against it. We hope our readers are not of this class. The fact is that no division of the State nor group of people ever gets a shower without asking for it and paying a voluntary share of the cost of it, and no person gets University advice in his farming business before he personally requests it. People who are so conscientiously protesting against the downpour of University advice upon their neighbors remind us of the humane old lady who ornamented the margin of her pond with green umbrellas so that her ducks could find easy refuge from the summer showers!

WHAT SHOULD NURSERYMEN DO WITH MONEY?

WE ENJOYED a spell with the California nurserymen at their annual meeting in San Jose last week and as we sat listening to the talking in the hall of the Chamber of Commerce, which was transformed into a bower of beauty by the quality and size of the specimen plants, there came to us this thought of the present and future function of our professional plant propagators of California:

For this planting-year at least the fruit tree branch of our local nursery production promises to largely run itself. The buying ability and desire for California fruits and fruit products is expanding, as long desired and planned for, and the producers are largely and effectively organized to promote and protect the selling ends of their production. Advances in price have been matched by the buying capacity of consuming interests, and our fruits both at home and abroad are in demand beyond expectation, and selling fruits in the future promises to be as great a delight as in times past it has been a sorrow. And it will be much the same way with nursery stock in fruit trees. The world fame our fruits are now getting will be the surety of their coming demand. Of course, timid people may doubt this, but even they may get some courage from the fact that during the last thirty years, since organizations for distant shipment and sale first acquired some force and wisdom, there has been no backward step in the general fruit production and sale and all faltering has been narrow and temporary.

As then, the nurserymen find their burden of publicity and popularization of fruit trees less necessary this year, and as clearing-out sales will give them funds, they should make particular effort to push the California people forward in ornamental planting. The people of the rural districts have funds now and should provide themselves with beautified homes, highways rendered charming by shade-giving foliage, open spaces broken by shelter belts and waste land transformed into fuel-producing wood-lots and groves. California is becoming each year more productive: the State surely should grow each year more beautiful. We believe our nurserymen should now put forth particular effort in this direction. In pioneer times they were the chief factors in such beautification as narrow occupation then admitted. Since that time they have ministered to vast improvement by those who had wealth for isolated areas of arboreal ornamentation. Now, with nearly every land owner having some spare money for reasonable investment in countryside beauty, more can be done in the next few years than has been achieved in all the previous history of the State. Therefore, let each nurseryman put such publicity money as he thinks wise in the development of demand on the ornamental side of his business. It seems likely that people will buy fruit trees with less pushing than usual this year. It will be easy to make as full a clearing out of ornamentals also, for the planters have money to order both, but they must be reminded of it. A publicity campaign on ornamentals seems to us the most reasonable any man who has good stuff or knows where to get it could undertake.

WHY KEEP IN THE GAME?

OF COURSE the reader will see that we are rebellious that our prosperous nurserymen should get rid of this year's fruit trees on last year's advertising. We are as sad as Mr. Rockefeller would be if he found a man running his car on last year's gasoline. And therefore it is up to us to put up an argument that to get the advantage of advertising in a business which is to run right along one must keep on advertising, not alone to keep the business in the public mind but to discharge a public duty and protect the purchaser by making him sure where he can get the stuff he can depend on and get it without worry and loss of time. We recently read an interesting sketch by John Sullivan, secretary of the Association of National Advertisers—a society not of those who solicit advertising but of those who buy advertising and make it the support of their business. Mr. Sullivan speaks of identification of goods by the purchaser through trademark, etc., and then says:

What a contrast to the days of our fathers, when practically all buying was a hazard. In those so-called "good old days," soap was just soap, prunes were just prunes, coffee was coffee—and so on through the long list of things that are used in every home. In no case was there any guarantee of quality—or any sure way to identify goods that might have proved satisfac-

tory so that the same goods could be bought again. The whole buying game was just a game—a game and a gamble; with all the odds against the buyer.

Then gradually, step by step, came the great change. The trademark began to appear—a positive means of identifying goods. And with the trademark came advertising on a national scale—the best, the surest, the cheapest, the only efficient way of making the merits of these goods known to buyers everywhere. In fact, trademarked articles must be good. The trademark identifies them, advertising proclaims them, and use by thousands and millions make their qualities positively known. Only first-class merchandise can dare to court such a test. The greatest achievement of modern advertising is that for the first time in the history of the world's merchandising it protects the buyer; it makes buying both easy and safe.

The value of such a trademark as Mr. Sullivan mentions is demonstrated by the experience of California's leading co-operative selling organizations. The trademarks used on California citrus fruits, raisins, nuts, etc., are immensely valuable when lodged in the minds of consumers by advertising as Mr. Sullivan describes. His points are, in fact, the realization in modern complete form of the very old trade proverb that "it pays to advertise if you have good goods." And the converse is also true, as the philosophers say, for if you should have good goods and not advertise you may keep them. And it is the time now for those who have good articles of any kind to advertise, for buyers have money which they are sure to spend, and it is the duty of those who have honesty and quality in their offerings to protect the people from those who have less value to offer. Mr. Sullivan truly says: the greatest achievement of modern advertising is that it protects the buyer.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Alfalfa in Deciduous Orchard.

To the Editor: Will there be any harm in seeding down a good mixed deciduous orchard to alfalfa? Shall I leave a strip, say ten feet wide, for each row of trees, or clear away the clover around each tree only? I am under the impression that I have read answers to this question and that you have always said that the alfalfa would do no harm, but much good if there was sufficient irrigation water so that the trees would not be robbed. We have abundance of water for irrigation. Our soil is a gravelly clay, which gets very hard when dry, but water does not stand on it. It is deep, much the same reddish clay and small gravel "all the way down" as far as wells have gone.—Owner, Tehama county.

There is plenty of testimony that alfalfa can be grown in an orchard with advantage, if two conditions are secured. Your memory covers one of them, viz.: that the alfalfa does not have to rob the trees of moisture which they need. The other is quite as important, that irrigating the alfalfa does not water-log the soil. If the soil is really as well drained as the surface layer seems to be, by the fact that no water stands on it, then probably only excessive irrigation of the alfalfa would be dangerous and that does not need to be done. But if there should be impervious layers below which would carry the water to underground basins too near the surface, some trees would probably fail in such places. It would be safer to sow the middles and irrigate in ribbons with low lateral levees and wet the trees by seepage, if the land lies on a suitable even grade for such irrigation. It is better to maintain the trees in a cultivated strip as you propose. It will keep the ground sweeter and enable you to guard against standing water close to the trees.

How to Cut in Pruning.

To the Editor: I have been advised by a fruit man that in pruning trees the cut should be made from the top down; that is, when cutting a branch the pruning shear should point downward. What advantage, if any, is there in this method of pruning? When is the proper time to prune apple trees in this bay region?—E. H., Alameda.

In holding the shears as your friend advises, you avoid crushing the bud on the top of the branch with the bearing-jaw of the shears and you bring the splintered edge of the cut, which is next to this bearing-jaw, also away from the bud, which is also a good thing. But we do not see why it is any better to point the shears at the earth than at the moon. In each case you cut from the side and we do not see that which side makes any difference. In fact, it is much easier to point at the moon or any one of the eleven stars than at the earth. Much pruning has to be done some distance above the pruner's head at the length of his arm. If he must always point his shears down, he would have to be furnished with an aeroplane. All this relates to pruning on more or less horizontal branches. But more pruning has to be done on more or less vertical branches and then the shears must point somewhere on the horizon and never downward. Your "fruitman" should think more and talk less. Prune apples any time after the fall of the leaf and before the buds swell—that is, in dormant season.

Distant or Home-Grown Seed?

To the Editor: Kindly let us know through your valuable paper if wheat brought here from Washington or Idaho would do, or if it would grow to straw and make no grain?—G. H. H., Los Molinas.

The claim which you mention is exactly at the opposite extreme from the common claim that you will always get better plants from seed which has been grown at a distance and under different conditions. This latter claim has been disproved, and it has been established that the best seed to plant is that which has been grown in the same region and taken from selected, acclimated plants of varieties locally demonstrated to be adapted by the fact of their success. If introduced seed behaves as you describe, it indicates that the variety is unsuited to local growing conditions—not that the seed itself is necessarily bad. Such a calamity as you describe is not likely to occur here with introduced wheat. If the plant makes a vigorous growth it is likely to come through with much grain, unless it is planted too late and cannot get mature enough to make the quick spring turn which our early ripening season requires. But, of course, seed from locally-grown plants of varieties which have shown that they have the "know-how" of making a good crop under our conditions, is much safer to plant than introduced seed of varieties which may be dependable elsewhere, but have not demonstrated their behavior here. This was the basis of our recent objection to the penalizing of wheat varieties which we know we can grow with largest returns.

Citrus Cumbering the Ground.

To the Editor: I have five acres originally planted in 1902 to orange and lemon trees, which were grasshoppered and twice defoliated. In spite of the best I could do, the trees have been dying and now I have but 80 lemons and 50 oranges. For the last two years, though mulched and fertilized, the lemons have given me about nine boxes off all the trees; the oranges nothing. The lemon trees are beautiful as ornaments, large and vigorous. The oranges seem prosperous, but small and "nothing but leaves." In the spring of 1909 I planted fillers of deciduous trees so as to get something meantime. The fillers—peaches, apricots, pears, plums—are now so large that I must choose. The branches are touching and roots are interlacing. Which should I root out—the citrus or the deciduous? Is there any hope that the citrus will yet make good? The deciduous are bearing well.—Grower, Orland.

By every commercial standard the citrus trees should be grubbed out. Only considerations of affection or ornament can defend their farther cumbering of the ground. We see no hope of a change in this judgment. Some lack of proper citrus conditions, natural or cultural, prevails and the land should be given to trees which do well with it. Keep a lemon tree for lemon pie or other sentimental reasons and out with the rest, unless you can figure that a citrus colony will help you sell out the whole tract.

Why the Sugar Prune?

To the Editor: Why are they called sugar prunes? They are not half as sweet as the Imperial or the French prune, and they dry out more. Although they bear heavily every year, the loss from cracked or split fruit, two years in three, offsets all other advantages they are claimed to have. —Sam'l Haigh, San Jose.

We do not remember whether Mr. Burbank named the fruit from taste or from analysis, but we do remember that the first ripe specimens we received from Santa Rosa, about twenty years ago, were very sweet indeed, and that an analysis which was made in the University laboratories showed a percentage of sugar considerably higher than the average of the analyses of French prunes made up to that time. Mr. Burbank was therefore justified in his early placing of the name. Its inferiority to the French prune as a dried fruit, in flesh and pit characters and in flavor, was not foreseen. At the same time the variety has shown certain desirable commercial characters which were also unforeseen. It is of course less important that a baby should grow up true to a sweet name than that it should develop into a maturity which demonstrates the place of a man or woman in the world. It is that way also with new fruits.

Removing Water Sprouts and Suckers.

To the Editor: I wish information about cutting away water shoots or stray limbs from trees. My olive trees have sent out a great many shoots from just below the surface of the ground. Is it all right to saw or prune these limbs off at this time of the year, or should I wait with pruning until next spring? Some tell me to carry pruning shears all the time and at any time cut out off-shoots. Is that a good plan?—V. K., Sacramento.

The best time to remove a sucker or water sprout (which starts out where you are sure you desire no growth for any reason) is just as soon as you see it. Therefore, you should always be ready for cutting and not attempt to tear off or kick off, as men are tempted to do when they have no tool. Cut close, so as not to leave a stub with latent buds to make more shoots. When you see a shoot before it hardens, it can be rubbed off. While there will probably be no harm in cleaning up your olive trunks now, it should be remembered that wounds made by removing suckers heal over better if made in the growing season, and the quicker the healing the less danger of infection and decay.

Grape Cuttings and Late Peaches.

To the Editor: What is the best procedure to follow to root grape cuttings? I wish to plant cuttings where vines are to remain. Give name of one or more varieties of very late peaches valuable for family orchard.—C. H. R., Glendale, Arizona.

When the vine leaves fall, make cuttings about twelve inches long from the lower parts of canes which grew last summer. Store these in bundles in moist but not wet sand in a shady place until your open land is well wet down and the soil becoming warm after the coldest weather of the winter. Then plant the cutting in the place where you wish the vine, so that one bud will be above the surface, packing the soil around the bottom end of the cutting and leave the upper soil rather loose. The Salway is about the latest yellow freestone which is usually grown in this State. Bilyeu's Late October is grown to some extent in Southern California and the Sabichi Winter is also commended in that part of the State for ripening in November and December.

Effects of Aphis on Apples.

To the Editor: Will aphis on the trees cause the apples to fall and prevent them from growing?—A Subscriber, Castroville.

Two leaf lice of the apple, so-called "green aphis" and "rosy aphis" of the apple, attack the young fruit, arrest and deform its growth and render it valueless and hateful to look upon. The dropping of apples prematurely is chiefly due to the work of the codlin moth or apple worm, except where it follows failure in pollination.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m. October 16, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.68	2.59	56	48
Red Bluff	...	.80	1.49	96	50
Sacramento	...	.51	.82	92	50
San Francisco	...	.02	.80	64	52
San Jose	...	.01	.77	74	52
Fresno	...	...	.60	94	54
San Luis Obispo	.08	.09	.88	72	52
Los Angeles	...	...	.32	78	58
San Diego	.16	.16	.30	70	62

Backward Trees Reformed by Basins

[Written for Pacific Rural Press.]

Three rows of orange trees six years old were basined by S. J. Bolser of San Bernardino county because they were smaller than the rest and were yellow and scraggly. Now they are healthy and were making fine growth when seen by the writer in July, though the rest of the orchard had scarcely started growth. They are on sandy ground, which had washed away from the roots, so many of the roots had to be cut off in cultivation, etc., and the tops cut back to correspond. It seemed better not to cultivate; so part of the three rows were basined in the spring of 1916 and the rest were basined last spring. Square basins were made around the trees, level and deep enough to hold six inches of water. Room was left between them for two furrows just the width of wagon wheels apart. Water is run to each basin separately via these furrows. Dirt was left around the trunks, and the basins filled with a bale of alfalfa each. The alfalfa rotted so much that it made poor mulch, and last spring several loads of manure were added, also five big hayrack loads of weeds.

Melilotus planted last fall between the basins was cut when three feet tall and the tops thrown into the basins. It grew again and some of it went to seed. A strip of alfalfa in one center was cut four times. Eucalyptus leaves, banked by wind against south fences, made fine mulch. Prunings proved too loose. Ground in the basins is always moist, though irrigated only once per month. It is not hot, and furnishes ideal conditions for nitrifying bacteria.

The banks were made wide enough to walk on without smashing down, and were planted last spring. One summer squash vine produced enough for two families. Small white beans made a crop to be flailed out and the vines thrown into the basins. Orange leaves were caught in them and prevented from blowing away.

There was a bumper crop of oranges on these formerly weakened trees, as on the rest of the orchard, last spring.

Amputates Spanish Measles

[Written for Pacific Rural Press.]

Spraying for Spanish measles or botrytis cinerea on grapes in the San Joaquin county vineyards for three years has left George F. Schuler doubtful of control by that method.

Black Prince and Missions are worst affected, but all varieties have it. The disease never shows up until July. The leaves look spotted with black fungus, like a person with measles. The grapes often are half grown before they are affected, when they shrivel up black, like a hot blast had struck them. Never has Mr. Schuler found a whole vine affected at once.

He has applied a summer spray of Bordeaux containing over 20 pounds of bluestone per 50 gallons of mixture to affected vines, and it checked the disease without burning the leaves. Sulphuric acid in water had no effect. Atomic sulphur showed no effect for Mr. Schuler, though others have thought it more effective. Pure copperas with water had no effect on the disease. He continued one kind or another of spraying on affected vines wherever found, and the same canes were sometimes diseased in consecutive seasons.

AMPUTATES DISEASED ARMS.

Two years ago he amputated 20 to 30 diseased arms at the trunks. These had no trace of the trouble last year. So several hundred vines had their badly affected arms and canes cut off last season. Says Mr. Schuler concerning the 1917 season:

"This season being so dry and having ceased irrigating early in June, the disease has made great inroads and many vines died, having been diseased for three years. But on vines where I had cut off diseased wood as it showed up during the summer no sign of the disease is apparent.

"A portion of the vineyard which I have been irrigating continuously shows no trace of the disease."

California Nurserymen's Convention

[Written for Pacific Rural Press.]

We owe it to our customers as well as to ourselves to minimize the cost of production, which can only be accomplished by co-operation among nurserymen to learn what is being planted and budded in order to avoid big bonfires at the end of each season, and co-operation with growers to learn what is likely to be demanded by the latter. To know what other nurseries are growing, and a mutual understanding of market requirements to prevent surplus in one case and shortage in another, would alone repay the cost of membership a hundredfold. This is the gist of the address of retiring President Leonard Coates at the seventh annual convention of the California Association of Nurserymen at San Jose, October 10 to 12.

"There are three classes of white labor," said M. J. Crow. "First is the bright, capable young fellow of good habits, who soon goes into business for himself. Second is the man who is ready to quit when he has a few dollars coming. Third is the man on whom John Barleycorn has a mortgage. Can you tell me how to depend on any of these as permanent help? Japanese and Chinese are peculiarly adapted to nursery work. It would seem wise for this Association to favor importation of Chinese to be returned at the end of the war."

OFFICERS ELECTED.

Mr. Crow was later elected president, Henry W. Kruckeberg of Los Angeles secretary-treasurer, and J. E. Bergtholdt, Newcastle, Chas. Howard, Hemet, Henry Ruehl, San Jose, T. E. Mabie, Fresno, and Geo. F. Otto, San Diego, vice-presidents.

A women's auxiliary to the Nurserymen's Association was organized with Mrs. John Vallance, Mrs. Leonard Coates, Mrs. John Armstrong, Mrs. Almon Wheeler, Mrs. E. H. Elmer, Mrs. Henry W. Kruckeberg, and Mrs. C. E. Jackson as the prime movers. Many fine papers were read.

SHOTHOLE—SPRAY IN FALL.

One of the best almond orchards in the Chico district of Butte county is that of H. Losee. Mr. Losee has found it necessary in the past two or three years to spray to prevent shothole. Since winter rains start the fungus to growing and penetrating tissue, he sprays before the heavy rains come. Bordeaux 5-6-50 is used.

Depreciation is at least doubled by leaving the implements out through the winter.

PACKED BERRIES AND VEGETABLES MUST BE IN STANDARD CONTAINERS.

Small fruits, berries and vegetables packed for interstate shipment after November 1, 1917, must, under United States law, be packed in containers of dry half pint, dry pint, dry quart, or multiples of the quart; and no containers except such of full dimensions may be shipped, empty or full. Climax baskets for grapes must also be of standard sizes. The United States Secretary of Agriculture is directed to establish a table of permissible variation from standard sizes. These variations have been fixed at 50 cubic inches excess per bushel and 30 cubic inches deficiency per bushel, with proportional variations for smaller containers. The standard quart contains 67.2 cubic inches.

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Dedication of Hilgard Hall

(Continued from first page.)

ment of Agriculture, viz.: Agronomy, Citriculture, Forestry, Genetics, Pomology, Soil Technology, and Viticulture. The structure is of reinforced concrete and its four floors contain six classrooms, sixteen laboratories, and about fifty offices for instructors and investigators.

The dedication of the building was a great popular demonstration of popular interest in Professor Hilgard's work. The assembly was held in a grove of eucalyptus trees a few hundred feet southward from the building and in clear sight of it. It was a great academic event, perhaps more notable as such because leading parts were taken by non-academic persons. President Wheeler presided as the following discourses were delivered:

"Agriculture in California During Hilgard's Time," W. Mayo Newhall, president of the Trustees of Stanford University.

"The Farmer and the Railroad," William Benson Storey, vice-president Santa Fe Railway, Chicago, Ill.

"Address," Stoddard Jess, president First National Bank, Los Angeles.

"Solid Foundations," Judge Peter J. Shields, Superior Court, Sacramento.

"Hilgard as I Knew Him," W. B. Wellman, president Wellman, Peck & Co., San Francisco.

"Carrying Hilgard's Work Forward," Thomas Forsyth Hunt, Dean of the College of Agriculture.

The afternoon of dedication day was made notable by holding in Hilgard Hall popular conferences of practical men on special subjects connected with the work of the seven divisions already mentioned as domiciled in the building. These conferences occupied the special rooms belonging to these divisions and thus they were enabled to proceed simultaneously each with its own contingent of speakers and listeners, and the building is so spacious that all the different hundreds of people could enjoy their two scores of exhorters without interference. After a seven-fold hour was thus pursued, the assembly reunited and held the closing session of the California Association of Nurserymen, which body came from San Jose to finish its seventh annual convention under the auspices of the University. The whole dedication day was unique in its significance and in the manifestation of it.

WHITISH SPOTS ON BERRY CANES.

The cane disease of berries known as "anthracnose" killed eight acres of three-year Loganberries for M. J. Moniz of Sonoma county, as well as other areas in the same vicinity. It also affects raspberries and blackberries. According to the Oregon Agricultural College, it attacks canes, fruits, and leaves. On the stems it makes whitish spots surrounded with irregular brown or black margins (purple on the raspberry). The spots often run together, forming long, irregular whitish streaks. On leaves the spots have reddish or purplish borders and sometimes drop out. Fruits of the Loganberry are most susceptible. It is probable that the disease lives over on dead leaves or canes or on spots on living canes. Such should be burned before the rains dampen them. Pruning may well be done as soon as possible after fruit is off. Fall spraying before rains is desirable where not all of infected new canes are to be taken out, using Bordeaux 4-4-50 or 5-5-50. Spring spraying as practiced successfully on twelve acres by Mr. Moniz will be published shortly before time to do it.

LATE-PICKED RAISINS HEAVIEST.

Now is the time to decide for ourselves whether it pays to pick grapes early for raisins. Notice the relative weight of the raisins on a considerable number of the first and last trays picked. Thomas Ballantyne of San Diego county, whose Muscat picking extended through about three weeks, noted a distinct increase of weight per tray for the last ones picked. His neighbor, E. T. Hawley, says he got seven pounds of raisins per tray from those picked October 3 and all were in by November 3, while earlier picked grapes made only around five pounds of raisins per tray.

Keep implements well oiled.

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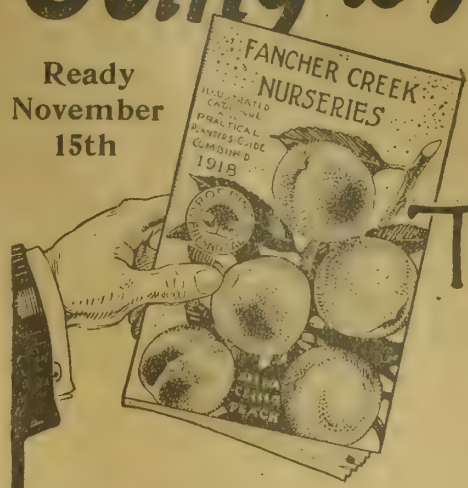

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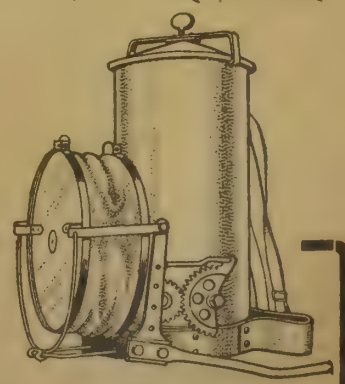

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Proper Seed Bed Preparation

[Written for Pacific Rural Press.]

The more you cultivate after planting summer crops in sandy, sub-irrigated soils, the less moisture you have near the surface, where it is available for shallow rooted plants. Such is the advice of J. W. Scott of Keyes, Stanislaus county, who gets extraordinary heavy yields of beans, sorghums, and Indian corn on land that he is rotating for alfalfa. When possible Mr. Scott begins storing moisture in his soil early in the winter by deep and thorough plowing, but sometimes this is not practicable and he is unable to plow the land till well along in the spring. In any event, he never allows the land to bake badly before working it after plowing, but instead tries to pulverize the top two or three inches to as fine a condition as possible, at the same time firming down the under soil for a firm moist seed bed.

The tool that he places most reliance on in securing this condition is a heavy iron land roller. This is made on the same general lines as other patented pulverizers, except that alternate discs are spike-toothed and the others blunt nosed. In practical work this tool either crushes the clods or firms them down into moist soil, and at the same time that it firms down the seed bed it kicks up a dust mulch on the surface. If the field is gone over at the proper time, it doesn't leave any clods at all, but if it has been allowed to stand a few days after plowing not all of the clods will break readily. But after they have been in contact with the moist soil underneath for a few days they become moist enough to break up easily.

After putting his land in condition with this tool, Mr. Scott finds that he has sufficient moisture for the balance of the season without further cultivation. In fact, in experiments that he has conducted with crops that were cultivated after planting and those that were left alone he has found that the uncultivated land produced the heaviest crops.

Last year he harvested 1,500 pounds of beans to the acre on land prepared in this manner after a crop of hay had been harvested from the land earlier in the year, and on another piece of land that was in alfalfa from which he cut three crops of hay before plowing in the summer he grew 17 tons of silage corn to the acre.

Desert Valley Onion Planting

[Written for Pacific Rural Press.]

The onion crop of Coachella Valley, Riverside county, gets its start in October, according to E. A. Miller, one of the largest growers, who raised two and a half acres last spring besides plants for another acre, which he sold for $20. Onions were his best paying crop, though he raised all kinds of early vegetables. Early in October the seed bed was irrigated and cultivated, left alone for a couple of weeks, then irrigated and cultivated again. This interim was "to get life into the surface soil" after the summer's baking. Flat ridges were made about 18 inches wide on the tops and with trenches 14 inches wide between the shoulders of the ridges. Two rows were planted on each ridge, six or eight inches apart, with a Planet Junior seeder, late in October, using about six pounds of seed to produce plants enough for three and a half acres. When irrigation was needed, a stream of about 55 miner's inches of water from a well was divided to fill all the trenches at once not over half full and slow enough to subirrigate to the centers of the ridges. The seedlings were weeded and hoed twice, requiring one man eight days.

Wheat Prices Fixed—Better Sell Now Than Later

To the Editor: I have about 900 sacks of wheat in the warehouse at San Lucas. What is the best way to sell it?—J. F. Wollesen, San Lucas.

The Food Administration, according to H. Blue, recommends that you sell it through a regular grain dealer. The maximum prices, according to grades under the United States Grain Standards Act, are fixed for the entire season, the same prices prevailing in Nevada, Arizona and California, which comprise the Twelfth Zone. To find what price your wheat is entitled to, take a representative sample of not less than three pounds and send it to Henry C. Bunker, licensed inspector for the Food Administration Grain Corporation, which under the law controls all grain in warehouses. He will grade it and report the dockage, smut dockage, etc., charging $1. He will send you a certificate and a sheet put out by the Food Corporation, from which you can figure the legal price of the wheat. If your grain dealer will not pay that price, less one per cent commission, freight to San Francisco, etc., you may notify R. A. Lewin of the Food Administration Grain Corporation, 343 Sansome street, San Francisco, that you want to sell to the Corporation. He will tell you which terminal market to ship the grain to. You ship it, paying freight, a weighing and unloading charge of 35 or 40 cents per ton; have it put into a warehouse, and pay the warehouse charges and $1 for an official sampling and grading. The Grain Corporation will pay the legal price for the wheat, according to its grade, after it is in the warehouse, deducting an additional one per cent as a commission. It will probably prove to your advantage to sell in the local warehouse where it is now stored, as the grain must be used by flour mills, which may save freight, handling and storage by shipping direct when needed for grinding. In that case they could pay you more than you would net by selling to the Grain Corporation. There is no other advantage in your holding your wheat. If you hold it, you will only lose interest on money tied up, and insurance costs. If you leave it in a warehouse over thirty days, it automatically comes under control of the Grain Corporation, and cannot thereafter be moved except by the Corporation's order. The same rules apply to rye, but not to bona fide seed wheat. As all mills over 100 barrels a day capacity will do all their grain buying through the Grain Corporation, at the legal price, none will pay more. No wheat may be sold for poultry feed, as it is designed to make all of it into human food. The farmer who stores wheat on his own ranch may not be molested by the Government, but, besides gaining nothing, he is likely to suffer from insects, fire and an unpatriotic conscience.

[The subscriber sold, since the inquiry was made, receiving $3 per cwt. cash, with the balance to be paid whenever the wheat shall have been shipped to the mill and graded.—Ed.]

LARGER AND BETTER CROPS

With a great world food shortage and with the great war depending on the ability of this country to supply the allies, every acre of land should be made to produce its utmost. This can only be done by feeding the soil, i. e., increasing the available supply of the elements required by your crops.

GOLD BEAR FERTILIZERS

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

Let our Fertilizer Department help you solve the problem of bigger and better crops.

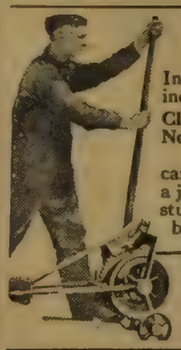
WESTERN MEAT CO.

SAN FRANCISCO, CAL.

The surface of any spindle shows rough through the microscope. This causes friction. But the powdered mica in Mica Axle Grease fills up this roughness—makes a smoother bearing. The grease works better and lasts twice as long.

STANDARD OIL COMPANY (California)

MICA AXLE GREASE



Turn stump land into Money

Increase your acreage and thereby increase your income.

Clear your stump land cheaply. No expense for teams or powder.

HAND POWER K Stump Puller

One man with a can outpull 16 horses. Works by leverage—same principle as a jack. 100 lbs. pull on the lever gives a 48-ton pull on the stump. Made of the finest steel—guaranteed against breakage. Endorsed by U. S. Government experts.

Write today for special offer and free booklet on Land Clearing

Works equally well on hillsides and marshes where horses cannot operate

WALTER J. FITZPATRICK

Box 148 182 Fifth St., San Francisco, Cal.

LIME FOR LAND

HYDRATED LIME OR GROUND LIME ROCK

One ton Hydrate equals two tons Ground Lime Rock. Send for Free Booklet and Prices.

PACIFIC LIME and PLASTER CO.

HOLBROOK BLDG., Manufacturers, SAN FRANCISCO

MANURE Sheep Manure, Horse Manure, Cow Manure and Rotted Manure

CALL OR WRITE

PACIFIC MANURE AND FERTILIZER CO.

429 DAVIS STREET, SAN FRANCISCO

FERTILIZER

We Can Make Prompt Deliveries of

STEAM BONE MEAL, FISH SCRAP, WHALE TANKAGE AND PACKING-HOUSE TANKAGE

CONTRACT EARLY BEFORE PRICES ADVANCE

Rogers Brown & Co., 1307 BAKER-DETWILER BLDG., LOS ANGELES, CAL.

Field and Garden Suggestions

[Written for Pacific Rural Press.]

ALFALFA THRIVES IN HUMBOLDT.

That alfalfa will make good crops on the level plain around Ferndale, Humboldt county, is shown by Gilbert E. Trigg's experiment. This is a strip eight feet wide and thirty rods long, on low, heavy, but well-drained land. This is its fourth season and it has yielded four cuttings per year since the first season, each being over knee high. Other plantings are following this demonstration, though John Hansen notes that the first crop grows rather woody, and fogs and cold hinder growth and curing. He often pastures his alfalfa after the first cutting. Pete Philipsen claims to have gotten over twelve tons of alfalfa per acre from eight acres near Fortuna, but the first cutting was so coarse he sold it cheap. The second and third cuttings were about three tons each. This had been pastured before the first cutting.

RATS.

To the Editor: Will you please tell me of any method you know of to poison rats?—A. C. D., Palo Alto.

[Answered by Samuel Haigh, San Jose.]

I find the simplest and most economical way to get rid of rats is to feed them bread and butter, or lard, or beef drippings. Cut the bread into pieces one inch square and with a pen drop about one-sixth of a grain Troy of powdered strychnine, about the bulk of a grain of wheat, on each piece, then put on a good coat of Golden C sugar and drop a little water on the sugar to make it stick to the larded bread. They will take this bait every time as long as there is one about the place. A dead rat is better than one that has been driven away to breed elsewhere.

TIME TO PLANT RYE GRASS.

Rye grass on J. W. Coppini's ranch in Humboldt county was cut late in April for hay, again late in June, and again this fall, after which it is furnishing good pasture. Soon will be the time to plant new areas of rye grass or rye grass with clover, even on low ground, as the rains have started here.

FALL OR WINTER-PLANTED ALFALFA.

January or February alfalfa planting is preferred by E. H. Webb of San Diego county, much of whose alfalfa land is close to water table on light river bottom soil. Sometimes January is too cold. The more moisture there is on light land, the better, for it not only helps the seedlings through the ground but also protects them from frost. If planted in the fall and frosted while dry, the plantlets may easily be killed, while if planted in spring the ground may dry out quickly, deeper than the roots can have reached. He always provides a drain for surface water when grading for alfalfa, so water won't stand on it too long.

NITRATE MADE VETCH CROP.

Two nine-acre orchards were planted to vetch by A. C. Townsend of Fresno county. One had been treated to fertilizers two years. Half of it had 200 pounds per acre of nitrate of soda the first year and 100 pounds the next. The other half had 200 pounds of nitrate the first year and 100 pounds of a complete fertilizer the second. Vetch growth was remarkable on the nitrate piece, fair on the fertilizer piece, and a flat failure on the unfertilized nine acres, though it was all treated exactly the same otherwise.

SAVING PEA AND BEAN SEED.

To save seed from peas and beans with least labor, let the vines dry in the garden, then pull them in the morning or while damp, to avoid shattering, hang them in a dry, airy place until thoroughly dry, then shell and store, not in paper bags, tin cans, or glass jars, but in coarse cloth bags.

SAVING TOMATO SEED.

To save tomato seed without having them imbedded in a sheet of dried pulp, put the soft seed pulp into an open jar and stir it occasionally for four days while the pulp ferments. The seed will separate and settle to the bottom. The rest may be poured off and the seeds washed with clean water and dried.

OCTOBER-SOWN BARLEY.

One of the finest barley crops seen by the writer in Imperial county was that of Harry Withrow, broadcasted 50 pounds per acre in October on alfalfa ground. The alfalfa had been killed by too long irrigation in the hot summer and was disked before sowing the barley.

DO NOT IRRIGATE BEETS LATE.

Be careful not to irrigate beets when they are almost mature, says Will Bernstein of Kings county, for that makes them start new growth and spoils them.

LAND FOR GROWING WHEAT IS OFFERED TO FARMERS.

Any California farmer who wishes to find land on which to grow wheat—and the United States Government has appealed to California to do the patriotic act of raising 90,000 acres more wheat this year than last—can learn where wheat lands may be advantageously rented by writing to Professor Charles F. Shaw at the University of California College of Agriculture at Berkeley. More than 200,000 acres of land in California have now been listed with the University as available for wheat production. Private owners have listed 20,000 acres, land companies 80,000, while nearly 100,000 acres available for wheat have been reported by farm advisers, horticultural commissioners, or other State officers as now unused or used only for scanty pasturage.

Some of this land is offered by its owners free of all rental for periods of one to three years. Some is well adapted for wheat, while a considerable area will give good yields if the season is favorable. Owners require that prospective lessees be of good character and bona fide farmers. To such they will turn over their land for from one to three years, provided they will put it into wheat. The larger part of the land is offered for lease at from one-sixth to one-fourth of the crop. Three thousand acres of this land have been applied for.

Information received from Wyandotte says the plan of the new owners of the Grubbs' ranch is to plant the 1,000-acre tract to mulberry trees and to begin a huge silk industry there. The leaves of the mulberry tree will be fed to silk worms. Seri culture has been tried out successfully in a number of places lately.

Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

Hauser Packing Company

9th and Mateo Sts. PHONES 10336 Bdw. 5600 Los Angeles, Cal.

Alfalfa Seed Melilotus Seed
Grass Seed Vetch Seed

Write for Sample and Prices

California Seed Company

151 MARKET ST., SAN FRANCISCO

KNOW YOUR ALFALFA SEED

After going to the expense of proper land preparation you can't afford to take any undue chances with the seed you plant.

There's one alfalfa seed on the market that you don't take any undue chances with, because it is sold with a guarantee of satisfaction.

You'll find it only in sacks bearing the trade name

NO WEEDS GREEN BRAND GOLD NO DODDER

It's the variety used in over 99 per cent of the commercial plantings in California. The one you've always used but now field selected and standardized by experts.

Let us send you prices and samples of

New Crop Seed

Bomberger Seed Co.

728 TENTH ST., MODESTO, CAL.

"Trade name and firm name on every sack."

GOLDEN SEAL PLANTS

2 years old, $20 per 1000

WILLOWBROOK FARM

R. F. D. No. 1, Redwood City, Cal.

PACIFIC GAS AND ELECTRIC COMPANY — PACIFIC COURTEOUS CONTINUOUS SERVICE

BEAR in Mind THE LAMP that is made in California

EDISON MAZDA

California's Native Sun

When supplied with PACIFIC SERVICE which aims to be PERFECT SERVICE it gives you THE BEST in ELECTRIC LIGHTING

Pacific Gas and Electric Company

San Francisco District

Head Office

445 Sutter St.

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Ask for Lamp Counter

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

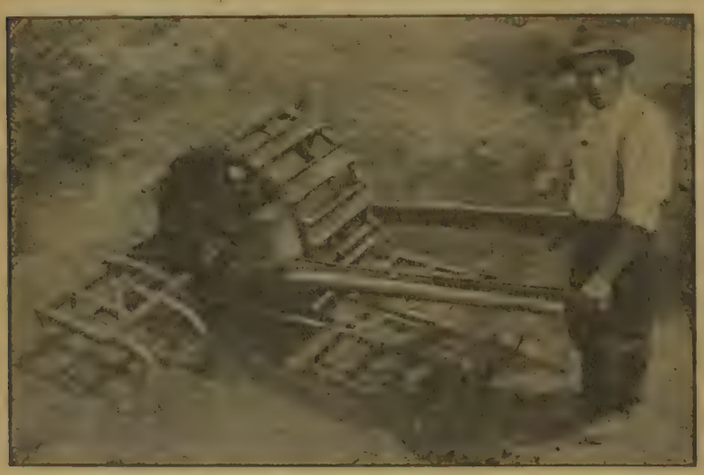
GARDEN TRACTOR ENGINE WITHIN WHEEL.

[Written for Pacific Rural Press.]

Tractors for the garden and market garden seem to be demanded, for where a year ago none were shown at the Southern California Tractor Demonstration this year three of them were shown. Our illustration shows one of these, a powerful little engine within the wheel which pulls the load, making the outfit small and handy enough to work in market gardens or wherever one or two horses would be used. About 600 pounds of steel are used in the machine and its price, when put on the market, is estimated will be between $200 and $300. Says the Fredlund Co., who will improve it.

"Our engine is designed for a grinding pull and compares in shape with a bulky flywheel. The axle is stationary; it serves as a crankshaft for the revolving engine of three cylinders, each of which has a four-inch stroke and a bore of three inches. With a speed between 500 and 800 r. p. m., this engine develops between 9 and 12 horsepower. It has three impulses to the revolution through an ingenious system by which each cylinder charges the adjacent cylinder through a conduit. The charge is controlled by a cut-off, which in turn is guided by a connecting rod. Except for the pistons, there are no compression tight fittings in the engine. In each cylinder there are but three moving parts.

"The axle of this tractor passes through the hubs and carries the wheel; the axle is hollow at either end. On the left side is the carburetor, this being equipped with a six-foot intake to get far away from the dust which necessarily comes with the plowing. On the right side of the wheel are the means provided for the control of the clutch, transmission, and the timer. Inside the wheel a lever arm is rigidly secured to the axle and the transmission is partly mounted upon it. This engine is absolutely dustproof."



Small tractor whose engine is within the wheel. Develops over Nine Horsepower. Made in California.

POWER NOTES.

The Holt Manufacturing Co. of Stockton has sold over 100 of its self-propelled Caterpillar type big combined harvesters this season.

An extremely long exhaust pipe produces back pressure and reduces the power of engines, according to Prof. J. B. Davidson of University Farm.

Tractor drivers with skill and common sense on both the tractors and the machinery pulled by them are reported scarcely to be obtained by purchasers of new engines.

The W. L. Cleveland Co. of Los Angeles has a drive-wheel pinion from one of its Waterloo Boy tractors which had been used on one wheel until the teeth were half worn away and had then been used on the other wheel until worn almost to a knife edge.

The new "sand wheel" of the Sieve Grip tractors was on exhibit at the Los Angeles Tractor Demonstration. It is like the other Sieve Grip wheels, except that the lugs are 5½ inches deep. This reduces the postrenches for themselves in soft sand.

Fast sugar-beet hauling from the field was recently observed near Tulare, where a Caterpillar 45 was hauling four flat wagons through the field without stopping, while men on each side of the wagons loaded the beets.

Smooth Furrows

Pretty, smooth furrows may appeal to the eye, but eight, twelve or fourteen-inch furrows plowed when the ground is dry and hard leave rough furrows and yield far bigger crops.

It takes power to do it—of course. But it pays—always.

Have you a Yuba Tractor catalog? Write for it—Dept. A4.

YUBA MANUFACTURING CO.
433 California Street
San Francisco

Big Yields—*Less Labor*

To reap the greatest return at harvest time, cultivate thoroughly before planting. This is the vital time for all crops. With small grains it is the only cultivation. To do it with less labor requires the

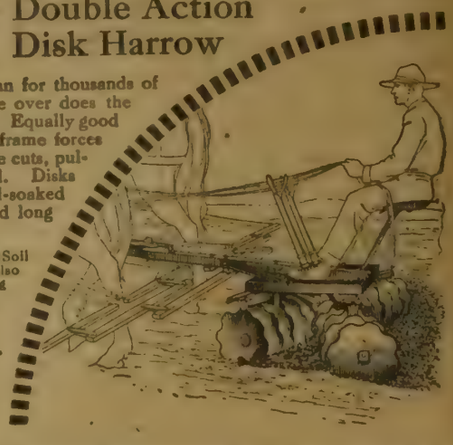
Cutaway (CLARK) Double Action Disk Harrow

It is saving a team and a man for thousands of farmers right now — and once over does the work! Its light draft is noted. Equally good on stubble. The rigid main frame forces every disk to its work; double cuts, pulverizes and levels the ground. Disks are forged sharp; dust-proof oil-soaked bearings — perfect service and long wear.

Write for our helpful freebook "The Soil and Its Tillage," and new cataloig, also for name of nearest dealer selling CUTAWAY (CLARK) Implements.

The Cutaway Harrow Co.
601 Main Street
Higganum, Connecticut

Maker of the original CLARK Disk Harrows and Plows.



Don't throw away that old stiff harness. Eureka Harness Oil will give it new life - takes the place of the natural oils that have dried out. Your harness is then ready for months, perhaps years more of faithful service. Eureka keeps harness jet black.

Eureka Harness Oil

Standard Oil Company
(California)

NORWALK TIRES

Leadership in mileage justly belongs to Norwalk Tires because of the inherent quality in these casings. All the mileage that science and honest craftsmanship can possibly put into tires is embodied in Norwalks.

Factory Distributors

LICHTENBERGER-FERGUSON CO.

1211 Van Ness Ave., San Francisco
Pico & Hope Sts., Los Angeles

Remember that heavy working parts require heavy oils and the lighter ones a lighter grade.

LAYNE & BOWLER PUMPS

The Up-to-Date Rancher

realizes that an efficient pumping plant is the most vital part of his equipment. Now is none too early to prepare for next season's dry weather. Investigate at once. Don't wait. Consult with our advising engineers as to your pumping problems. They will gladly estimate the total cost of installing an entire plant or just the pump alone. Our descriptive Catalog gives valuable information.

ASK FOR CATALOG NO. 25.

Layne & Bowler Corporation
900 Santa Fe Ave., Los Angeles

Driver Agents Wanted

Presented demonstrate the Bush Car. Pay for it out of your commissions on sales. My agents are making money. Supermen are prominent. Bush Cars guaranteed or money back. 1918 models ready. Write at once for my 48-page catalog and all particulars. Address J. H. Bush, Pres. Dept. 1041N

BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

AVERY TRACTORS.

To the Editor: It is most unkind of you to say, in a recent issue, that Avery tractors have been in use here for only one year. Even if you were alluding specially to the 5-10, as I think you were (in your report of the Los Angeles Demonstration), nearly two years ago I was paying you my good money for advertisements of these little machines, and incidentally may say that two 4-inch single column advertisements brought in over seventy replies.

Perhaps you will permit me to add that the first one of these machines in use in Southern California was sold by me to R. D. Rosenberger, president of the Beaumont Apple Growers' Association, nearly a year ago. I trust that you will do us the justice to publish this in your next issue.

Santa Rosa. G. EDGAR BUSCH.

[We are always glad to be corrected when we have been wrong.—Ed.]

"THREE-STEP" SUBSOILER.

[Written for Pacific Rural Press.]

A new creation is in use on O. A. Robertson's home place in Sacramento county, preparing hardpan land for orchard trees. It is a "three-step subsoiler" built by the Killefer Manufacturing Company of Los Angeles and tried out at Chowchilla on hardpan. There it was pulled by two 75 h. p. tractors, together with one 90 h. p. tractor. It was sent back to Los Angeles for a little reinforcement, and then to the Sacramento county ranch, where it was planned to use two engines of 120 h. p. each.

One standard follows another. The first goes 16 inches deep; the second, 32 inches; the third, 48 inches deep. It weighs five tons and the frame is 20 feet long. The shoes on the subsoilers are over two feet long and the cutting points are of steel three inches square and three feet long, sloping upward backward. It is raised or lowered by a big screw worked by a hand wheel.

WALLIS CUB TRACTOR.

[Written for Pacific Rural Press.]

The Wallis Cub Jr. tractor, shown for the first time in California by Hughson & Merton at the Los Angeles Tractor Demonstration, is guaranteed to pull 2,600 pounds on the drawbar, though it weighs only 3,000 pounds, and has pulled more than its own weight. Its main frame and crankcase are one piece of tubular boiler steel for the saving in weight. There are thirteen Hyatt roller bearings to save power. Everything is strictly enclosed except the fan and belt wheel. The drive gearing runs in a constant bath of oil. It is a small model of the Wallis Cub tractor, which has been on the market seven years in the East.

RUSSIA BUYING TRACTORS.

[Written for Pacific Rural Press.]

The Cal Moline Plow Co. made tractors in their plow factory until September 1, 1916, when they moved into their tractor factory and have since been making about thirty per day, all of one size. They are putting up an assembly building which will enable them to put out 100 per day. The Russian Government sent over a man with authority to buy 500 machines, but after he had been about the factory a week he came with an order for their entire output for three years, according to their representative at the Fresno Fair. They are, however, exporting only 20 per cent of their output, mainly to Russia.

MORELAND TRACTOR.

[Written for Pacific Rural Press.]

The Moreland Motor Truck Co. is emerging into the tractor business with a 15-30 machine built low and narrow and intended to turn in its own length. As with the Moreland trucks, their own Gasifier will be attached to burn distillate. This is another California tractor, the factory being at Burbank, where five years' experiments are coming to a conclusion. The new machine will soon be on the market.

POWER SULPHUR BLOWER.

[Written for Pacific Rural Press.]

A three-horsepower engine belted to a dry sulphur blower for red spider on orchard trees was shown at the Kings County Fair. The sprayer consists of a rotary fan, which blows through the sulphur box and carries a cloud of the insecticide through a long rubber elbow and an outlet pipe four inches in diameter. The whole thing is mounted on a truck to haul fast through the trees.

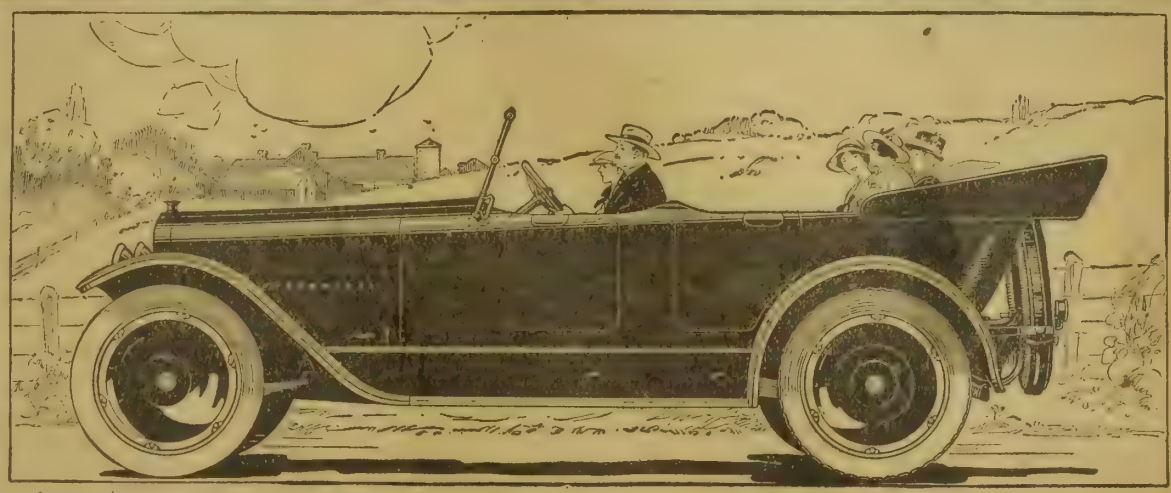
TRACTOR BURNED OIL TOPS.

The Sandusky tractor at the Los Angeles Demonstration burned 6½c fuel oil tops, about 42 gravity, while most of the others burned 11c distillate. A special flash plate was heated by the exhaust, being placed so the incoming gas would hit it, scatter, and vaporize. The plate is hollow, with the exhaust passing through it.

A very good method of cleaning rust off the metal parts of the tools is by rubbing a mixture of one pint of sulphuric acid and a quart of water on them. Apply with a rag tied to the end of a stick as solution is injurious to hands.

Hot bearings are due to one of the following causes: Dirt or grit in the bearings, poor oil, a lack of oil, or a bearing that is too tight.

A mixture of kerosene and lard is good to pour into the bearings of machinery.



The Life-Long Car

John W. Bate, the efficiency expert, says that cars should last a lifetime.

Some years ago he built for the Mitchell a mammoth model plant. Every building, every machine, was designed to build this type of car at the lowest factory cost.

He cut our labor cost in two. On our present output the saving amounts to millions of dollars annually. Then he urged us to spend that saving on making a better car.

100% Over-Strength

We told him to go ahead. So three years ago he started to double our margins of safety. He established a standard of 100 per cent over-strength.

All vital parts in the present Mitchells are built to that new standard. All safety parts are oversize. Over 440 parts are built of toughened steel. Parts which get a major strain are built of Chrome-Vanadium.

This over-strength has reduced repair cost at least 75 per cent. It has, we believe, made a lifetime car. Two Mitchells that we know of have already run over 200,000 miles each—over 40 years of ordinary service.

One curious result is that in two years not a single rear spring has broken. Yet thousands of Mitchells, all the world over, face the hardest road conditions.

A Twice-Better Car

He has made in the Mitchell more than 700 improvements. He has added wanted features, until the latest Mitchells have 31 features which nearly all cars omit.

Now we build all Mitchell bodies under these efficiency methods. That means another enormous saving. At his suggestion, all that saving is spent on new beauty and luxury. In the past year alone we have added 25 per cent to the cost of Mitchell beauty.

So you will find in the latest Mitchells cars twice as strong as need be. You will find every attraction that a car can have. You will find a heat-fixed finish which will keep its luster.

Yet the Mitchell prices—$1250 and $1525—are far below other cars of this class. Compare the length and power of Mitchells with cars at higher prices.

These things are all important in a car you buy to keep. They mean long life, low upkeep. They mean pride in your car. When you see our new models you will want this car. If you do not know our nearest dealer, ask us for his name.

MITCHELL MOTORS COMPANY, Inc., RACINE, WIS., U. S. A.

Mitchell—a roomy 7-passenger Six with 127-inch wheelbase and a highly-developed 48-horsepower motor.

$1525

Three-Passenger Roadster, $1490
Club Roadster, $1560—Sedan, $2275
Cabriolet, $1960—Coupe, $2135
Club Sedan, $2185
Also Town Car and Limousine

TWO SIZES

Mitchell Sixes

Mitchell Junior—a 2 or 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor. ¼-inch smaller bore.

$1250

Club Roadster, $1280
Sedan, $1950—Coupe, $1850

All Prices f. o. b. Racine

General Agricultural Review

Field Crops.

Giovani Ferro of Oxnard sold last week 7,000 sacks of limas at $13.55 per cwt.

Growers around Tulare are "bombing" ducks to rid rice fields of the pest.

The squirrel exterminating campaign commenced in Kern county last week.

Mexicans are being brought into the Imperial Valley by the hundreds to pick cotton that is now ripe for the harvest.

The grain warehouses all through the San Joaquin Valley are full to overflowing. Farmers generally are complaining that they cannot sell.

Rice harvesting in Colusa and Butte counties commenced fully a month earlier this year, than usual. The yield promises to be extra large.

About forty tons of tomatoes a day are now being packed at the cannery of the California Ripe Olive Company in Oroville.

The bean crop in the Sacramento Valley is unusually large. The hot weather of the past two weeks has been of great benefit to the bean crop.

The bean growers of Sutter county are rushing work where the beans are ripe and many harvesters and threshing outfits are running steadily. The crop is good.

Patterson is coming to the front as a producer of beans. The total acreage in that district will exceed 750 acres, which includes all the leading varieties.

Many new pumping plants are being put in around Delano and McFarland, and land is being checked preparatory to planting to alfalfa this fall.

Lima beans are now selling at Ventura for $14 per hundred, the highest price of the year. At the Saticoy warehouse there are now in storage 900,000 sacks of beans, worth $1,200,000.

Bean growers in the Stockton district are getting high prices for their products with the opening of the new season. Nine and ten dollars a cental for pinks and $12 for large whites are being paid.

Plowing is under full headway in the grain section around Lake Tulare and some seeding is being done. It is stated that the acreage will exceed by 50 per cent that of last year.

Wheat and barley yields were much heavier in Terra Bella district, Tulare county, than anticipated just before harvest. Many farmers found themselves short 50 per cent of having enough sacks.

All through the San Joaquin Valley the Kafir corn crop is turning out better than anticipated. The immense tonnage raised will help materially in furnishing stock fattening food.

The J. H. Harlan Co. of Woodland planted corn for silage on a piece of land from which they had harvested forty sacks of barley per acre. It is estimated that the corn will make fifteen tons per acre.

The directors of the Southern California Beet Growers' Association, with headquarters at Santa Ana, have asked a conference with the various sugar factories in Southern California with the idea of securing better prices for beets next year.

Shipments of tomatoes from San Jose to the Emery Packing Company in Lindsay is going on, and for a time a carload every other day is expected from the coast district. Labor shortage in San Jose made this step necessary.

An exchange states that the muskmelon is of Armenian origin. Its seeds were planted in Cantaluppi, Italy, about four centuries ago, previously to which time it had not been considered as an edible.

Manager Churchill of the California Bean Growers' Association, Ventura, announces the sale there last week of lima beans at $14 per cwt. It is said that Adolfo Camarillo of Camarillo, Ventura county, has sold his 10,000 sacks of limas at $13.50 per cwt.

It is said that five young women attired in overalls and boots are working on the ranch of Percy Scott in the Woodville district in Tulare county, cutting a big crop of Milo maize. They are doing acceptable work and are paid $2.50 per day for eight hours' work.

The Pacific Rice Growers' Association has received the report of the Federal Government, which has been making a special investigation of rice production in California. The report shows there are 1,500,000 acres available for growing the cereal upon a profitable basis.

Another by-product of cotton has made its appearance. It is cottonseed flour. It comes from Texas. It is said it is good for mixing with other flour. It should be used in proportion of 20 per cent of cottonseed flour to 80 per cent of wheat flour. The flour sells at about 4 cents per pound.

To stimulate the increased production of Milo maize in the Imperial Valley, Professor Irving Bachelder of the United States Experiment Station at Riverside, is conducting Milo seed selection on a large scale. The maize is being more generally recognized as a valuable hog feed each year.

There is still much difference of opinion as to the probable yield of tomatoes for canning this season, but interviews and field inspections made by the U. S. Assistant Truck Crop Specialist for the Far West have convinced him that prospects are bright for the largest pack of tomatoes yet put up in California.

The largest pack of canned peas on record for California was put up in 1917. It is roughly estimated that the pack this year will be 275,000 cases. There was not only a good acreage but also a good yield. The principal acreage was located in Alameda, San Mateo, Santa Clara and Stanislaus counties, near the canneries.

The trial of the Gabel-Holiday cotton picking machine in the Imperial Valley last week proved a success. The picker operates on the principle of the vacuum cleaner. It has five picking arms, which are operated by five men and a boy. It is said it will do the work of fifty men and its success is expected to stimulate the cotton industry in the Valley. Its inventors have contracted to pick cotton for several large growers at $1 per cwt.

Citrus and Semi-Tropical.

The State Horticultural Commissioner estimates the orange crop of Tulare county this year at 65 per cent.

The Emery Packing Company at Lindsay has begun processing of olives. A 50 per cent Manzanilla crop is anticipated by the olive men.

The coming orange crop in the Porterville and Plano districts is expected to amount to 50 per cent of last season. Valencias will be better in proportion than navels.

The plant of the California Associated Olive Growers at Lindsay began operations last week when olives were received and are now in the vats in the basement.

Pomegranates in the Lindsay district are ready to be picked. There is a heavy crop on the trees with a very few splits and growers look for a banner year.

Olive picking in the Oroville district has started under the direction of the Ehmann Olive Company. The various olive plants are being placed in order for the season's run. The olives are ripening rapidly.

The recent warm weather in the Lindsay district, said to be unprecedented for this month, has ripened the oranges much earlier than expected, and already the fruit in some orchards is beginning to show color.

L. D. Palmer, manager of the Orange County Fruit Exchange at Orange, says it shipped the past season 1,642 cars of oranges and 340 cars of lemons, for which the growers got $2,093,654.

C. F. Collins, Horticultural Commissioner of Tulare county, has 38,260 acres of citrus bearing orchards — navels 25,085 acres, Valencias 8,862 acres, lemons 2,666 acres, and miscellaneous 486 acres.

L. L. Williams of Woodland has three-year-old olive trees planted in alfalfa which are growing excellently. Mr. Williams thinks the trees are doing better than the average cultivated orchards.

Reports from Tustin say that it is to have another citrus association, the Golden West. It expects to spend $30,000 to $35,000 in two new packing houses for handling both oranges and lemons.

The annual meeting of the Redlands-Highland Fruit Exchange was held last week. Its shipments of oranges and lemons for the season were 3,372 cars and net returns to growers $2,600,000.

Lemon picking in the Porterville district has begun and deliveries of fruit to the packing houses have been started. Estimates are that the probable output of lemons for this immediate district will be about sixty cars.

The California Avocado Association, whose headquarters are at the Citrus Experiment Station at Riverside, will hold its semi-annual meeting and exhibit at the Glenwood Mission Inn, Riverside, October 26 and 27.

Summer is over and the condition of the orange and lemon orchards is such as to enable a fair estimate of the coming crop. William Wood, Horticultural Commissioner of Los Angeles county, says the navel oranges have failed to recover from the injury from the heat wave in June. An estimate of 25 per cent of a navel crop in Los Angeles county is thought to be a big one. Lemons have fared better, their condition steadily improving the past two months, and an estimated yield of 60 per cent for the coming season is not thought to be too much.

In a late decision of Judge W. B. Wallace of the Superior Court at Visalia, he decided that when oranges reached the standard called for between growers and buyers the fruit becomes the property of the latter. This was the decision in the

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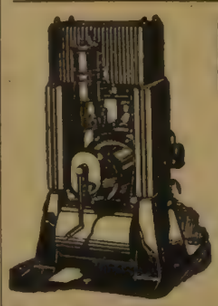

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case of B. O. Bishop of Lindsay against the Desalsi Fruit Co. of Pittsburg. Mr. Bishop contracted his crop to the fruit company, to be delivered when it reached the eight-to-one standard. When the fruit tested Mr. Bishop notified the packers, but they were unable to accept deliveries owing to the crowded condition of the packing houses. A few days later the fruit was frosted and a practical loss. Judgment was rendered against the fruit company for $1,690.

Deciduous Fruits.

Whittier walnut growers are picking and shipping their walnuts freely. A car of 505 bags, valued at close to $10,000, was shipped to Oklahoma City last week.

The success that canners are meeting with in evaporating apples and candying orange peel means a ready and better market for both cull apples and oranges. H. P. D. Kingsbury of Redlands has had to greatly increase the capacity of his cannery to meet the growing demand for his products.

C. F. Collins, Horticultural Commissioner of Tulare county, in his quarterly report gives the following shipments of fruit so far from his county: Grapes, 745 cars; plums, 139 cars; peaches, 114 cars; pears, 9 cars; apricots, 6 cars; and apples, 1 car. Plums this year brought as high as $1,500 per car.

The American Pomological Society holds its thirty-fifth biennial meeting at Boston, Mass., October 30-November 3. The same week there also will be in session the National Congress of Horticulture, the Massachusetts Horticultural Society, American Society for Horticultural Science, and the New England Fruit Growers.

In a statement issued by the Southern Pacific Company announcement is made that in the ninety days preceding October 1 the Pacific Fruit Express has carried 27,000 cars of fruit and other perishables out of California for the East. This sets an average for the three months of 300 cars a day, a volume of traffic of this character never equalled anywhere.

Grapes.

The car shortage is alarming in the grape growing sections. Unless the situation is relieved soon, the fruit growers will sustain heavy losses, as grapes are highly perishable.

Adolph Bauer, Lodi manager for George West & Son, advises grape growers in Lodi district with whom the company has term contracts for the purchase of their wine grapes at $10 per ton that the board of directors authorizes a bonus of $2 per ton to be paid this year upon all wine grapes delivered under same.

Miscellaneous.

Tulare Farm Loan Association has received its charter from Washington. More than $40,000 in 5 per cent loans will be taken by the farmers of this vicinity.

J. M. Bomberger of the Wood Colony has been appointed a member of the Agricultural Production Board of California, which board is a branch of the Food Administration under Mr. Hoover.

Reports from thirty-three storage plants in Colorado, New Mexico, Arizona, Utah, Nevada and California show the stock of creamery butter September 1, 1917, 3,468,879 pounds, against 4,510,139 pounds September 1, 1916.

The entire American sugar industry was placed under Government control October 1, the Food Administration has announced, by the institution of a licensing system to include manufacture, refining and imports.

George C. Boller of Placer county has received a patent for a handy little "tool for side-grafting trees and shrubbery." The tool weighs less than a pound and is strong enough for grafting a scion as large as a common lead pencil.

TRACTOR DEMONSTRATION AT SAN JOSE.

There will be a demonstration of tractors and tractor-drawn implements held near San Jose on Thursday, Friday, and Saturday, November 1, 2, and 3. It will be held by the tractor and implement dealers of San Jose, and will include all power-farming machinery handled by the local dealers. At least eight different types of tractors will be shown, some of them in various sizes, and the implements will probably run into a score or more. This machinery will all be shown in operation under every-day working conditions, so that the grower will have an opportunity to study at close range the advantages of power-farming and the features of the various machines. Admission will be free and growers everywhere are invited. It is expected that the attendance will run into thousands. Careful provision has been made to take care of a large crowd and the local committee has arranged to have lunch served on the grounds at small cost.

SHORT CROPS FOR 1918 PROPHESIED.

Sixty-five representative agricultural producers in a meeting called October 5 by California Food Commissioner Ralph P. Merritt went on record in favor of abolishing saloons as a means of increasing production of foodstuffs. They also urged that a California representative be appointed on the Federal Priority Shipment Board, release from draft of skilled farm operators and help the labor shortage, and fixed prices on beef cattle. Nearly unanimously it was prophesied that next year's crops will be shorter than those of 1917 unless labor is supplied.

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A matchless opportunity to study Power-farming Machinery at close range—and to see for yourself just how and why Power-farming gets the work done quickest, best, and at least cost—increasing production and adding to the grower's profits.

Admission is free Lunch may be obtained on the grounds at small cost. Good hotel accommodations at reasonable rates for those who want to stay over night. It will pay you to come.

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Dairymen Aid Their Masters.

There ought to be a law against giving too high a butterfat test, says a creameryman, who complains that some of his customers are drawn away temporarily by another company which is trying to freeze him out by paying a cent or two higher and giving a test above the actual amount of butterfat, though these tactics do not prevail in other territory where his competitor already has a clear field. It seems too bad that producers are so humanly short-sighted as to aid and abet this destruction of competition, which will, when its object is accomplished, put them at the mercy of the destroyer.

Marketing Purebred Animals.

The old question of how much should purebred animals be held for was debated at two or three of the State Fair livestockmen's meetings. One side maintains that the logical and vital market for breeders of registered stock is the great body of farmers, and that prices should be low enough to induce them to buy. The other side maintains that nothing is more likely to induce farmers to enter the purebred business than to attend an auction where registered animals are selling at very high prices. As a matter of fact, there are two distinct markets for registered animals, and still another for many purebred animals (meat). Northwestern breeders recognize this by putting bulls into their spring sales and also the females which are too good for the block and yet not considered good enough to reproduce themselves in foundation stock. These animals go at prices which distribute them on the farms and improve Northwestern range and farm livestock. The best females and the very best bulls are reserved for the fall sales, where fancy prices are paid among breeders of registered foundation herds. Both the spring and fall sales have proved immensely popular, and they provide outlets for the surpluses to be sold by small breeders of select stock. We have in California a few breeders who are serving both markets well. We also have some breeders who are in the game to grab all they can, while they can, by any means they can. Happily, at the State Fair meetings these had to keep silence, while the advocates of purebred dealings entirely aboveboard were very prominent. The recent Worcester, Mass., sale has become a pattern for a California sale now projected, to have a responsible committee guarantee the stock in all respects as breeders, free from disease, and hign producers. Needless to say, the advocates of high prices have a right to be heard in connection with such a sale and the animals will go into foundation herds.

Resaw Silo Questions

To the Editor: In building the so-called "resaw" silos, a layer of building paper is used between the two layers of resawed boards. Now queries as follows:

First—Is this just the ordinary building paper such as made by Paraffine Paint Co.? Second—How long does this paper last in a silo? Third—I understand that silage undergoes a partial fermentation and that acids are developed; now do these acids affect the building paper? Fourth—I understand further that at times, owing to admission of air to silage, that a further fermentation takes place, which results in formation of alcohol; now does the silage which contains alcohol affect the building paper? Fifth—Of course the asphaltum in the paper or on the paper is what makes it air and water tight and what I am driving at is, how long does the asphalt coat preserve against the action of all kinds of silage?—A. W. S., Oakland.

[Answered by Prof. J. B. Davidson, University Farm, Davis.]

First—Waterproof building paper such as made by the Paraffine Paint Company will be satisfactory for the resaw silo.

Second—We do not have information regarding the durability of this paper in silos, but believe it will last for many years.

Third—Waterproof building paper is usually sized with an asphaltum mixture which is not affected by acids.

Fourth—The amount of alcohol produced in silage when the silage contains the proper amount of moisture is so small as to not give any trouble in affecting the building paper.

Fifth—Inspection of resaw silos would lead us to think that asphaltum-sized paper, carefully laid, will prove to be as durable, if not more so, than the lumber used in the silo.

A DRIVE ON OCEAN ANIMALS.

H. M. Leete writes in the Bulletin about one of the brand new industries which California capital is preparing to engage in. Whether the tremendous demand for fats was responsible for the organization of the California Sea Products Company, which will engage in this enterprise, is not stated by the organizers thereof, but probably the war has much to do with it. C. N. Beal and Ray C. Beal, members of the well-known firm of Beal & Co. of this city, are leaders in the enterprise. Other directors are Captain F. F. Dedrick, Kirkham Wright, L. S. Sherman, Captain Einer Hille, Henry Wolling, and Edward J. Pringle. This directorate includes a number of seafarers with experience in the whaling industry.

While the business of catching whales and trying out their fat was in the days of Argonauts fairly well established in this State, changing times and the use of mineral oils for lubricating and lighting gradually diminished the profits until the old whalers were driven out of business. New processes for taking whales and treating the carcasses and a demand for animal fats and other materials furnished by these seagoing mammals, however, have recently stimulated the industry. Norway, for instance, today leads the world in the whaling business.

The headquarters of the California Sea Products Company will be in this city and the first station will be erected upon Monterey bay. The new corporation brings into productive use a new and almost inexhaustible source of wealth.

A 30 Pound Show Bull

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The females include: A beautiful 27-lb. four-year-old daughter of a 36-lb. sire and out of a 27-lb. dam; FOUR GRANDDAUGHTERS OF KING KORNDYKE SADIE VALE; a daughter of a 28-lb. sire out of a 24-lb. dam; a daughter of a 37-lb. sire bred to a 30-lb. show bull; a daughter of a 29.50-lb. cow bred to the only bull on the Pacific Coast that has three daughters above 30 lbs.; a granddaughter of Aralia De Kol out of a 29-lb. daughter of De Kol Burke; a daughter of King Walker 5th out of a 29.53-lb. dam; FOUR GRANDDAUGHTERS OF TILLY ALCARTRA; several daughters of 33-lb. sires; a daughter of Segis De Kol Pontiac Burke; a daughter of Prince Gelsche Walker Korndyke out of a splendidly bred dam; FOUR GRANDDAUGHTERS OF PRINCE GELSCHE WALKER; two daughters of a 31-lb. sire bred to it, whose dam is the first 37-lb. cow and the first cow to make over 1200 lbs. butter in one year; a granddaughter of Sir Veeman Hengerveld; a granddaughter of Pontiac Korndyke; a granddaughter of Colantha Johanna Lad; a daughter of a 26-lb. cow; a daughter of King Morco Alcartra out of a daughter of Prince Gelsche Walker; a daughter of King Korndyke Pontiac out of a daughter of Prince Gelsche Walker.

BULLS FOR THE BREEDER AND DAIRYMAN INCLUDE:
A 30-lb. bull that was first prize winner at 1917 California State Fair; a son of Prince Gelsche Walker out of a 29-lb. dam; a grandson of King Korndyke Sadie Vale out of a 29.39-lb. three-year-old daughter of King Segis Pontiac; a son of King Segis Alcartra Abbekerk out of a splendid heifer that made 25.06 lbs. butter in 7 days with second calf; a son of Prince Gelsche Walker Korndyke out of a 27-lb. dam; a son of King Mead of Riverside out of a dam that made 29,545 lbs. milk and 1,077.73 lbs. butter in one year; two sons of King Mead of Riverside out of a 27-lb. dam; a son of Prince Gelsche Walker out of a 24-lb. dam that made over 800 lbs. butter in one year.

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Riverside Fair the Best Ever

[Written for Pacific Rural Press by Cuthbert Powell.]

The Riverside County Fair closed last Saturday. It was its fifth show and its best. Its exhibits were the largest and most complete ever brought together. Its attendance was large and appreciative, showing increased interest taken in the fair. Its management was especially pleased with the support given, and says it means a still better fair next year.

The livestock exhibits were the best ever on the ground. In the cattle department there were Shorthorns, Holsteins, Guernseys, and Jerseys. T. T. Miller of Los Angeles showed six Shorthorns, headed by his bull Diamond Choice, an aged roan bull of great beauty and merit, weight 2,500 pounds. He won the grand champion prize. Brandsby Jenny 18th, shown with her calf, was judged the senior and grand champion cow. He also won a number of class prizes. F. L. Hall of Perris had fourteen Shorthorns on the grounds. He won a number of first and second premiums. Rosamines Ranchio, Stadler Bros., Riverside, showed sixteen Holsteins and some very nice cattle. They won grand championship on an aged cow and a number of first and second premiums. The Delta Farm and Livestock Company of Colton, Cal., showed two Holstein cows and won third on a three-year-old cow. J. E. Wherrell of Riverside entered a number of Jerseys. He won sweepstakes on bull and cow and a number of first and second premiums. The Hollow-Hill Farm, Colton, showed a number of Guernseys and took all the premiums without competition.

MODEL DEFENDER LADY

Grand Champion Riverside Fair. Junior yearling, 18 months, weight 590 lbs. Raised one litter of nine pigs. Owned by Peters, Lamson & Walker.

In the hog department the entries were the best and fullest ever had. It was a most creditable show of porkers all round and showed increased interest taken in purebred hogs in Southern California. Peters, Lamson & Walker of Devore had a big entry of registered Duroc-Jerseys and won the grand championships on boar and sow and the silver trophy given by the National Duroc-Jersey Association for the best litter farrowed after March 1. They also captured a number of first and second premiums in class. The Falfadale Farm, Perris, also showed some nice Duroc-Jersey hogs. They won junior champion on boar under six months and junior champion on sow under six months and a number of first and second premiums. The Berkshires also made a good showing. F. L. Hall of Perris entered seventeen head, nine sows and eight boars. He won first and junior champion on boar and the grand champion prize on sow and a number of first and second prizes in class. Hollow Hill Farm, Colton, entered seven Berkshires. They won the championship prize on boar and sweepstakes on boar, besides a number of class prizes. The Hampshires made a good showing. They are comparatively new in this country, but are growing in favor. F. A. Langdon of Perris was on hand with five boars and eight sows. He won grand championships on aged boar and aged sow and a number of first and second premiums. R. Dawson of Gardena entered one Hampshire boar under eight months, weight 550 pounds. He was awarded first and junior champion prize. The Rancho el Ricon, Earl Remington, Chino, showed sixteen Tamworths. Having no opposition, he took all the premiums in his class.

There were several exhibits of Percheron horses. F. L. Hall, Perris, Cal., entered three stallions and three mares. He won the grand champion prize for the best stallion and a number of premiums in class. The Rosamines Rancho, Riverside, showed six Percherons. It won first and junior champion on stallion and a number of class prizes.

The agricultural exhibit was an interesting and attractive one. Both the field and garden products exhibits were most creditable.

"HOLLOW-TAIL IN COWS.

To the Editor: Is what is known as hollow-tail in cows a form of tuberculosis?—J. D. B., Chino.

Hollow-tail, wolf in the tail, hollow horn and others are old names used by quacks to cover all diseases of cattle. Witchcraft is used for the cure.

Sore Teats—Their Prevention!

Do you know what the calf's tongue does to the teat *when he swallows?* Not one person in ten does. That is one reason why, here and there, a man is loath to give up hand milking.

Notice when *you* swallow—the back of your tongue strikes the roof of your mouth first and works forward till the tip touches. It's the same with the calf—in doing so his tongue relieves the teat of its *congestion* by massaging it from *tip to udder*. If this were not necessary, there would be some excuse for the milkers that just pull, pull, pull—or for those that massage in the *wrong* direction and those that massage in the right direction but in a *rough brutal* manner. Even hand milkers cannot relax and massage the teat—a fact which accounts for the usual increase in the yield of the herd when Empire Milkers are installed.

Examine the Empire Teat Cup. Notice how the gentle massaging is accomplished—more *gently* and *uniformly* than even that of the calf.

The facts are getting around: The wide and growing sale of the Empire Milker; the stories of success after success in dairies all over the country; its prestige among the men whose opinion carry weight.

Our factory is crowded to the limit. We advise prompt action. Go to your dealer without delay and tell him to place your order as early as possible. In some localities we have not appointed an Empire agent; our requirements are high and not every kind of dealer is permitted to represent the Empire Line—if there is none near you write for the Empire Profit and Prize Book and Catalog No. 00, and we will see that you are taken care of.

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Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,
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Stock for sale.
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The name GIBSON insures quality

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Dean Beaman of the Shady Glenn Stock Farm recently applied for membership in the Holstein-Friesian Association.

The canned milk manufacturers recently agreed to make no war profits out of milk from individuals or the Government.

The J. H. Harlan Co. of Woodland recently sold a bull to Ewart Bros. of Woodland and one to Hiddleson, also of Woodland.

J. H. Ellis of Maxwell recently bought an eighteen-months bull from the J. S. Gibson Co. The bull is the son of Winnie Cornucopia Korndyke De Kol.

Prince Butter Boy Walker, owned by Harlan & Co., was senior and grand champion at the Yolo County Fair. One of his daughters was grand champion cow.

Aaggie Acme of Riverside 2nd, owned by A. W. Morris & Sons of Woodland, will complete a year's strictly official test November 10. She is running away ahead of the Pacific Coast record.

The Danish Creamery Association directors recently fixed the price for deliveries of butterfat made in September at 52c a pound. This is the highest price ever paid in the San Joaquin Valley.

W. J. Higdon of Tulare exhibited a cow at the Fresno Fair that had been milking 11 months and was still giving six gallons per day. She gave 100 pounds per day the first 30 days.

F. A. Heroux of Oakland took first and second on junior Holstein bull calves at the California Land Show. These calves were brought from the East last July in very poor condition, but are sleeking up now. One is a son of King of the Pontiacs.

The junior three-year Holstein Lady Starin Pontiac Creamelle, owned by F. Stenzel of San Lorenzo, recently finished a test of 28.36 pounds butter, having been fed only malt and green alfalfa. How much better record might have been made with adequate feed!

A uniform accounting system for country creameries has been completed by specialists of the office of Markets and Rural Organization of the United States Department of Agriculture. The system, which is adaptable to large and small creameries, is described in a new publication of the department, Bulletin 559, "Accounting Records for Country Creameries."

The Government has requested that all milk distributers throughout the country submit a report on the cost of handling and distributing milk in its effort to determine the present high cost of milk. The Los Angeles Creamery in its report says: It is paying 6.4c a quart for milk, factory cost of pasteurizing, bottling, etc., 2.1c; delivery cost, the upkeep of horses and wagons and drivers' wages 2.9c. Total cost of delivered quart of milk, 11.4c. Profit, 6 mills.

M. H. Tichenor's four-year Holstein Roxie Pauline Burke has just completed a 20-pound record 252 days from freshening. She made over 26 pounds the first seven days and 701 pounds of butterfat in 252 days. Her average test for the period is over 4.3 per cent fat. She has had all the green alfalfa she would eat and 28 pounds of grain mixture in four feeds per day. She has been milked three times per day except during the two seven-day tests, when she was milked four times daily. The grain mixture consists of ground oats, bran, cottonseed meal, brewers' grain, cocoanut meal. Beet pulp and green beets have also been fed.

Swine and Swinemen.

A. F. Vettel of Chico is gradually stocking his farm with purebred Duroc-Jerseys.

W. H. Browning of Woodland took all the ribbons for Poland-China hogs at the Yolo County Fair.

The model hog farm of the Anchorage Farm at the Glenn County Fair was an outstanding feature.

The new meat packing house at Calwa was started in operation October 11 with a herd of fine hogs and amid considerable ceremony.

W. H. Browning reports that the Pacific Rural Press has been largely responsible for the sales made by him of about fifty sows and gilts this fall.

Peters, Lamson & Walker of Devore report having been offered $1,500 for three of their fine Duroc-Jersey sows shown at the Riverside Fair. The offer was not accepted.

Grain-fed hogs in Tulare section are bringing practically twice as much money as a year ago, according to Tulare stock buyers, who are paying the producers at the rate of 14c a pound.

Farm Adviser George C. Kreutzer is highly elated over the prospects for Kern county hog raisers who market their stock through the Center Auction sale medium. The highest price received heretofore was $14.75. A top price of $16.65 has been received.

A. B. Humphrey of Escalon, who won the highest award at the Panama-Pacific International Exposition, captured a grand championship with his Berkshire boar Majestic King VI, which Charles Maurer purchased for him from Perkins & Co. of Perkins before the judging.

W. W. Everett sends us a picture of the Riverbend Farms float in the parade at the Vintage Festival at St. Helena. Their herd boar, Riverbend High Model (900 pounds), was surrounded by ten big cornstalks on a bed of freshly cut alfalfa. A big legend on the side of the wagon read, "Why worry about prohibition?"

California won both the grand championships in the Berkshire division of the second National Swine Show, held at Omaha this year. Baron Duke 201 won the grand championship for boars and Rookwood Lady 100 the grand championship for sows. Both animals were owned and exhibited by Frank A. Brush of Santa Rosa, Cal.

A meeting and banquet of the Southern California Duroc-Jersey Association was held at the Riverside Fair last week, which was well attended. This Association is well officered and has a good membership. There are several breeders in the Southland with this breed of swine. They hope through co-operative effort to encourage new ventures in the purebred industry. Bob Walker of Devore is secretary.

News comes from El Centro that a trainload of grain-fed hogs have left there for Kansas City. Grain-fed hogs in that market are quoted at $18.50 to $19.50. That is $2.50 to $3.50 per cwt. more than is being paid on the Los Angeles market, where the hogs from the valley have been marketed heretofore. After deducting the shipping expenses and a commission of $8 per car, and allowing for the loss in shrinkage, the shipment is a questionable venture, unlikely to be repeated.

R. H. Whitten of Los Angeles, owner of the Whitten Ranch at Terra Bella, has just purchased six brood sows from E. D. Frazier, Drexel, Mo. Mr. Whitten has made this addition to his herd in order to supply the rapidly increasing demand for young breeding stock. The sows were sired by Frazier's leading herd boar, Jumbo Bob, by the 1,106-pound Long Jumbo, and out of an 800-pound sow by the 1,100-pound Big Bob, the greatest breeding boar of all Poland-China sires. The sows will be bred to Mr. Whitten's $1,000 Jumbo Model for spring litters.

Sheep and Goats.

Eighty imported Swiss Toggenberg goats were recently received for a new goat ranch near Salinas.

C. F. Day of Woodland has an extra fine lot of grade Shropshires. He expects to breed over 1,500 ewes this season.

A. McInnes won at the Glenn County Fair, held at Orland recently, on his exhibits of sheep and lambs, two champion prizes, five firsts and one first and second.

Bullard Bros. of Woodland were not able to supply the increasing demand for Rambouillets this year. They have 1,000 ewes in the breeding pens for next year.

Beef Cattle.

The annual fall sales of the Pacific Shorthorn Breeders' Association will be held at Lewiston, Idaho, November 13, and at Portland Union Stock Yards, November 22. Seventy head of females and sixty head of bulls will be offered.

The California Shorthorn Breeders' Association will not hold a sale of registered stock during the California Land Show, as contemplated, because no auctioneer is available who knows enough about the fine points of Shorthorns. The sale will probably be held late in January or early in February.

REGISTERED HOLSTEIN SALE AT SANTA ANA.

The registered Holstein sale held at the McClure Farm, Santa Ana, October 16-17, started off well the first morning, this item being written after the noon adjournment. The 125 head of stock offered were in good condition, Col. Ben Rhoades as auctioneer was, in poor voice but good spirits, and C. L. Hughes as sale manager had matters arranged for the most expeditious handling. Consignments were made by Otto McClure, Santa Ana; McAlister & Sons, Chino; P. H. Jarrett, Lancaster; R. Nadeau, Saugus; Santa Anita Rancho, Aro Herd, Buena Park, and A. Satterberg, San Jacinto.

The sale opened by buyer paying $180 for the two-year-old heifer, Erma Peterboss De Kol, consigned by E. O. McClure; this sale was followed by $165 being paid for the four-year-old cow, Arfigdara 2nd, consigned by P. H. Jarrett; an eight-months-old bull calf, owned by Santa Anita Rancho, brought $105, he being King Korndyke Pontiac 21st; the four-year-old cow, Clara Pontiac Topsy, owned by E. P. Fay, brought $205; a last February heifer, Queen Veendam De Kol Pontiac, sold by A. Satterberg to Frank Hatch for $100; the fine yearling heifer, Esther Netherland Mercedes 2nd, owned by McAlister & Sons, brought $125. The prospects are for a successful sale.

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LAND SHOW LIVESTOCK.

[Written for Pacific Rural Press.]

DAIRY CATTLE.

The first accomplishment toward a San Francisco Livestock Exposition is being staged this week and next at the California Land Show and is officially "The First Annual Livestock Exhibition." Dairy cattle have this week occupied the big tent and the comfortable judging ring; beef cattle and dairy Shorthorns will take their places next week. While future shows of this kind here are hoped to include the champions of the fair circuits of California and surrounding States, only a few champion dairy cattle are here this time. Five exhibitors are showing 27 Holsteins. These include F. Stenzel, F. A. Heroux, Napa State Hospital, E. Sausaeta, and Jas. Gibson. Guernseys are represented by 31 head, including 14 from the Revada Farms and the rest shown by A. J. Welch and L. D. Smith. Jerseys include 18 head shown jointly by J. B. & J. E. Thorp and N. H. Locke Co. and 10 head shown by Stanislaus breeders in a group. These include Guy Miller, J. A. Goodall, W. J. Hackett, and C. D. Hayworth. Ayrshires were represented by 12 animals from Steybrae Farms. As awards are not complete when we go to press, they will be reserved for a later issue. Breeders all seemed happy over the accommodations afforded; but more room will have to be provided next time. Redwood tent poles are set thick with green boughs at their tops, yellow chrysanthemums in vases decorate the stalls, and big red poinsettias serve as shades for the electric lights.

BEEF CATTLE.

Fifty-three grand beef animals are to be exhibited, October 22 to 27, at the California Land Show in San Francisco, by T. T. Miller, Jack London Ranch, Pacheco Cattle Co., W. M. Carruthers, Ormondale Co., Chas. Rule, W. J. Bemmerly, D. O. Lively, and J. A. Bunting.

C. C. O. A. RESOLUTIONS.

The California Creamery Operators' Association, at its recent session in Petaluma, passed resolutions requesting its executive committee "to use their continuous and untiring efforts and influence with the proper authorities in securing necessary labor to properly carry on the work of the dairy ranches of the State," which at present is a serious problem; also recommending that necessary steps be taken whereby the dairy and agricultural interests of the State be placed in the hands of dairy organizations co-operating with the University of California.

Feed is going to be very short in San Benito county and most of the Monterey ranges unless they get an early rainfall that will start green feed to growing. Feed has not been so short since the winter of 1912 and '13. A great many stock will have to be driven out should they have another winter like last.

No deaths from anthrax have been reported in Yolo county in herds which have been vaccinated.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

Poland-Chinas.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

TWENTY OF THE BEST SOWS and two grand boars from the Bernstein herd will sell at the fourth annual Kings County Poland-China Breeders' Sale, Hanford, October 19. W. Bernstein, Hanford.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend streets, San Francisco.

A-1 BERKSHIRES — Herd boars Winona Royal Champion and Charmers Star Masterpiece. Best blood lines. Immunized stock. Ayrshire cattle. Arlington Smith, Visalia.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRE GILTS—Rival's Champion Best and Bandmaster blood lines. D. B. Wentworth, Napa.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

ANDREWS' QUALITY DUROCS—On receipt of bred gilt shipped him, Dr. R. B. Homan, Texas breeder, writes: "Miss Mabel Wonder arrived in excellent condition and am well pleased with her. None of them (other sows in his herd) are as good as the one purchased, from you, and I am expecting great things from her pigs." Place orders now for November bred gilts and weaned pigs, all sired by California's Grand Champion, Daggs' Good-E-Nuff, and a fine specimen Gold Model boar. W. P. Andrews, Route A, Modesto.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

DUROC-JERSEY SPRING BOAR — Sire, dam, dam's dam and three litter mates of dam were 1916 Riverside winners; a high-class boar priced to sell. H. C. Witherow, Palo Cedro, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

RANCHO DEL SUR DUROC-JERSEYS—Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

REGISTERED DUROCS of guaranteed breeding. All ages. Weaned pigs, $10. H. E. Boudier & Son, Napa.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

DOS HERMANOS DUROCS — A few choice spring pigs. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer! Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

J. W. Coppini Again Wins State Dairy Prize

Mr. Frank Honeywell, Publisher Pacific Rural Press: I beg to inform you that our records show that five grades in the herd owned by J. W. Coppini, Ferndale, California, had the largest average production of this number of grades entered in the State Dairy Cow Competition for the month of September, among those eligible to compete for the Pacific Rural Press prize. Mr. Coppini is, therefore, entitled to this prize for September. The five grades averaged 843.6 pounds milk and 51.033 pounds butterfat; average per cent 6.05. The production of the individual cows ranged from 59.27 to 40.96 pounds butterfat. The production of five grades in other dairy herds that competed for this prize during the past month was as follows: Hollow Hill Farm, 50.581 pounds; Iver Iversen, 48.147 pounds; G. E. Trigg, 47.223 pounds; F. Stenzel, 46.600 pounds; Southern California State Hospital, 42.544 pounds; F. Beebe, 41.807 pounds; Bohnett Bros., 40.529 pounds; F. J. Kell, 35.069 pounds; L. Hess, 22.709; J. M. Christen, 20.328 pounds.

Very truly, F. W. WOLL,
Superintendent of Dairy Testing.

[This is the second bunch of cows with which Mr. Coppini has won the Pacific Rural Press prize, and is the fifth time this prize has gone to Humboldt county.—Ed.]

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND — The mellow, easy feeding type; 20 bred gilts due to farrow during October and November; 50 spring pigs, both sexes, sired by Billiken; every animal is cholera immune; Billiken was grand champion boar at the State Fair; a son was reserve grand champion and a daughter was grand champion sow. Why not get started right and with the best? Write for prices and for booklet on Chester Whites. C. B. Cunningham, Mills, Sacramento Co., Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

TOYON FARM HOLSTEINS—Sons of Finderne Soldene Valdessa for sale. Toyon Farm Association, First National Bank Building, San Jose.

BUENA ALTA HERD registered Holsteins, blue ribbon winners at State and county fairs; heifers and bull calves for sale. F. A. Heroux, 629 Fifty-sixth street, Oakland, Cal.

HOLSTEIN BULLS from cows with records; won two firsts and one second at Modesto butterfat contest. A. M. Bibens, Modesto.

REGISTERED HOLSTEINS — Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

YOUNG BULLS sired by Grand Champion King Hengerveld Ormsby, grandsons of Pietertje Maid Ormsby, 35.55 pounds 7 days, test 5.31 per cent. Kounias, Registered Stock Farm, Modesto.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Calif.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Modesto.

Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY COWS for sale. O. J. Ames, Oakdale, Cal.

Guernseys.

BELLA VISTA GUERNSEYS — Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Lolets, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

VERAMONT STOCK FARM — Purebred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

BREEDERS OF REGISTERED SHORThorns—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORThorns, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

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INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS — Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

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DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, Los Angeles.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, Importers of Hampshire sheep.

HORSES AND MULES.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

STOCKTON FOR PERCHERONS—Best by State Fair test. Winners for the last five years. H. G. Learned, Stockton.

MISCELLANEOUS.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend Sts., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FOR SALE—About 100 head stock cattle, mostly Shorthorn, Durham, in Solano county. F. W. Palmer, Davis, Cal.

California Wins at National Swine Show

[Written for Pacific Rural Press by Prof. J. I. Thompson, Kansas Agricultural College, formerly of University Farm, Davis.]

The battle ground of champions is the National Swine Show. At the various State and interstate fairs grand champion honors have been awarded to a boar and a sow of each breed. Wherever hog men congregate you may hear questions similar to the following: Is the Pacific Coast champion equal to the one from Massachusetts? Is the Hawkeye winner superior to the champion Jayhawker? There are two ways of deciding this. One way is for the partisans to thrash it out around the stove this winter while Jack Frost reigns supreme outside. This method has one advantage—each side may win. One other way is to collect the various wearers of the purple at some central point and leave this momentous decision to some competent judge.

This is about what happens at the National Swine Show. Of course, some exhibitors, knowing that they have the best, provided they show in tip-top form, keep theirs at home while the others are risking their fame at the State fairs. Some few other exhibitors, knowing that they have won at a State fair much higher honors than they could hope to win in a national contest, leave their exhibits at home and content themselves by discussing with their friends how far up the line they "might have been."

The result is that several hundred hogs are gathered together at Omaha and there are more real tops than can be found at any other show and fewer culls. All breeds are represented, but Durocs, Polands, Hampshires, Chester Whites, and Berkshires make up the greater per cent of the show and ranged in numbers as listed above. A new feature this year, and one that it seems to the writer should be adopted by State fairs, was the official weighing of every animal. The result was a shrinking in the number of 1000-pound hogs, yet several individuals exceeded that weight, the heaviest one which I noticed being 1115 pounds, the weight of one Poland-China boar. It is quite possible that there were at least two heavier ones whose weights I failed to get.

The chief interest from a California viewpoint, of course, would center in the Berkshire show here, because of the presence of the herd of Frank A. Brush of Santa Rosa, under the very able management of C. E. Barrows. The Associated Press has already announced that both championships went to this herd, Baron Duke 201st winning first in the aged boar class and later senior and grand championship. Rookwood Lady 100th won corresponding honors in the sow class. Mayfield Laurel XV, the senior sow pig that defeated Rookwood Lady 100th for championship honors at the California State Fair, was too heavy in pig to show to advantage, so had to be content with fifth place.

However, the thing that struck me most forcibly was not the ability of those two individuals to win championships, but the fact that while this firm had two entries in all of the other classes but one, only once were they outside the money. Most of these younger animals were bred by the exhibitor and all of the youngsters were bred in California. When you recall, too, that these hogs came 1800 miles and were showing against the three strongest herds that are out this year—namely, Corsa, Iowana Farms, and Hood Farm—and finished in the classes inside the money every time but one, and with both championships, the possibilities open to California hog men seem limitless. The fact should not be overlooked that these hogs were handled by a very experienced fitter and they showed in excellent condition.

When will other exhibitors of this and other breeds venture over this same long trail to do what they can for the advancement of the swine industry in California and incidentally their own interests?

FEED REDUCED BEFORE FARROWING.

[Written for Pacific Rural Press.]

A rational system of feeding brood sows is that practiced by Arlington M. Smith of Visalia. He wants them to be in good condition at farrowing, but does not want them overfat and does not want a surplus of milk soon after farrowing, for that tends to make the sows feverish and the pigs will abuse their appetites. He leaves the sows on alfalfa pasture until about six weeks before farrowing, when he works them onto a full feed of a balanced ration for a month. Then the quantity of feed is gradually reduced until on farrowing day they get nothing but cold water. After farrowing, the feed is gradually increased to increase the flow of milk and keep the sows in as good condition as possible.

Flush Cows After Calving

Protects Against Abortion and Barrenness

Barrenness or Sterility, like Abortion, Retention of After-birth and Premature Birth, is nearly always caused by infection of the reproductive organs by the germs of Contagious Abortion. Unless this infection is promptly overcome by the use of a powerful but safe antiseptic, it may permanently affect the reproductive organs so that the cow will continually fail to stick.

Every time a cow drops a calf—whether alive or dead—by premature birth or aborting, whether the after-birth is retained or not, her reproductive organs should be flushed out, because that is where the infection is developing.

B-K, the powerful non-poisonous antiseptic, is scientifically correct for this work. Used as a douche for the uterus, it quickly brings the after-birth, dissolves the slimy albuminous matter, kills the germs, stops discharges and controls the infection. B-K does not cause straining, but is soothing and heals the tissues.

Other germicides such as carbolic acid, cresol, Lugol's solution, iodine, etc., tend to irritate, do not dissolve the slimy albumins, but tend to coagulate or thicken them, thereby preventing destruction of the germs and cleansing of the tissues.

The remarkable germ-killing strength of B-K is plainly marked and guaranteed on every package. B-K contains no poison, acid nor oil. It is safe and clean and easy to use. B-K may be used freely in the drinking water.

B-K is convenient. Just add water as directed, and you have your treatment for calves, bulls and cows and also your disinfectant for general use.

B-K is used so successfully by leading breeders that it is now sold over the entire world and the demand for it has increased 500 per cent in three years. A well-known breeder of registered stock says:

"I want B-K for I know it is doing good. Cows that have been barren for more than a year are getting with calf."

B-K is sold by dairy and farm supply houses, druggists, general stores, etc., everywhere. Dealers wanted in every town.

Write us for more evidence from users and for our bulletin No. 52, "Contagious Abortion," and No. 136, "Calf Scours."

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Raise Them Without Milk

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the most successful milk substitute on the market—the standard of perfection Thousands of farmers are using it and cannot say enough for it. It is NOT a stock food—it's a complete food that long experience has proved to be right for rearing calves. It contains all the nutrition of milk prepared in the most digestible form and is sold on a money back guarantee to give results.

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100 lbs. equal to 100 gallons milk—Try it on your calves.

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GRAND CHAMPION SOW
P. P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.

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Pure-Bred Hogs give more weight for less money in the shortest time.

Sows, Boars, Gilts, bred and open, from the World's Champion Hampshire Stock. All ages for sale.

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FINE MARCH BOAR PIGS
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Heavy Horses Have Best Market Prospects

[By Secretary Wayne Dinsmore, Percheron Society of America.]

The annual meeting of the stockholders of the Percheron Society of America will be held at 8 p. m., Monday, December 3, 1917, in the Florentine room, Congress Hotel, Chicago, Ill. We hope you will be present in person. Percheron judging at the International Exposition begins the following morning. There will be an extremely strong show.

As producers of Percherons, we must never forget that our continued prosperity depends upon a prosperous condition in the trade for grade horses sold for commercial purposes. The latest available figures for European countries, supplied by Food Commissioner Hoover, show an actual increase in the number of horses in Germany and Great Britain since the war began. France shows a decrease of 914,000 head between 1913 and 1916, and all other European countries having available data show decreases except Sweden, where there has been a slight increase. Germany's increase is due to horses taken from Belgium, northern France and Russia; Great Britain's to horses bought for war purposes. The decrease in France came during the first eleven months of the war—since then there has been a slight gain due to purchased war horses.

The United States had 21,195,000 horses January 1, 1915, and 21,126,000 on January 1, 1917—a very slight decrease, in spite of the fact that we exported 805,422 head during the 28 months ending January 1, 1917. Mules increased from 4,479,000 January 1, 1915, to 4,639,000 on January 1, 1917, although we exported 267,144 mules in the 28 months ending January 1, 1917. Exports have continued at a heavy rate so far in 1917 and will undoubtedly continue while war lasts.

The outstanding fact, however, is that prices have not advanced on any but very heavy draft horses. Grain, cattle, hogs, and sheep have doubled or trebled in value—horses have not advanced at all, save for the limited class mentioned. Automobiles and light delivery trucks have displaced nearly all driving and delivery horses. There is no longer a general market for surplus horses under 1200 pounds weight. Those that will not do for military work sell very low, ranging from $65 to $115, and are hard to dispose of at that. Horses from 1200 to 1500 pounds are still used to a very limited extent in the cities, and are a popular kind for use on farms. They also have a wide outlet for artillery purposes, but the supply of these, especially those under 1400 pounds, is more than equal to the demand.

SURPLUS OF LIGHT HORSES.

The most experienced horse market men in America—such men as Dr. Reid of Campbell & Reid, St. Louis; P. M. Chappel of Cooper & Co., Chicago, and Harry McNair of Ellsworth & McNair, Chicago—are agreed in declaring that there is still a vast surplus of horses weighing under 1200 pounds, and by far too many of those which range from 1200 to 1400 pounds. They see no possibility of an improvement in prices on these kinds, and are of the opinion that prices on the smaller horses will be cut in half within ten years. Draft horses, however, if over 1600 pounds in working flesh, give every promise of holding present prices, with the probability of some advances.

The supply of heavy horses is limited. The best informed men estimate that of our 21,000,000 head less than a million are real draft horses, weighing over 1600 pounds; and the demand for these efficient workers is such that they are holding their own in cities and increasing in popularity on farms.

REPORTS FROM 277 BREEDERS.

With a view to obtaining the most accurate data possible on horse production, questions were recently sent by the Percheron Society to representative breeders throughout all parts of the United States. Replies were received from 277 prior to the issuance of this letter. Reports from these men on conditions in their own localities show that there has been a marked reduction in the number of mares bred in 1917. While some localities have bred nearly all available mares, this is not generally true, and it appears that not more than 40 per cent of the mares old enough to breed have been bred this season. The number of stallions in service is considerably less than in 1916. This is further confirmed by reports from twelve stallion boards, which reveal a decrease of 625 purebred draft stallions, and a total decrease of 3,209 stallions all told.

Sixty-eight per cent of the men report very few surplus horses good enough for sale for war or other purposes on hand in their localities. Horses ranging from 1000 to 1200 pounds are reported to be selling from $90 to $125 average; horses from 1200 to 1500 pounds at from $140 to $175 average, and horses over 1500 pounds at from $200 to $250 average.

Eighty-nine per cent of the correspondents report no horses that will mature at 1700 pounds or over, or that there are very few; only 11 per cent report over twelve such horses in their communities. This bears out the repeated declarations of market men and horse buyers, who insist that there are very few real draft horses in any section. This, taken in conjunction with the price—$250 to $300 on the heavier horses—is ample evidence of our urgent need of more big horses. There is no incentive to produce small horses; every reason to produce more real drafters.

The situation regarding purebred Percherons seems especially encouraging. Seventy per cent report that all surplus Percherons of salable age are already sold; 10 per cent report "fairly well sold out," and only 20 per cent report any considerable number of salable Percherons left in their communities. Sixty-one per cent report prices about the same as last year, 21 per cent report higher prices, and only 18 per cent report prices lower. Dealers who have made independent reports to the Society state that there are practically no three-year-old stallions left in the hands of the breeders, and that the majority of the two-year-old and a good share of the yearling stallions have already been bought up. Importations have practically ceased. Only 64 Percherons have been imported in 1917. One leading importer has publicly stated that the American-bred horses he has bought in the last three years have developed far beyond his expectations. He further says that he can buy better American bred horses here now than the horses he formerly obtained in France. His purchases confirm his statements. Other importers are gradually coming to the same position. It is, however, necessary for dealers to purchase horses at younger ages, and to provide separate pastures—an acre or more—to prevent the young stallions from injuring each other sufficiently to impair sales.

Percheron and Belgian Stallions Imported and American Bred

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Offering a few 2-year-olds and upwards, with heavy bone and high quality, that weigh a ton or more. If you are looking for the best come and see them or write for particulars.

EVERY STALLION GUARANTEED AS REPRESENTED

Prices and Terms Reasonable

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Shropshires sired by rams imported by me from England

The Famous Glide Merinos

Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
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10 2-year Bulls **SHORTHORNS** 10 Bull Calves

We have just received a shipment of yearlings and 2-year-old heifers, bred to a son of Cumberlands Type, the bull that won 36 Grand Championships at 36 Fairs. This is the best lot of females we have ever offered for sale.

Better look them over soon, as they will sell quick.

H. L. & E. H. MURPHY, Perkins, Cal.

SCOTCH SHORTHORNS

We have just purchased the entire herd of Shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

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Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

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SHORTHORNS

Herd combines some of the strongest blood lines of this country and Great Britain.

THOMAS T. MILLER 314 So. Normandie Avenue LOS ANGELES, CALIFORNIA

The Food Situation in France Described

[By Fred B. Pitney, Foreign Correspondent.]

Mr. Pitney had at his disposition not only the official figures of the French Government on the food supply of France, but he has lived in France during the war, and speaks from personal experience and intimate first-hand knowledge of the conditions there.

Telling the truth about the food situation in France is difficult, for one comes immediately into contact with many counter currents of opinion. There is no question in the mind of anyone conversant with the facts that it is not only with Germany, but with the allies also, that the food situation is serious and needs prompt and effective treatment.

GOVERNMENTS ALONE CANNOT WIN WAR.

On the one hand, there is the open and full recognition of the seriousness of the situation, of the demand for prompt and efficacious co-ordination of effort among all the nations warring against Germany in order that each may be able to maintain its striking power at the point of highest efficiency. This opinion recognizes that governments alone cannot win the war. It must be a war of the allied peoples against Germany. On the other hand, confused with this opinion, there is an idea that if the people are told too much they will become frightened and will weaken. We find a fine example of this in the submarine. On the one side we are told that our efforts to overcome the submarine must be redoubled, while on the other side we are told the submarine is a failure and we may laugh at the German threats. In regard to food, we are told that the allies must guard their every resource, and immediately on top of that we are told they have reserve stocks for the next three years. We are told it is vitally necessary for America to put a great army in the field, and in the same breath we hear that the allied preponderance in man power over Germany is increasing every day.

WHOLE TRUTH MUST BE KNOWN.

How can one expect to arouse a nation to war with such contradictory statements? My own opinion is that the peoples of all the allied nations are strong enough to know the whole truth, and that knowing it will only make them more determined and fight harder, and their collective action will be more intelligent.

In France one meets with another phase of official opinion that further complicates the situation. France has borne the brunt of the fighting on the side of the allies for three years. Her resources in men and material have been strained to the uttermost. Yet French statesmen are so afraid of the possible effect at the time of the peace conference of an admission that France needs assistance now that when the idea is suggested there comes an official denial. French statesmen are obsessed with the idea that France will get the short end of the stick at the peace conferences if there is a suspicion that she does not go into them stronger than she went into the war and able to fight on indefinitely. This makes it awkward to tell the truth about food conditions.

FOOD AS IT AFFECTS THE INDIVIDUAL IN FRANCE.

As I have kept house in Paris during the war, I can speak from experience on the food situation in France as it affects the individual. One learns a great deal, when keeping house, of which one gets no inkling when living in a hotel and eating in restaurants. I have heard many visiting Americans, who lived in France in that way, pooh-pooh the idea that there was a food shortage in the country. If those same persons had had to search the markets before they had their meals, they would have gained a different idea of the food situation. Sugar offers an excellent concrete example. In a restaurant one is certain of sugar for one's coffee. Three lumps to a person is the rule. Formerly the sugar was put on the table in a bowl and one helped one's self. Now the sugar ration is served separately. But if one is keeping house one must have a "sugar card," permitting him to buy a stipulated amount of sugar a month. The allowance is one and a half pounds of sugar a month if three meals a day are taken at home, one pound if two meals are taken at home, and one-half pound if only one meal is taken at home. This means for the person who takes three meals a day at home eighteen pounds of sugar a year.

And the "sugar card" does not mean that one can demand the stated sugar ration, but only that he may buy it when a dealer can be found to sell it.

We paid last winter in Paris 11 cents apiece for eggs and $2 a pound for butter and there was frequently neither butter nor eggs nor milk to be had. Private families were allowed to buy one-eighth of a pound of flour at a time. The grocers could not sell flour, only the bakers. The flour mills could not choose their own customers, nor could the bakers and restaurants choose the mills they would buy from. Lists were made out, telling each miller to whom he could sell. This was in order that one section should not be able to eat up the stock of flour belonging to another, or one baker deprive the customers of another, when all were short.

WHEAT SITUATION IN FRANCE.

It is estimated that there will be a deficit of approximately 5,000,000 tons of wheat in France over the period from September 1, 1917, to September 1, 1918. This wheat deficit must come from America. Where else can it come from? Italy, by reason of her position in the Mediterranean, takes first toll from the wheat of the Far East, while England, of whom the Far Eastern wheat-producing countries are colonies, takes the remainder. France can get a little from South Africa. Argentina has stopped the exportation of wheat. America is the only resource left to France. The French soldier's allowance of bread was a trifle over a pound and a half a day. On account of the shortage of wheat it has been necessary to cut this ration to a pound and a third a day. There are no national "bread cards" in France as there is a "sugar card," but in some parts of the country it has been necessary to restrict the use of bread by the issue of local "bread cards."

FRANCE SUFFERS IN SILENCE.

Do not think the French complain. There is no finer-souled, stronger or greater people in the world than the French peasants. They are heroes among a nation of heroes. No trial that justice and right could demand could wring a complaint from Josephine Herve, one of the grandest women among a grand race. That simple peasant woman neither reads nor writes, but without a word of bitterness she gave her husband to her country and she is schooling her five sons and raising them for her country. And one cannot help her. One can send her money, but it is not money she needs, but bread.

THE LIBERTY LOAN MUST BE SUBSCRIBED.

BUY A BOND TODAY, AT YOUR BANK, AT THE POSTOFFICE.

The farming season is practically over in California and elsewhere on the Pacific Coast. The farmer has been blessed with more money than ever before. Every person who has prospered because of this war should consider it a duty to devote a part of his increased possessions to the protection of his country's ideals at the present time.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

STARTING IN THE CHICKEN BUSINESS.

To the Editor: I want to get a dozen or two of young hens and don't know where I can get good stock. Can you advise me? What kind of mustard seed do you plant for winter green feed? Is this plant a pest?—Mrs. H. R., Oakland.

For your locality I would start in with a pen of good White Leghorns and a pen of Wyandottes, any color or variety is good, or a pen of good Buff Orpingtons. Mrs. Ferris of Pomona can supply you with the latter. The Giant curled mustard is the best and you need not be afraid of its spreading because it soon dies under neglect; but as you want it for chicken feed you won't let it go to seed, and if it does not seed it can never spread to the neighbors.

This is a good time of year to get a start. Be careful and you will help out in your income and come out all right. Wyandottes and Orpingtons will bring you the best price for table fowl and the Leghorns are a little easier on the feed than Minorcas. Then there are no pin feathers to spoil the looks of the young fryers. Black Minorcas, when grown and fed right, make a splendid table fowl, but when young the pin feathers are against them, so in your case a white fowl will be safer, as you may want to sell your surplus broilers or fryers.

When your birds come, examine them for lice, but have your houses sprayed and ground spaded up before, then feed very moderately for a day or two of something near the same feed they have been used to having, study their wants by watching them, and you will soon learn how to feed for best results.

BACTERIAL ENTERITIS.

To the Editor: One of my Barred Rocks became dumpy when molting, comb and gills turned very pale, and lost appetite. Among other things I fed some barley which seemed to contain smut. I have read your book, "California Poultry Practice," with profit and satisfaction, and have had success in carrying out its instructions. Can you help me out of the present trouble?—R. W. R., Modesto.

There are several kinds of germ that affect chickens, ducks and turkeys, causing enteritis. The bacillus does not remain localized in the intestine, but passes on to the liver, kidneys or blood of the birds, and

PERFECTION OIL HEATER

FOR HARVESTING
EGYPTIAN CORN
You can use both hands and cut twice as much in a day with the
DAVID HEADING KNIFE
as with any other instrument. You cut off the stalk and hold the head with the same hand—and you keep both hands at work, cutting as fast as you can open and shut your fingers. Pair (right and left) $2.50, from your dealer. Dealer; order from any jobber.
Lowery-David Mfg. Co. San Jose, Cal.

in this case it seems to be that the bacillus entered the blood. That is the reason of the pale comb and bloodless condition of the bird. This especial bacillus was, internally, acting the part of a mite externally, depriving the bird of blood. In this case the cause of the disease was the ergot, or smut, in the barley, accentuated by the beef scrap. Vegetable poisons act more virulently and quickly when animal food is given. Smut may be treated with a solution of bluestone and water, but just what strength is advisable I don't know. One method that is entirely safe is to scald the grain, then dry it off again if necessary. Scalding will kill any bacteria.

Clean all of your feed troughs and drinking vessels and scald them with boiling water. See that the fowls have clean, fresh water to drink. Get the following tonic and give the whole flock for a few days: Powdered fennel, anise, coriander and cinchona, equal parts of thirty grains; powdered gentian and ginger of each one drachm, and powdered sulphate of iron, fifteen grains. Mix thoroughly and feed so that each fowl will get from two to four grains a day.

STUBBLE FIELDS FOR CHICKENS.

At this time of the year, when the grain-fields are being harvested, chickens should be turned on the stubble range. They will find an abundance of fallen grain and sufficient grass or weeds for green stuff. If they find also grasshoppers or other insects their appetite for animal food will be appeased, and a perfect ration thus afforded; and if running water is near by and a little gravel can be picked up ideal conditions prevail.

BEST MUSTARD FOR GREEN FEED.

To the Editor: In your reply to "E. J. F., Visalia," September 15, you say "mustard is the ideal green feed for laying hens." I would like to know which variety of mustard is best to plant.—C., Loomis, Cal.

Any of the white kinds will do, but the best is the "Southern Giant curled."

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

POULTRY HOUSES—THEIR CONSTRUCTION.

FOUNDATION.

A permanent poultry house should have a foundation that is unaffected by water or dampness. Concrete is such a material and should be used whenever possible for foundations as wood not treated with creosote tends to mold. There should be ventilation beneath the floor as circulating air prevents growth of mold fungae. Redwood is the best material for foundations outside of concrete.

FLOOR.

Concrete is rather expensive, but is permanent and more satisfactory. It is unharmed by moisture, keeps out pests and renders possible more sanitary conditions.

Wood is fairly good, but affords lodging place for vermin and does not keep out pests. Tongue and groove material is the best for flooring.

Dirt floors are not sanitary and are quite liable to become damp. They are very good in plants using colony houses.

SIDES.

The University Farm recommends that rustic be put on vertically in order that the battens be effective.

Shiplap and tongue and groove may be run either way, but require less studding when run vertically. Shiplap permits of more shrinkage or warping than tongue and groove, while rustic warps and cracks badly and often fails to make premises storm proof.

ROOF.

The pitch of the roof depends on the roofing material, roofing papers permitting a roof almost flat, while shingles require at least a one-fourth pitch. Pitch is determined by dividing the rise per foot into 24 inches, the pitch being stated in terms of 12 inches laterally.

Also:

$$\text{Pitch} = \frac{\text{Rise}}{2\ \text{Run}}$$

$$\text{Rise} = 2\ \text{Run} \times \text{Pitch}.$$

$$\text{Run} = \tfrac{1}{2}\ \text{Rise} \div \text{Pitch}.$$

PARTITIONS.

In putting in partitions board up two feet from the ground. In windy locations solid partitions are sometimes necessary. Long houses should have doors in the partitions arranged in a straight line and hung with double acting hinges. In a long house it is usually desirable to put in a trolley system to lessen labor.

HOOD.

A hood is sometimes built around the roosts to protect the fowls, space being allowed between the hood and roof and walls for ventilation.

DROPPING BOARD.

The dropping board should be 2½ to 3 feet above the floor and, where three rows of roosts are used, 36 inches wide. It should be fairly smooth in order to be readily scraped clean. The Oregon Experiment Station advises a shiplap 1x8 inches, with the board 2 feet from the floor in front and 2 feet 3 inches in the rear.

ROOSTS.

Roosts are made of 2x2's rounded on top. They are set 6 inches above the dropping board at the Davis Farm, but we prefer them one foot, from 12 to 16 inches apart from center to center, according to breed. The inside roost being from 6 to 8 inches from the wall and the outside roost 6 inches from the outer edge of the board. All roosts in a pen should be at the same height, as the fowls crowd and fret in trying to reach the highest roosts where they are not equi-distant from the floor. The roosts should be easily removed to permit of readily cleaning the dropping board.

NESTS.

A nest should be provided for each five hens. They may be placed beneath the dropping board to conserve space. The nests should be 12 inches square and may be constructed of inexpensive material, coal oil cans answering the purpose. Nests should not be placed higher than two feet above the floor, unless placed in tiers, when they may be placed nearer the floor. The nests should be made as dark as possible. They should be accessible one from another, so that the peaceful hen, when bothered by the bossy one, may quietly withdraw into the adjoining nest.

(To be continued.)

UTILIZATION OF GRAIN BY-PRODUCTS.

[By A. O. Kuehmsted.]

In flour manufacture the by-products, bran, shorts, and middlings, etc., constitute 25 per cent of the products secured, while the by-products resulting from the manufacture of cereals amounts to from 10 to 75 per cent. Although large quantities of these by-products have always been separately sold as mill feeds, still the demand was less than the supply, sometimes resulting in the accumulation of these feeds in large quantities. What to do with this surplus was a problem the Sperry Flour Company had to contend with for many years and it was not satisfactorily solved until five and one-half years ago with the establishing of a stock and poultry food department. It had been proven conclusively that both cattle and poultry fared far better on a variety of feeding stuffs and produced the best results at the lowest possible cost. This was a favorable factor taken into consideration in arriving at a satisfactory solution of the by-products problem.

The company manufactures flour and cereals from wheat, corn, oats, barley, buckwheat, rye, peas, and rice, all of which have been carefully selected and thoroughly cleaned before they are used in any manner whatsoever for milling purposes. On account of the multiplicity of the operations in manufacturing flour and cereals, many fine particles must naturally be produced. It is these mill by-products, just as clean, pure, and wholesome as flour and cereals for human consumption, and just as nutritious, for they were originally a part of the same whole grains, that constitute the greater percentage of the ingredients used in making the stock and poultry feeds.

Fed alone, however, these by-products do not produce the desired results—that is, the greatest quantity of eggs in the case of chickens and the greatest quantity of milk from cows. It is necessary to form a balanced ration, which can only be accomplished by the addition of other ingredients. As a consequence meat scraps are obtained from St. Louis, Omaha, Kansas City, Los Angeles, and San Francisco; fish and whale meat are shipped from Alaska and British Columbia; cottonseed meal from the Imperial Valley; and charcoal from Eastern States; while cocoa meal is imported from the South Sea Islands and South America; soy bean meal, linseed oil cake meal, sorghum, millet and hemp seed from the Orient; and fine ground bone from India.

A laboratory which is the largest and most completely equipped on the Pacific Coast, containing nearly every known apparatus for determining the chemical fitness of the various ingredients for poultry feeds, is used for ascertaining definitely the properties of all the grains used in the manufacture of flour and cereals. This work is performed by competent chemists and contemplated purchases either accepted as suitable or rejected as undesirable, according to their findings. Knowing the chemical properties of all the separate ingredients, a certain amount of each is put into the mixture. After a thorough mixing the finished product is again chemically tested and so makes possible the absolute standardization of its food value. In this manner the ingredients of poultry foods are mixed in as correct proportions as it is possible to combine the elements which go to make up an egg, while the dairy feed assures the greatest quantity in milk production, with the least amount of energy. All this makes possible the feeding of poultry and cows on a more scientific basis, and in a more correct manner than that used for most human beings.

As servants of the public for the past sixty-five years the Sperry Flour Company realizes that its continued success depends upon the favorable results obtained by the users of its products, including its poultry and stock feeds.

POULTRY NOTES.

At the poultry show held at San Jose, October 10 to 13, under the auspices of the American Poultry Association, Charles H. Vodden of Los Gatos, Cal., won the following prizes on his Barred Plymouth Rocks. First, second and third on cockerels. First, second and third on cock birds. First, second and third on pullets. First and third on hens. First and second on breeding pens and the grand championship cup. These awards were made by Judge William C. Coats of Vancouver, B. C.

A quarter of a billion more eggs were in cold storage in the big warehouses of the country October 1 than at the corresponding date last year.

Poultry in the Tulare section is gaining; at least the egg production has been heavier this year than last. The section being devoted largely to grain, alfalfa, and dairy, makes the cost of feed less noticeable than in other sections. The heavier type of fowls are more generally kept.

A "California State Poultry Show" is to be held at Cealinga, December 28 to January 1, under auspices of the Coalinga Poultry Association, who hope to make it a place "where real champions meet."

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

OUR GEESE AND BRONZE TURKEYS win again; champion sweepstakes special for the best pair of birds in show; for size, vigor and quick maturity, ours are best East or West; stock and eggs in season; also Collie Pups; correspondence solicited. John G. Mee, St. Helena, Cal.

HENRY SHARP'S WHITE LEGHORNS win at State Fair 1st, 2nd, and 3rd on cockerel; 1-2-3 on pullets; 1st cock; 1st pen and special for 2nd best pen in show. Route 1, box 187, Selma, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

DON'T QUIT — We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

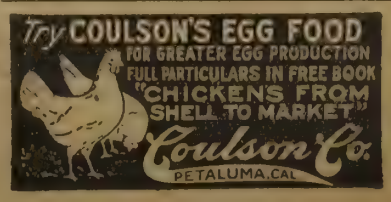
S. C. RHODE ISLAND REDS—220-egg record, bred from big show winners; breeding pens, cockerels and pullets. Wm. Larm, 3915 Thirty-ninth avenue, Fruitvale, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; fall chicks; eggs; cockerels. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal.

MAMMOTH BRONZE TURKEY HENS—Two years old, $5 each. Toulouse geese, $3 to $5 each. Mrs. Coghlan, Walnut Creek, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.



Mrs. Best's Letter.

BATH ROBES AND NEGLIGEES.

My Dear Friends: Fall weather awakens our interest in bath robes and kindred garments, and there certainly is a wide variety from which to choose. The corduroy robes (which are really not bath robes but lounging robes) are very attractive and are very durable as well. These come in plain corduroy in coral, blue, and lavender, finished with a cord and tassel, and are most reasonable in price, being less than $5. The ribbed corduroy comes in two-tone effects and is higher in price, but made on the same simple straight lines.

BLANKET ROBES.

The blanket robes come in two-tone floral or conventional designs and Indian blanket effects, and are trimmed with silk or satin with large collars, cord and tassels. The colorings are blues and tans, pinks and grays, rose, lavender, blue, red and the dark mannish mixture. These range in price about like the corduroy robes.

JAPANESE KIMONOS.

The Japanese kimonos in silk, hand embroidered, with slippers to match, are lovely, but are only suitable for use in a bedroom. They come in beautiful colors and commence at $7.50 and go up in price according to the quality of the hand work. These are lined with a lighter silk and interlined as well, so they are quite warm.

French flannel or albatross robes in pretty shades are shown, with scalloped edges buttonholed in white. These come in full and in three-quarter length.

CHALLIES FOR NEGLIGEES.

Challies are used for negligees, too, and are made up without lining and with bell sleeves and sailor collar. Cotton crepes are almost the most popular material for kimonos, as they come in pretty colorings, are prettily embroidered, and will stand any amount of service and laundering and have the added advantage of being cheap. For dressy negligees there is China silk, crepe de chine and chiffon used, many of the garments being as dainty and perishable looking as a party dress. Chiffon in pale pink, with trimmings of white swansdown, made one beautiful garment, and another one entirely different but equally attractive was of green chiffon embroidered in yellow silk and made Mandarin coat style to wear over a yellow skirt.

If you want to make these garments at home, you can buy eiderdown robings, kimono flannels and other similar materials by the yard and cords and tassels of many different colors.

EMBROIDERED FLANNELS FOR THE YOUNG.

Many of the stores are showing their new line of embroidered flannels for infants and small children. These are in dainty designs in both scalloped and hemstitched edges and are priced from $1 to $3 a yard.

COSY COATS.

One of the most exclusive stores is showing a new line of what we have always called sweaters, but which they call indoor cosy coats. These are in Shetland knit coats in sashed and belted models, in various colorings, with collar, cuffs, buttons and pocket tops in contrasting shades. There are other models of zephyr wool in nobby sailor collar styles.

ROSABELLA BEST.

THE HOME CIRCLE

A PENNY FOR YOUR THOUGHTS.

A game which may be very interesting can be played by furnishing each player with an Indian-head penny and the list of questions which follow. He will find the answer to each question somewhere on the penny. The list that has the answers should be furnished only to the one who is to be the judge:

An emblem of victory—Wreath.
An emblem of royalty—Crown.
A South American fruit—Date.
Spring flowers—Tulips.
A portion of a hill—Brow.
A portion of a river—Mouth.
A messenger—One cent.
A piece of armour—Shield.
Something to be found in school—Pupil.
Three weapons—Three darts.
An animal—Hare.
A part of a stove—Lid.
Plenty of assurance—Cheek.
The first American settler—Indian.
A part of a bird—Feather.
A sacred place—Temple.

SCHOOL LUNCHES.

Proper lunches for the growing boy or girl are a necessity, especially if the child has a long way to go to school. A few sandwiches, some fruit, a small bottle of milk and something for dessert make a very satisfactory luncheon. The bread used for sandwiches should be made of coarse flour and the fruit may be made into salads for a change.

For sandwiches, there are many varieties, so the child need not tire of them. Try egg and lettuce, apple and cheese, olive and lettuce, date and nut, peanut butter or baked bean sandwiches, and they are sure to be relished and eaten.

CARE OF LIGHT HAIR.

The girl who wishes to keep her hair light will not use a bleach on it, but shampoo it every four weeks with a good shampoo. Do not rub the soap on the hair, as it ruins the golden glint, but make a shampoo with soap melted in boiling water. Rinse thoroughly and add the juice of half a lemon to the last rinsing water.

Whip together the cuffs from wornout shirts for stove holders. Sew a brass ring on one corner to hang up by.

The rain it raineth every day
Upon the just and unjust feller,
But more upon the just because
The unjust takes the just's umbrella.
—Bishop Creighton.

The FOOD of The HOUR

is the food that proves its economy on a basis of food value—the greatest amount of nutriment at the least cost.

Ghirardelli's Ground Chocolate is an ideal blend of two ideal nutritious foods—cocoa and sugar.

By using Ghirardelli's Ground Chocolate freely and wisely—in place of other less nutritious and more expensive foods—you will save money and aid in food conservation.

Ghirardelli's
Ground Chocolate

Comes in ½ lb., 1 lb. and 3 lb. cans.

D. GHIRARDELLI COMPANY

Since 1852 San Francisco

Good Health.

[By H. E. Pastor, M. D.]

Compulsory Vegetarianism.

We are fast coming to it, in a modified form, not through choice but from necessity. And as necessity is said to be the mother of invention, necessity in this matter may be said to be the mother of a revised and better dietetic practice. Owing to the war and to certain economic conditions, our sources of meat supply are growing more and more meager. The time is coming when the presence of meat on the daily bill of fare in any household will be a mark of wealth and social distinction, if not of good judgment. We are not of those who make it almost a dogma of their religion to exclude meat from their dietary and confine themselves to cereals, vegetables, nuts, etc. We are firmly convinced, nevertheless, that the appetite for meat-eating in America has been overpampered, to the detriment of the general health. We believe the present compulsory drift toward a modified vegetarianism is in the hygienic interest of those on whom the compulsion falls. It will lessen the prevalence and severity of such diseases as rheumatism, cancer, and a host of minor ailments more or less traceable to excessive flesh consumption.

"Soldier's Heart."

We reproduce the following from the current number of the Pacific Medical Journal. The item points its own moral:

John Parkinson and Hilmar Koefod say that in this war, as in wars of the past, many soldiers prove inefficient because they become unduly breathless on the exertion that military service entails. The same individuals often complain of precordial pain, palpitation, giddiness, and exhaustion. Some of these cases present the signs of valvular disease of the heart and are discharged from the army, yet in the majority of soldiers in whom these symptoms are found no abnormal physical signs are found. To find out whether excessive cigarette smoking is one of the potent causes of this condition they have made observations in which attention was directed to the effect of smoking on the (1) pulse, respiration, and blood pressure, and on (2) reaction to exertion. * * * * These observations show that in health the smoking of a single cigarette by an habitual smoker usually raises the pulse rate and blood pressure perceptibly; and these effects are a little more pronounced in cases of "soldier's heart." Moreover, the smoking of a few cigarettes can render healthy men more breathless on exertion, and manifestly does so in a large proportion of these cases. Excessive cigarette smoking is not the essential cause in most cases of soldier's heart; but in the opinion of the writers it is an important contributory factor in the breathlessness and precordial pain of many of them.

The Savory Bulb.

The onion is malodorous, but its virtues are many, nevertheless. It is said to be supplied now in large quantities to the troops of the allies on the western front in Europe. It enjoys a popular reputation as a mild soporific. It is an easily digested vegetable, stimulates the appetite and contains valuable mineral salts. It is also effective to an extent as a preventive of human parasites. Its odor deters those who like it from eating it—though it is well to choose the right time. Coffee or fresh milk combat its odor.

PATRIOTIC BREADS.

RYE MUFFINS.

Sift together 1 cup of rye flour, 1 cup of white flour, 1 teaspoon of salt and 3 level teaspoons of baking powder. Beat up 1 egg, add 1 cup of milk and combine with the dry ingredients. Add 1 tablespoon of molasses and 1 tablespoon of melted fat. Bake in hot, well-greased muffin pans 25 minutes.

OATMEAL MUFFINS.

Stir 1 cup of rolled oats and 1 tablespoon of fat into 1 cup of hot milk. Boil 1 minute, then allow to stand until luke warm. Soften 1 yeast cake in ¼ cup of lukewarm water and add 1 tablespoon of sugar. Combine the two mixtures. Add 1 cup of flour and 1 teaspoon of salt and beat thoroughly. The batter should be stiff, as for drop biscuit. Cover and set to rise until light—about an hour. Fill well-greased muffin pans two-thirds full. Let rise until light, then bake 25 minutes in a moderately hot oven.

BARLEY SCONES.

Sift together 1 cup of whole wheat flour, 1 cup of barley flour, ¼ teaspoon of salt, and 2 teaspoons of baking powder. Work into this 2 tablespoons of fat. Add one-third teaspoon of soda to ¾ of a cup of sour milk. Combine the two mixtures to form a soft dough. Turn out on a floured board and knead lightly. Roll out half an inch thick, cut in diamond shapes and bake in hot oven.

CRISP CORN CAKES.

Sift together 1 cup of yellow cornmeal, 1 cup of flour, ½ teaspoon soda and ½ teaspoon of salt; then stir in 1½ cups of sour milk. Add a beaten egg, and beat batter 5 minutes. Add last 1 tablespoon of hissing hot fat. Pour into hot greased pie plates in a very thin sheet and bake in a quick oven until brown.

CREOLE SWEET POTATO BISCUIT.

Boil and mash very fine enough sweet potatoes to make a quart. Add ½ teaspoon of salt, 1 tablespoon of sugar, 2 tablespoons of fat and 1 cup of milk heated to boiling point. Soften 1 yeast cake in 1 cup of lukewarm milk which has been previously heated to boiling point and add this gradually to 1 cup of flour to form a sponge. Allow the sponge to rise and drop back. Then combine it with the potato and other material. Add 1 well-beaten egg, 3 cups of flour and mix thoroughly. Set to rise in a warm place. When light drop in biscuit from a tablespoon on a greased tin. Do not handle dough. Let biscuit rise until light and bake from 15 to 20 minutes.

NATIONAL FOOD PLEDGE WEEK, OCTOBER 21-28.

Pledge Card for United States Food Administration.
If You Have Already Signed, Pass This on to a Friend.

To the Food Administrator, Washington, D. C.:

I am glad to join you in the service of food conservation for our nation and I hereby accept membership in the United States Food Administration, pledging myself to carry out the directions and advice of the Food Administrator in my home, insofar as my circumstances permit.

NAME .....

STREET .....

CITY ..... STATE .....

There are no fees or dues to be paid. The Food Administration wishes to have as members all of those actually handling food in the home.

Anyone may have the Home Card of Instruction, but only those signing pledges are entitled to Membership Window Card, which will be delivered upon receipt of the signed pledge.

10-Rib Reasons

And how do we account for the added warmth—the greater elasticity and longer wear of 10-rib Mayo Underwear?

10 ribs to the inch instead of 8 gives back the answer.

10-rib knitting must mean a closer weave. And it's plain common sense to see that a closer-knit fabric is bound to be a warmer fabric.

10-rib knitting makes the Mayo fabric a more elastic fabric! 10-rib knitting means greater freedom in your every body movement.

10-rib knitting of Mayo yarn means added durability. For Mayo yarn is stronger. Defies washboard rub and wringer strain.

More proof? Buy Mayo Underwear and get pleasant proof of these and other 10-rib superiorities.

Mayo
Made from Mayo Yarn

WINTER UNDERWEAR for MEN and BOYS

The only medium-priced underwear that's "actually knit in the dollar way".

Men's winter Shirts and Drawers
Men's winter Union Suits
Boys' winter Union Suits

All dealers either have or can quickly get for you 10-rib Mayo Underwear

THE MAYO MILLS, Mayodan, N. C.

Specialists in Specimen Stock for Landscape Work.

Hardy Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.

WRITE FOR PRICES

COTTAGE GARDENS NURSERIES, INC.

EUREKA, CALIFORNIA

Send for this Book!

—JUST OFF THE PRESS—

This Autumn Number of BARKER BROS. GOOD FURNITURE NEWS is planned and fashioned for the many families living away from Los Angeles—the thousands of people throughout this great Southwest who cannot come to Barker Bros. Great Home Furnishing Store, but who want and appreciate Barker Bros. Helpful Service in the matter of home beautification.

To these we say with great confidence

"THIS BOOK SHOULD BE IN YOUR HOME."

Send for it TODAY! A postal card request will do.

Barker Bros
ESTABLISHED 1880

Everything for the Home

724-738 So. Broadway
LOS ANGELES CALIFORNIA

This is Styleplus Week

Styleplus Clothes $17 — Styleplus Clothes $21

The same prices the nation over

The Big Buy

Always the greatest value at the price

Styleplus Clothes $17 (black label) always excel at that price
Styleplus Clothes $21 (green label) always excel at that price

Progressive merchants from coast to coast are this week featuring Styleplus suits and overcoats—the only clothes in America sold on a known price basis—all wool and guaranteed.

This policy has made a hit with the men of America. It means that whenever and wherever they buy Styleplus, they know the quality and the price.

We developed the known price idea in clothing. It enables us to concentrate our volume, lower our costs, give exceptional all-wool fabrics, style and tailoring at moderate price.

For three years we have maintained Styleplus Clothes $17 in the face of war conditions, because we could buy in advance and operate on an increasingly larger scale.

When the United States entered the war, the fabric market underwent violent changes. To meet these new conditions we added a $21 grade, thus insuring the wide selection of fabrics and models and enabling Styleplus Clothes to meet every individual demand as usual.

Each grade the greatest possible value at the price. See for yourself at the Styleplus store. Write us (Dept. AA) for free copy of "The Styleplus Book."

Style plus all-wool fabrics + perfect fit + expert workmanship + guaranteed wear.

HENRY SONNEBORN & CO., INC. Founded 1849 Baltimore, Md.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, October 17, 1917.

WHEAT.

There are no quotations from the call board other than those prescribed by the Federal Grain Corporation, but seed wheat is selling on the street at prices varying from $3.65 to $3.70 for Sonora to $4.10 and $4.15 for bluestem.

(Federal Grain Corporation quotations.)

Sonora wheat	$3.43
Northern Club	3.43
California Club	3.43
Northern Bluestem	3.50
Northern Red	None offering
Russian Red	None offering

BARLEY.

The speculation in barley that has ruled lately has now died out and the market is left without life. Few transactions are noted, and Tuesday there was only one deal. Because of the small offerings, however, prices are firmly held at ruling quotations.

Shipping, per ctl	$2.60@2.65
Brewing	2.60@2.65
Choice feed, per ctl	2.50@2.55

OATS.

Inquiry for seed oats is not so pronounced this week as it has been, and the market is not quite so strong. Some offerings of white seed oats are showing up and deals have been made at $2.70 to $2.75. No stocks in any line are arriving except on orders, and holders are very strong in their views.

White Feed, per ctl	$2.70@2.75
Red Feed, per ctl	2.65@2.90
Red Seed, per ctl	3.25@3.50
Black Oats	3.00@3.50

BEANS.

The market is strong and advancing and new crop beans are arriving freely. Owing to the Government regulation imposing licenses on dealers, they are not buying heavily, and only for immediate requirements.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl	$ 9.00@ 9.25
Blackeyes	8.50@ 9.00
Cranberry beans	11.00@11.50
Horse beans	4.00@ 4.50
Small whites (south)	13.00@13.25
Large whites	12.75@13.00
Limas (south, recleaned)	13.50@13.75
Pinks	10.25@10.50
Red kidneys	11.00@11.50
Mexican reds	9.00@ 9.25
Tepary beans	9.00@ 9.25
Garbanzos	6.50@ 7.00

CORN.

Arrivals of new crop Milo maize and Egyptian corn are insufficient to establish quotations. The crop of these varieties promises a large yield and tentative offers of $3.25 to arrive have been rejected. There have been no arrivals of California corn during the past few days, but some Eastern Yellow is again on the market.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	$4.00@4.25
California, sacked	4.00@4.25
Milo maize	None offering
Egyptian	None offering

HAY.

Arrivals of hay for the past week have amounted to 1,750 tons, a large proportion being later cuttings of alfalfa, from the river districts. The Government has been moving a large amount of hay lately by rail and, in consequence, the car shortage is more acute. Hay trade has been so hampered by lack of transportation that it may become necessary to call on the authorities for relief, so that enough hay and grain can be moved to supply horses and cattle. Prices in this market are very firm, with an upward tendency, and advances have already taken place. All the markets along the Pacific Coast report high prices and in Portland, Seattle and Tacoma hay is selling at higher figures than can be obtained here.

Wheat, No. 1	$21.00@22.00
No. 2	18.00@20.00
Tame oats	22.00@23.00
Wild oats	17.00@21.00
Barley	18.00@21.00
Alfalfa, new, first cut	18.00@21.00
Stock hay, new	15.00@17.50
Straw, per bale	50@90c

FEEDSTUFFS.

Beet pulp from the sugar mills will not be offering for thirty to sixty days. Values are held very strongly on all lines, although there is little movement on account of high prices. Feeders in the range of this market should be using more feedstuffs, and the lack of buying is puzzling.

(Per ton, San Francisco.)

Beet pulp, per ton	None offering
Alfalfa meal, per ton	$28.00@31.00
Bran, per ton	41.00@42.00
Oilcake	None offering
Coconut cake or meal	40.00@41.00
Cracked corn	84.00@85.00
Middlings	52.00@55.00
Rolled barley	54.00@55.00
Tankage	None offered
Rolled oats	59.00@60.00
Rice middlings	None offered
Rice bran	32.00@35.00
Shorts	45.00@47.00

POTATOES ONIONS, ETC.

Tomatoes are coming in very freely, as growers fear frosts. As a consequence prices of tomatoes have declined. Hubbard squash are in larger supply, with values reduced to 1c a pound. Potatoes show more strength, due largely to the fact that farmers are holding for better prices. Supplies of potatoes from Oregon and Washington, as yet, have not depreciated values of the California product. Onions are doing better, as heavy buying for storage has served to advance prices.

Asparagus	None
Peas, per lb	4@4½c
String beans, per lb	3@5c
Wax beans, per lb	2@4c
Hubbard squash, per 100 lbs	$1.00
Summer squash, per box	75c@$1.25
Cucumbers, per box	50@85c
Celery, per lug	Nominal
Tomatoes, per lug box	50@75c
Potatoes, Salinas	$3.00@3.25
Idahos	2.25@2.75
Oregon	2.25@2.60
Rivers, per ctl	1.85@2.50
Sweets, per lb	2¾@3c
Onions, yellow, per sack	$2.50@2.75
Reds	None offering
Garlic, per lb	5½@6½c

POULTRY.

The market is steady on hens and a trifle easier on young stock. Old roosters show a 1c advance. Turkeys are rather weak at unchanged quotations. Belgian hares have strengthened owing to scarcity.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb., young	26@28c
do, dressed, old	None offering
Broilers, 1½ to 2 lbs.	30@32c
do, 1¼ lbs.	30@32c
do, under 1¼ lb	32@35c
Fryers	28@30c
Hens, extra, per lb., colored	27@28c
Small leghorn	19@21c
Smooth young roosters, per lb. (3 lbs. and over)	28c
Old roosters, per lb	15@16c
Geese, per lb.	18c
Squabs, per doz	$3.50@4.00
Ducks	15@18c
Old	12½c
Belgian hares (live)	15@20c
do (dressed)	17@22c

BUTTER.

The market closed very firm again on Wednesday, with no declines in view, although the volume of receipts this week has been larger than the previous week. Supplies of Australian butter are expected about November 1, and if they should amount to something like a half million pounds butter values of California production may recede.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	46	46	46½	46	46½	46½
Prime 1sts	45	45	45	45	45	45

EGGS.

The decline of a half cent from Monday's prices on extras does not seem to be significant, as receipts are falling off. It is not likely that there will be any quotation below 50c for extras for some time. Values of fresh eggs are helped, in a certain measure, by the lack of demand for storage eggs, which do not seem to meet the approval of buyers.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	50	51	52	54½	54	54
Extra 1sts	49½	50	50	53	53	53
Extra pullets	43	43½	43½	45	45	44½
Extra 1st pul.	42	42	43	43	44	44

CHEESE.

In spite of the larger receipts of cheese during the week, no weakness has overtaken the market. Values remain almost stationary, with an improvement of a half cent in flats. In view of Government orders and export demand, prices should continue on the same plane almost indefinitely.

Y. A.'s	25c
Fancy California Flats, per lb	22½c
Monterey cheese	8@23c

FRESH FRUITS.

The closing in of the season is curtailing arrivals automatically and values of most lines are advancing with a good movement in the market. Watermelons are cheapening very materially, growers being desirous of making shipments before frosts occur. Casabas are fetching 75c to $1.00. Grapes arriving now in lug boxes have caused a rearrangement of list quotations. Some arrivals of Muscats from the Escondido Valley have sold as high as 3c a pound.

Apples, per box	$1.00@2.00
Pears, per box	75c@$2.00
Cantaloupes, per crate	75c@$1.25
Apricots, per box	None
Peaches, per box	75c@$1.25
Nectarines	None offering
Figs, per box	75c@$1.25
Plums, crates	75c@$1.25
Watermelons, per doz	$1.00@2.00
Grapes, Malaga, lug boxes	75c@$1.25
do, Seedless, lug boxes	$1.25@1.50
do, Muscats, lug boxes	1.00@1.25

CITRUS FRUITS.

Smaller receipts have caused an advance of 25c on fancy Valencias. A drop in the values of lemons was not unexpected, as the demand has been flagging for a week or two and only shortage of supplies prevented the declines, which have now influenced quotations. Lemonettes and grapefruit continue steady and in good demand.

Oranges:	
Valencias, fancy	$3.50
Valencias, choice	3.00
Lemons:	
Fancy, per box	6.00
Choice	5.50
Standard	3.50
Lemonettes	4.50
Grapefruit, fancy	4.00

DRIED FRUITS.

Buying has dropped off somewhat, owing to difficulties in making deliveries because of car shortage. Considerable inquiry has developed from Government quarters, but few definite contracts.

(Net to growers bulk basis, f. o. b. San Francisco.)

Apples, new crop	11 @12 c
Apricots, per lb	14 @16 c
Figs, black, 1917	5½@ 6 c
do, white, 1917	6½@ 7½c
Calimyrna, 1917	11 @12 c
Prunes, 4-size basis, 1917	6½@ 7 c
Prunes, 1916 basis	None
Pears	6@8c
Peaches, 1917	8@9c

BERRIES.

About 100 chests of strawberries arrived on Wednesday and prices fell a little. Blacks have cheapened also, although considering the time of year berries generally move well.

Strawberries, Banners, chest	$5.50@7.00
Longworths	None
Blackberries, per chest	$6.00@7.00
Raspberries, per chest	7.00@8.00
Gooseberries	None

HONEY.

The market is still firm with very light receipts, and extracted water white and amber show advances. The shipping from interior points seems to have been halted by the caution of buyers and the scarcity of supplies.

Comb—	
Water white	14@16c
Light amber	12@14c
Amber	10@12c
Extracted—	
Water white	14@15c
Light amber	10@12c
Amber	9@10c

HOPS.

A slow demand has weakened the market and values are receding. Reports of the California crop show a shortage of approximately 14,000 bales, compared with the crop of last season.

Baled, per lb	30@32c
do, Oregon and Washington	32@34c

RICE.

The market stands very firm, with holders entertaining rigid views of prices. Reports from the rice fields are encouraging as to the harvest.

California Rough No. 1, per ctl	$3.50
California Clean No. 1 per ctl	6.75

LOS ANGELES.

Los Angeles, October 16, 1917.

BUTTER.

This market remains much the same as a week ago. Receipts the past week not so heavy, yet equal to the demand, which continues fair from the consuming trade. Receipts for the week, 275,600 pounds, against 281,200 pounds the same week last year. There was withdrawn from cold storage during the week 11,822 pounds, against 14,275 pounds same week last year, leaving holdings now 113,981 pounds lighter than a year ago. Eastern markets remain unchanged up to Monday. Tuesday, with light receipts, traders were inclined to hold back and go slow.

We quote:

California extra creamery	47c
Prime first	46c
First	45c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	47	47	47	47	47	47
1916—						
Extra	33	34	34	34	33	33

EGGS.

There was a sharp advance in extras and case count eggs the past week. The light arrivals of fresh ranch eggs coming in and the holding up of the consumptive demand, causing dealers to bid up prices in an effort to draw better arrivals. Receipts of fresh ranch eggs by rail for the week, 513 cases, against 1,089 cases the same week last year. This shortage in the supply of fresh eggs caused a freer use of cold storage. The withdrawals from cold storage for the week being 4,843 cases, against 3,380 cases the same week last year, leaving now only 4,123 cases more in storage than last year and 8,621 cases three weeks ago. The Eastern markets show little change from last week, while San Francisco advanced 4½c up to Monday. Tuesday the light receipts caused buyers on 'change to bid extras up 1c and a few sales were made at this advance.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	52	54	55	55	55	56
Case count	51	53	54	54	54	54
Pullets	42	43	43	43	43½	43½
1916—						
Case count	48	48	50	50	50	50

POULTRY.

Not much coming in, yet the supply equaled the demand, which is being checked by high prices. Still a fair movement was had in young stuff, hens and ducks. Turkeys still quiet. Prices steady and firm.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs	29@30c
Fryers, 2½ to 3 lbs	27c
Hens over 4 lbs	26c
Hens under 4 lbs	21@23c
Ducks	20@21c
Geese	18c
Roosters, 3 lbs. up (soft bone)	23c
Turkeys, heavy, 12 lbs. and up	29@30c
Turkeys, light	24@25c
Squabs, live, per doz	$3.00@4.00
Dressed	3.50@4.50

VEGETABLES.

Offerings not so liberal and the tone of the market better. Potatoes coming in more freely and lower. The fall crop of potatoes in Southern California promises to be large and is having a bearish influence upon the market. Onions steady but slow sale. Summer squash higher and so are cucumbers. Cabbage higher and in good demand. Some cauliflower coming in and selling fairly. Celery meeting with fair demand and best higher. Peppers steady.

We quote from growers:

Potatoes, Northern, per cwt	$2.00@2.25
do, local	$1.75
do, Idaho, per cwt	$1.75@2.25
Onions, Yellow per cwt	2.00@2.25
do, White, per cwt	2.00@2.25
Garlic, per lb	3@4c
String beans, per lb	4@6c
Tomatoes, per lug	20@40c
Summer squash, per lug	50@60c
Cucumbers, per lug	90c@$1.00
Green corn, per lug	50@55c
Cabbage, per 100 lbs	80@90c
Lima beans, per lb	5½@6c
Okra, per lb	5@6c
Bell peppers, per lug	25@30c
Chile peppers, per lb	2@3c
Celery, per crate	$2.25@2.65
Eggplant, per lb	1½@2c
Sweet potatoes, per cwt	$2.25@2.50
Cauliflower, per crate	1.90@2.00
Hubbard squash, per lb	1@1½c
Pumpkins	1@1½c

FRUITS.

Less fruit is on the market and its general tone is firmer. Apples are meeting with a good demand and higher. Peaches getting scarce and what few coming in selling better. Figs in fair demand at old prices. Quinces steady and what few in are meeting with a fair demand. Pears firm and selling very well. Grapes steady and firm and demand fair.

We quote from growers:

Apples—	
Bellefleur, 4-tier	$1.00@1.05
Peaches—	
Freestone, local, per lug	$1.00@1.10

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., October 16, 1917.

On account of the extreme car shortage which has prevailed throughout the fruit districts of California for the past few weeks, growers have been compelled to hold their grapes in their packing houses for from two to four days, with the result that the fruit has deteriorated and arrived in Eastern markets in a great many instances in a weak condition, causing a decline in all markets as against the week previous.

Apart from this, however, the car shortage has been a blessing in disguise, in that it has prevented a heavy shipment that under ordinary conditions would have gone forward, and would have unquestionably affected the demand. The demand has remained surprisingly active, in view of the large amount of inferior stock that has been going forward. This, however, applies to Tokays and not to Malagas. The Malaga grapes have shown a decided improvement in quality during the past three weeks and prices have averaged very satisfactorily.

There is such a small amount of deciduous fruit being shipped, the season having practically closed, it is not worth while reporting on what few varieties are being sold, outside of the late pears.

There has been an unusual movement of wine grapes, practically 1,000 cars of Zinfandel, Mission and Alicante Bouchet having been shipped from California this season. The prices realized are considerably higher than offered by the local wineries, and unless something unforeseen happens the shipment of wine grapes East should develop into a very important branch of the industry.

The packing of Emperor grapes in sawdust is now at its height and the open weather will make it possible for a very large percentage of the crop to be packed in this manner. The quality this season is exceptionally fine and Eastern buyers should experience no difficulty in keeping keg and drum Emperors in storage without the berries showing decay, for at least three or four months.

The first offering of Spanish Almerias is due to arrive in New York this week. On account of war conditions, we do not anticipate as heavy a shipment as last season, though possibly 500,000 barrels will be delivered in this country.

Following are the averages for the week:

New York: Clairgeau pears, $2.51; Nellis, $2.52; Bartlett pears, $3.52; Levi peaches, $1.21; Tokay grapes $1.25; Alicante Bouchet, $1.37; Malaga, $1.21; Cornichon, $1.35; Black Prince, $1.32.

Boston: Tokay grapes, $1.13; Muscat, $1.03; Malaga, $1.13; Black Prince, $1.22; Cornichon, $1.55; Bartlett pears, $3.00; Buerre Clairgeau, $3.00.

Chicago: Malaga grapes, $1.24; Tokay, $1.22; Cornichon, $1.28; Black Prince, $1.10; Rose Peru, $1.12; Bartlett pears, $2.92.

Shipments for the week ending October 11: 48 pears, 1,358 grapes. Shipments to date, 1917: 18,408 cars. Shipments to date, 1916: 14,429 cars.

CALIFORNIA DOES ITS BIT IN BEAN GROWING.

Government estimates of the lima bean crop of California show that the yield in the leading bean-producing counties will be as follows: Los Angeles county, 198,000 sacks; Orange county, 270,000 sacks; San Diego, 60,000 sacks; Santa Barbara, 72,000 sacks, and Ventura, 952,000 sacks. The total crop in the State is estimated at 1,552,000 sacks of 80 pounds each, equivalent to 2,069,000 bushels.

100-POUND UNIT FOR POTATOES.

The hundred-weight measure for farm crops is in general use in California and might well be substituted for the clumsy and varied bushel measurements in the Eastern States. The tendency that way is indicated in the following by the United States Food Administration:

"A joint committee representing potato growers and shippers and distributers held a conference in Washington recently. This committee went on record as recommending that the Bureau of Standards be urged to take the necessary steps as soon as possible toward the establishment of 100 pounds as the unit upon which price quotations and the buying and selling of potatoes shall be based throughout the United States."

Clings, per lug.....70@90c
Figs .....50c@$1.00
Grapes—
Malaga, per lb.....2½@3c
Muscat, per lb.....2½@3c
Tokay, per lb.....4½@5c
Cornichon, per lb.....4@4½c
Pears, per lb.....4@4½c
Quinces, per lug.....60@65c
Local apples, per lug.....40@50c
Casabas per 100 lbs.....90c@$1.00
Honeydew melons, per 100 lbs...90c@$1.00
Watermelons, per 100 lbs.....$1.25@1.50

WALNUTS.

The demand for walnuts continues good. For choice nuts the market is said to be oversold and a slight premium is being offered. The Association is now shipping about twenty cars a day.

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.90c
Jumbo	24c	17.50c
Culls	6@12c	....

MELONS.

Not enough cantaloupes coming in to make a market, so we drop their quotations. There are still quite a number of late casabas and Honeydew melons arriving and the tail end of the watermelon crop. They find fair sale at firm prices. Quotations hereafter will be found under the head of fruits.

Special Livestock Market Report

San Francisco, October 17, 1917.

CATTLE—The cattle market shows somewhat more activity under the stimulus of the recent rise in prices. A still further advance is looked for by stock raisers, but this optimism is not shared by the buyers. Meanwhile the market rules strong. Following quotations rule as we go to press:

Grass Steers—
No. 1, weighing 800@1200 lbs....8¾@9c
No. 1, weighing 1000@1200 lbs....9@9½c
Second quality .....8¾@9c
Thin undesirable .....6@7½c
Grass Cows and Heifers—
No. 1 .....7@7½c
Second quality .....6½@7c
Common to thin .....4@5c
Hay-fed cattle ½ to ¾c higher.
Bulls and Stags—
Good .....5¾@6c
Fair .....5¼@5½c
Thin .....4@5c
Calves—
Lightweight .....9¼@9½c
Medium .....8½@8¾c
Heavy .....9½@10c

SHEEP—Nothing has happened nor is likely to happen in the immediate future to relieve the strained situation in the sheep market. Mutton and lamb stock is difficult to get and prices are approaching the limit.

Lambs—
Milk .....14½@15c
Sheep—
Unshorn wethers .....10½@11½c
Unshorn ewes .....9½@10c
Yearlings .....11½@12c

HOGS—The hog market has paused in its ascending flight and the future is somewhat uncertain. It is not likely to recede unless there is anticipated an effort on the part of the Government to regulate prices downward, which would have to go hand in hand with feed price regulation.

Good weights, 150 to 300 lbs.....17c
Light weights, 100 to 150 lbs.....15c
Heavy weights, 300 to 400 lbs....15½@16c

WOOL—There is little activity in the fall wool market just now, owing partly to a wide difference in viewpoint between buyer and seller. There is some little trading in the Sacramento and San Joaquin Valleys at the range of prices given below. A record price of 70c was wired from Eureka. For fall wools the following are the prices at which trading is actually done:

Sacramento Valley.....45@48c
San Joaquin Valley.....38@44c

Los Angeles, October 16, 1917.

CATTLE—A steady and fair market was had the past week. But while old prices are being fully maintained, there was no disposition to advance values, as feeders were offering cattle a little more freely. California and Arizona furnished most of the supply and what cattle coming in were in very fair flesh.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs.....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers..... 6.50@7.00
Calves, per cwt..... 8.00@9.00

HOGS—The arrivals were somewhat better the past week, but with cooler weather there was a better demand and the recent advance was sustained. The firm Eastern markets have a sympathetic influence.

Per cwt. f. o. b. Los Angeles:
Heavy, averaging 250@300 lbs..$13.50@14.50
Mixed, 200@250 lbs..... 15.00@16.00
Light, 175@200 lbs..... 15.00@16.00

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—This market is still a firm one; killers still finding it difficult to get what they want, but at present high prices are not using many. What arriving in fair flesh.

Per cwt. f. o. b. Los Angeles:
Prime wethers .....$ 9.50@11.00
Prime ewes ..... 10.50@11.00
Yearlings ..... 10.50@11.50
Lambs ..... 14.00@15.00

Portland, Ore., October 15, 1917.

CATTLE—Conditions in the livestock market continue active in the Northwest, with heavy shipments received at the Portland Union Stock Yards for the week's opening. Prices are comparatively steady in all departments, with a show of strength in the cattle department and a show of weakness in the hog department. The cattle that appeared in the yards for the week's opening sale show splendid breeding and splendid husbandry. The per cent of good cattle on the market was much larger than that which was shown last week, and still the demand for good cattle continues strong. The price of finished steers was advanced about 25c and 25c was added to the top end of bull prices in today's trading, with a steady tone to all other classes.

HOGS—The hog market opened up with sluggish tendencies and dealings bore earmarks of an oncoming decline. Tops crossed the scales at $17.35, and the bulk of hogs sold for 17c, with not a few changing hands as low as $16.85, no Southern hogs going higher than $17.00. The bears seem to be getting the best of things in the hog market throughout the country and Portland is in the wake of the general decline.

SHEEP—The sheep market is opening the week with the same tendency to strength which was shown in the closing hours of the previous week's trading. A heavy shipment of breeding ewes changed hands in the open market this morning at $15.00 to $17.00. Other classes continue at the same quotations as previously issued.

Cattle—Best beef steers, $9.50 to $10.25; good beef steers, $8.00 to $9.25; best beef cows, $7.00 to $7.75; ordinary to good cows $4.00 to $6.75; best heifers, $7.00 to $8.00; bulls, $4.00 to $6.75; calves, $7.00 to $9.50; stocker and feeder steers, $4.00 to $7.25.

Sheep—Western lambs, $13.50 to $14.00; valley lambs, $12.75 to $13.50; yearlings, $11.75 to $12.25; wethers, $11.50 to $12.25; ewes, $8.50 to $10.50.

Hogs—Prime light, $17.00 to $17.25; prime heavy, $17.00 to $17.25; pigs, $15.00 to $16.00; bulk, $17.00 to $17.25.

Special Citrus Market Report

Los Angeles, October 16, 1917.

Shipments of citrus fruits from last November to October 14: Oranges, 39,500 cars; lemons, 7,612 cars. Same date last year: Oranges, 31,031 cars; lemons, 6,777 cars. The Eastern markets continue firm under light shipments and the smaller sizes of Valencias met with a very good demand and sold a little higher, but the larger sizes met with a draggy market and showed but little improvement. As to the new crop of navels, it is thought to be backward and a month before even the earliest will begin to move and then only on a limited scale. Hence Valencias may be expected to control the market for some time yet. Fancy lemons met with a very good demand East and market firm under light offerings. Locally the lemon market continues as dull as ever, the weather being against the market. Then, too, the new crop promises better than awhile back, which is causing buyers to go slow. Local packers bidding 2½ to 3c per pound, bulk, delivered, for best. Low grades have to be sold for what they will bring. Oranges very dull on the local market and prices weak at quotations, 2c to 2½c per pound for Valencias, delivered, only a few single boxes being taken now and then for the retail trade. The weather has been against the market. Grapefruit meeting with a fair demand and steady bringing 2½ to 3c per pound, bulk, delivered.

AUCTION SALES.

New York, October 15.—Fifteen cars of Valencias sold; 176s and smaller, 25c higher; 150s and larger slightly higher. Weather fair. Valencias averaged $1.70 to $5.10. No lemons sold.

Boston, October 15.—Eight cars sold. Market higher on both Valencias and lemons. Valencias averaged $2.40 to $5.20. Lemons averaged $4.35 to $6.30.

Philadelphia, October 15.—Eight cars sold. Market strong and higher on Valencias. Lower on lemons. Valencias averaged $3.25 to $4.20. Lemons averaged $3.85.

BEANS.

The market the past week took a sharp upward turn. But at the higher range of values buyers were inclined to go slow. Prices are now beginning to look speculative.

We quote from growers:
Limas, per cwt.....$13.50
Large white, per cwt..... 13.00
Small white, per cwt..... 13.00
Pinks, per cwt..... 10.50
Blackeyes, per cwt..... 8.00
Tepary 10.00

HAY.

A more active and firm market was had the past week. Scarcity of cars continue to cause light arrivals and buyers to bid full quotations for all offerings.

F. O. B. Los Angeles:
Barley hay, ton .....$23.00@24.00
Oat hay, ton ..... 24.00@25.00
Alfalfa, northern, per ton..... 21.00@22.00
Alfalfa, local, per ton..... 21.00@23.00
Straw, ton ..... 9.00@10.00

COMPARATIVE STATEMENT OF DECIDUOUS SHIPMENTS.

Sacramento, Cal., October 13, 1917.

1916		1917
164	Cherries	295
289½	Apricots	403
1,909½	Peaches	2,429¾
1,998½	Plums	2,649
3,665¼	Pears	4,636¾
6,384	Grapes	7,991½
64½	Miscellaneous	35¾
14,475¼		18,440¾

Classified Advertisements

MISCELLANEOUS.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero St., San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

FOR SALE—Feed grinding outfit, comprising No. 6 Stover Ideal Mill, about 100 pairs burrs and 3-h.p. Freeport gasoline engine. Arthur King, Route 1, San Luis Obispo, Cal.

APPLES DIRECT FROM PRODUCER—Fancy Bellfleurs, $1 per box; No. 2 grade, 70c; Newton Pippins at same prices; bulk pack. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

ALL SIZES OF PIPE and screw casing, both new and second hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

SECOND-HAND PIPE—Absolutely first class. Write for prices. San Francisco Iron & Metal Co., 256 North Point St., San Francisco, Cal.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market St., Stockton, Cal.

WANTED—Herdsman to care for a small herd of pure blood Ayrshire cows; must understand balanced rations, calf raising and general scientific care of cattle; state wages desired; references required. Address P. O. Box 34, Menlo Park.

WANTED—Foreman, large cattle ranch, Santa Clara county; references. P. O. Box 170, Oakland.

COUNTRY LANDS.

FOR SALE—80 acres improved wheat ranch in Monterey county; 75 acres plow land; house, barn and buildings; two good wells, windmill, small engine. $3900; terms. Inquire Mrs. Ida L. Young, Sanitorium, Napa county, Cal.

FOR EXCHANGE—1943-acre improved ranch, Hodgeman county, Kansas, $25 an acre; mortgage $10,000; want California ranch about same value. John L. Wyatt, Huntington Beach, Cal.

HUMBOLDT STOCK RANCHES—1700 acres $8 with stock cattle. Long lease; additional land. C. E. Robertson, 105 Montgomery St., San Francisco, or J. E. Wilson, Carlotta, Cal.

SPLENDID GOING DAIRY RANCH for sale on easy terms; in San Mateo county, just over the San Francisco line; livestock includes 60 grade cows, 3 registered Holstein cows, 2 bulls (prize winners at World's Fair), 2 registered Guernsey cows and 2 bulls, about 50 calves, 15 head of well-bred horses, 20 hogs, 10,000 chickens, 300 roosters; farming utensils include planters, seeders, cutters, spreaders, Fresno scrapers, harrows, etc.; also 2 15-h.p. motors, power saws, mixers, steamers, gas engines, transformers and all necessary machinery; also barns, milk house, calf house, milk cooler tanks, 100 poultry houses, incubator house, 19 incubators, 8 wagons, 1 Kissel truck, 1 Ford truck, 1 Studebaker; household furniture; in short, all necessary equipment and appurtenances of a high-grade, modern, sanitary dairy; also good will of the business, including lease on 600 acres for ten years, milk delivery route and contracts. Price, $75,000. Will sell chicken ranch separately if desired. For further particulars address Allen Moyer, 315 Bush street, San Francisco.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

FOR LEASE—150 acres level land, with farm buildings; suitable for dairy, hay or grain; adjacent to Redwood City. W. F. Chipman, 625 Market street, San Francisco.

FOR RENT—At Paradise, Cal., forty acres apples, forty acres pears; abundant irrigation water. Address Dr. C. A. Oliver, Chico, Butte county, Cal.

WANTED TO LEASE OR BUY—a suitable stock ranch. John Sagehorn, Willits, Cal.

SEEDS, PLANTS AND TREES.

ALFALFA PLANTERS, fill your fall requirements now with Green-Gold seed; high quality because of personal field selection; low price because of direct dealing; send for samples and prices. Bomberger Seed Company, Desk A, Modesto, Cal.

ALFALFA SEED—Buy direct from producer; we have customers who are alfalfa seed growers; write for prices and samples. J. E. Cain, Jr., Bank of Arbuckle, Arbuckle, Cal.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar Sts., Oakland, Cal.

OLIVE TREES—Mission, Manzanillo, Ascolano. Propagated by me from trees of known bearing qualities. Guaranteed. L. T. Schwacofer, Hemet, Cal.

I WANT TO PURCHASE 1000 pounds of Arabian alfalfa seed; send sample and price. Henry C. Dalessi, Berros, Cal.

DOGS.

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STOCKTON, CALIFORNIA

Vol. XCIV—No. 17 THE PACIFIC RURAL PRESS Forty-second Year

SAN FRANCISCO OCTOBER 27, 1917 LOS ANGELES

Greater Cattle Profit for California.

[By Prof. David N. Morgan, University of California.]

MEAT PRODUCTION in California has not kept pace with the increase in prices. The price of cattle has increased two and a half times since 1878, which was the year this State reached its maximum production of meat. In this time the price of sheep has increased five times, and the price of hogs has more than doubled. While there are more beef cattle in the State today than for 25 years, the decrease in sheep from 6,500,000 to 2,500,000 means that we are still short the equivalent of one million cattle. In spite of the high prices, it has been estimated that cattle have decreased 15 per cent from 1910 to 1914 and that sheep have decreased 10 per cent.

Forage Increased by Settlement of Cattle Ranges.

It is realized that the settling up of the ranges by homesteaders and the planting of cultivated crops in the great valleys has reduced the available pasture. But we also know that, excluding the fruit acreage, there are 2,500,000 acres now in hay and forage crops and two million acres in cereals. It is also known that wherever land suitable for the plow is tilled that the tonnage of hay and forage is three to ten times the tonnage from pasture. In early days sheep and cattle men wintered their stock in the valleys and kept off the ranges long enough in the spring to give the latter a chance to get more growth. Stock did better under this system despite the long drives which they had to endure, and the pastures were not depleted. There was also in those days an unwritten law respected by cattlemen that they would not encroach on each other's range on public lands. In most parts of California this arrangement has been succeeded by a "first come first served" policy, which has caused stockmen to put their cattle and sheep on the ranges too early for the good of the stock or the good of the range, in order to keep others off.

California Favorite, the Grand Champion Fat Steer in a class of 223 entries at the 1916 International Livestock Exposition in Chicago. He was bred and raised by the University of California.

California Marvel, bred and owned by the University of California. Now being fitted to prove to the United States and Canada at the 1918 International Livestock Exposition that California can come back. The white calf is by the same sire, Sultan Mayflower. She was bought with her dam last spring by T. T. Miller for $2,000. She took Junior Championship at the 1917 State Fair.

Range Regulation Increases Feed.

All stockmen are aware of the increase in carrying capacity of ranges on the national forest through the administration of the ranges by the U. S. Forest Service. The people of this State should call upon Congress to place the 20,000,000 acres of unappropriated government land in this State under similar regulation. This suggestion may meet with the opposition of some men, but for the greater good of the commonwealth as a whole such a step should be taken. Lands on the public ranges if brought under such jurisdiction would be improved through the prevention of over-pasturing, the development of water, and the building of trails. It is folly to continue our present system. It would be even better from an economic viewpoint to sell the land outright to the large stockmen rather than continue the depleting of the native pastures.

No one questions the desirability of withdrawing the Lassen National Park, but its administration should be placed in the hands of the Forest Service officials so that full use can be made of its feed-producing possibilities.

Public lands in California have been settled at the rate of one-half million to a million acres a year, each man taking a half-section—usually a man without capital, who hopes to prove up and sell to the nearest large land owner. If the settler and stockman could be made to see the advantage of developing the feed on this half-section during the period of making proof instead of keeping back its development so that the settler will take a smaller price when he has secured title, both would be better off. The settler with no capital is helpless to improve his land. In many cases he wastes his time for a period of three years when his labor might be put to productive uses. Hay might be raised by the settlers on their best land and sold to the stockmen for early winter feeding.

Winter Feeding Range Cattle.

This brings us to a discussion of winter-feeding of range cattle. Cattlemen have told me that to winter-feed cattle would make them lazy, and they would refuse to rustle in the spring. I have no sympathy for this point of view. It is in the same category with the idea that while cattle are on the range they should never be approached by a range rider for fear they might get frightened and run off a few pounds. We believe that cattle should become accustomed to seeing the range rider and that he should always call cattle when salting them. Through such a practice in a few years cattle could be rounded up in less than half the time now consumed on many large ranches.

Our native pasture grasses in this State enable cattle to put on weight until July, August, or September. They then start to go back and will lose weight until the grass is up three or four inches. If rains are late, the loss in weight is tremendous, and frequently the percentage of loss from starvation is appalling. On one ranch in this State a loss of 150 head of cattle each winter is expected. This loss of $6,000 to $10,000 would buy hay enough to not only save the animals but bring through the hardier cattle in better shape.

Silage 25 Tons Per Acre.

And in planning on winter feeding in these valleys the silo should be given first consideration where corn can be raised as successfully as here. More than three times as much fodder per acre can be produced as where hay is raised. Silage with hay will increase the carrying capacity of lands used for winter feeding. On our University Farm at Davis we are producing 25 tons of silage to the acre. Ten tons is a good yield.

We are so enthusiastic over the urgent necessity for increasing the silos in this country that as a war emergency measure we are offering to send an expert silo man into any community in the State. He will build a serviceable type of silo on any farm where a number of farmers will come together and learn how to erect a similar one on their own farms. The silo our man will construct will not cost more than $1.50 per ton capacity. We are also prepared to send out blueprints from which any man who is mechanically inclined can build his own silo. Full information may be obtained by addressing the College of Agriculture, University of California, Berkeley, Cal.

(Continued on page 425.)

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EDITORIALS

IDEAL CONSERVATION.

HERBERT C. HOOVER must lift his weary eyes now and then from the anxious faces of the throng of food conservators who are moiling and toiling around him for a long gaze of wrapt adoration at the loyal service of his own State which is just naturally saving everything this year. For California has lost nothing of all that patriotism called upon her to conserve. Not a bean has gone black; not a grain of barley has sprouted in the straw; not a raisin has molded; not a dried peach has grown a whisker; not a prune has bloated; not even a sugar beet has shot a second-growth. Not a grain of rice would have been irretrievably lost if the game commissioners had allowed rice growers to kill and eat the wild fowl which fattened on their crop. There has never been a year, since California crops became so great and varied, when the crop grower has been able to gather the uttermost farthing, and so many of them, as this year. And so we say Mr. Hoover ought to be prouder than ever of California. And when this fitful spell is over and he comes back to dwell in the nice house which he is now building in Palo Alto may he soon forget that he ever worried himself nearly to death about what other people were eating or not eating. In memory thereof let him, at his first breakfast in his new mansion, break four eggs over a full round of ham and chuck eleven cubes of sugar into a full schooner of coffee—that he may feel in his own person that very fullness of emotions which will come ere long to a world which he has made safe for gastronomy.

NATURE AS A CONSERVATOR.

BUT WE MUST not forget that California, which made her son Hoover so great through the endowment of her own nature, loses naught of her own peerless quality by sharing it with her children. California manifested her patriotism by her help in nation-healing in 1861-5 and manifests it again by her help in world-healing in 1917. It is by her long, free-growing season and her long, free-harvesting season that California responds, as no other State can, to the appeal for patriotic increase of food production. In this way she has triumphed this year over the unreasonable handicap of insufficient and unqualified farm labor with which politics and prejudice hamper the expansion of her chief industry. We have to thank Nature that disaster did not befall the expansive effort which California farmers made this year. Is it reasonable for farmers to gamble that Nature will help them out again next year when there promises to be even largely increased stress of insufficient labor in their producing enterprises? That is a question which farmers themselves must answer.

HOW NATURE DOES IT.

NATURE HAS great cosmic fun with California. She correlates and adjusts her forces with great nicety and plays them off one against another so successfully that none of them can become puffed up with the idea that Nature is dependent upon it for exclusive, indispensable service. Last winter and spring it seemed necessary to give the factor of rainfall a lesson in humility and so Nature squeezed the rain-clouds dry over other areas and then let them fly in fleecy streamers over California unable to drop even a single vernal tear on our great interior plains as a token that they had a heart of grief and sympathy for Californians whom they had taught to believe that "the late rains make the crops." And then Nature shunted drying winds away from the California border, lowered her normal vernal temperature and spread great volumes of ocean fog over the fields which it was prophesied would come to naught. And what a transformation followed on the landscape and in the hearts of men. Fields which were counted upon for nothing came through with much hay. Other fields which it was calculated must be "cut for hay" came through with much grain. Pastures which were expected to fail early continued long with unexpected verdure. Thus Nature taught her conceited offspring Rainfall and her proverb-making servant Farmer this lesson: "It is not the rainfall which you do not get but the soil moisture which you can conserve which makes the crop." And thus also Nature gave her California son Hoover the wisdom for his world slogan: "It is not more the food which you produce than the food which you do not waste which will win the war."

WHAT NATURE IS DOING NOW.

AND NOW, as we stand at the opening of a new crop-year, what is Nature doing? She is rigorously applying the conservation which pertains to the beginning of a season's growth, as complementary to the conservation of a season's closing, which we have sketched above. She has thrown down no rain to endanger the completion of the harvest and to be quickly lost by evaporation in the autumn heat. She has held every spear of dry feed in full richness of her peerless hay-making, until some useful grazing animal has added its value to its own. Thus Nature has wasted no water during this blessed autumn of 1917 and has held every seed of native forage plant or volunteer grain, safe dry and viable until the time comes not only for its sprouting but for continued and effective season's growth. Here again Nature is practicing and teaching conservation of inestimable value in California farming, viz: "Waste no water by unseasonable outpouring of it: waste no seed by sprouting under conditions which give no assurance of maintenance of growth."

WHEN SHOULD THE STATE GET WET?

AS WE CAN plainly see that Nature intends to waste no water in opening the season 1917-18, the question arises when may she be expected to get really busy. In our new book, "California Vegetables" (which our gentlemanly mailing clerk will be delighted to send you for $2 per copy, postpaid) we have included an outline of the occurrence of California's early rains, which we have secured our own permission to quote as follows:

One inch of rainfall at San Francisco is not sufficient for the interior of the State to allow of good plowing and seeding; hence a total of two inches at San Francisco is taken, and it is found that two inches of rain falls at San Francisco up to November 1; hence that date can be said to be the date of commencement of good plowing.

Five inches is considered to indicate that the rainy season has entered upon full effect, and it is found that five inches does not usually fall before December 15, and that the earliest date that five inches has fallen is October 21, 1889, and the latest February 5, 1891. In this latter season February was very wet, and the total for the season was seventeen fifty-eight hundredths inches.

To summarize, we have first rains September 17; rainy season begins October 8, and in southern portion of State November 1; ground moistened for plowing November 13, and rainy season in full effect December 15. Of course, there will be occasionally a year in which a good fall of rain may come earlier and, occasionally also, storms from the southward deeply moisten Southern California before the normal storms of northerly origin reach the upper parts of the State. Therefore, planters everywhere should always be ready to take advantage of the first deep moistening of the soil to start plants which thrive in our autumn temperatures.

The foregoing was sketched on the old basis of waiting for deep moisture before plowing, which has been somewhat shifted by the current use of tractors, but the significance of the occurrence of deep moisture as affecting the safe starting of plants is unchanged and it is that we desire to emphasize. It is clear that Nature expects to get busy this year when conditions are right and not before.

WHAT CAN A MAN DO?

WITH A SEASON set by Nature for ideal conservation of the forces of growth, what is the duty of a man? It is evidently to be in every way ready to seize intelligently and put to immediate use, growing conditions as soon as they become safe for vegetation. All possible land to be sown for winter growth this year should be turned as soon and as fast as possible. Feed is too high to keep teams idle a day and tractors cost too much for landscape ornaments. It will not do to wait for easier plowing except where impracticable to do otherwise. There are several reasons why harder and more costly work may really be the cheapest of all. First, with the scant and poor labor supply it is possible that work which is not done early will never be done at all. Second, the way to get the full effect of moisture which comes late is to receive it on a broken surface for deeper penetration—an inch thus received may be worth two inches on a hard surface to be half lost by run-off and the drying effect of plowing. Third, in a rush season, as the coming one may be, the only man who wins is the one who keeps ahead of the rush: the man whose work is half done before his neighbor gets ready. Fourth, the man who gets ahead with his soil work has at least two chances for the success of his plants to one which the late worker may expect. For these and other reasons, which everyone can figure out for himself, the wise man will get ahead with his work—proceeding in an earnest but leisurely way to get the most he can from his own labor and to use to the utmost the hired help when he can get it more easily before the rush of competition between belated employers comes on. Prune and spray early, plow and plant or sow early, get ahead of the game in every safe and practicable way, and you will have Nature and Economics pulling with and not against you. Such is the conservation of your producing force which this kind of a year prescribes.

CONSERVING VALUE IN A PRODUCT.

AND WE MUST say that the best way to conserve value in a product may be to sell it. It is true that a grower may hold his product indefinitely so long as he can keep it out of a public warehouse, for holding the contents of which the national law sets strict limitation, but every grower of merchantable produce ought to seriously discuss with himself how far he is likely to be profited by holding. Of course, if he has a tender civic conscience, he may consider it his duty to accept the blessings which the commercial gods now hold out to him and let the stuff go. Possibly the surety that no buyer can get an advance which he might as well enjoy himself may help him to let it go from patriotic motive because no such buyer can hold it, for Uncle Sam has a hard hammer for the knuckles of all middlemen. But these are not the grounds on which we would urge the grower to think hard lest he hold too long. Let him remember several things which are deductions from wide observation and experience: first, the normal course of prices, which are exceedingly high, is downward; second, exceedingly high prices reduce consumption directly by causing people to use less and, indirectly, by promoting use of every possible substitute: third, exceedingly high prices always bring to light invisible supplies even from the uttermost parts of the earth: fourth, it is expensive to hold high-value produce and it is very seldom profitable to borrow money to do it with: fifth, stored food-products are subject to all kinds of deterioration, often beyond all reasonable expectation: sixth, for all these reasons and perhaps as many more, it is almost always more profitable to use money in growing a new crop than in holding an old one which it is possible to sell at a very high price when first ready. Although we conceive it

to be no part of our calling to preach to any reader about how he should do his own business, still we have to get this load off our conscience. We know the cost at which much of this produce has been made and how much actual risk and patient persistence have been required to make this year's produce without the proper labor supply which should have been provided. It is the knowledge of these very hardships which impels us to advise that growers be careful not to lose all these increments to the normal cost of productions, by holding too long when a good round price can be had. And having relieved our conscience, we say naught more. You can hold your stuff until the Kaiser's submarines bob up in Tulare lake if you wish to, but you can point no bony finger of scorn at us for not calling out to you to "stop, listen and look."

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Dynamite for Alkali.

To the Editor: I have been told that if I would use dynamite on alkali that it would produce afterwards. Have you any knowledge on the subject? I was told to put half a stick of dynamite four to five feet in the ground, about 20 feet each way, or about like tree holes would be dug, and by breaking the hardpan the alkali would disappear. Would appreciate any information you could give on the subject.—C. E. T., Visalia.

Dynamite has no chemical nor magical effect on alkali. Dynamiting is soil surgery—it is neither medicine nor faith-cure. If your land is not productive because alkali is accumulated in the surface layer through evaporation at that point of surplus water containing alkali which has no chance to escape downward and outward by percolation and under-drainage, dynamite will restore its productiveness—providing the subsoil below the hardpan layer is permeable or rendered permeable so that sufficient fresh water by rainfall or flooding can distribute the alkali and carry away excess percentage of it which your crop-plants cannot tolerate. Your surgical operation with dynamite may therefore be expected to succeed—providing proper "drainage tubes" are left in the wound.

Whether the way described to you for conducting the operation is the best or not, we do not know. To find that out you should correspond freely with the powder companies who advertise "agricultural explosives" in our columns. They have experts who are studying closely this new line of soil surgery and they do not care to blast a man's pocketbook unless they can make openings into as well as out of it. They know well enough that they have no permanent business unless they can do that.

Planting Strawberries.

To the Editor: I am planning to plant half an acre of strawberries on very sandy land. I have plenty of horse manure but am not sure which way is the best to apply same not to burn the ground. How much of the manure can I put on the ground without doing any damage? Also, what kind of strawberries do you think would be the best?—O. W., Halcyon.

You do not say whether you are ready for irrigation or not. If not, you had better stay out of the strawberry business on such land except in a small way, which you can cover from the home or barn tanks. Do not put any manure into the soil before planting, but after the plants are set in the clean soil water-settle the ground and put the manure on top to be leached out by the rain and to hold the moisture near the surface by checking surface evaporation. On such land you should level it or parts of it, enclosing each level area with border-levees, so that each can be flooded from time to time as required. Furrow irrigation or ridge planting cannot hold the water high enough for such soil. We cannot confidently advise varieties without knowing more than we do about the conditions prevailing. If you have a successful neighbor-grower, get plants of his kinds. If not, you will have to try out a number, including Brandywine and several of Mr. Etter's varieties. Fall planting should be done in your case.

Was the Fill Too Loose or Too Tight?

To the Editor: I notice an inquiry in your issue of October 6 as to why crops do poorly where land has been filled in. The reason is that the land has been packed down so hard by the horses that it is as hard as a brick. The remedy is to plow the ground as deeply as it has been filled in.—Reader, Modesto.

This refers to our answer to the question why a new fill did not bring a crop while the plants all around it were productive. Perhaps our reader above is right, but we still prefer our answer for these reasons: (1) The fill was made last winter in a short rainfall; (2) the land was sandy; (3) the fill must have been surface-worked to get in the barley which failed. Presumably it was as well plowed as the surrounding "cut" surfaces from which the fill was made and which would also have been hardened by the action of the scrapers. Still the "cuts" made a crop and the "fills" did not. Our correspondent's view above would be more rational if the land was heavy and moist when graded, but it was sandy and presumably dry. We still hold our view as to why the barley failed in these new "fills" and believe either rainfall or flooding is necessary to make this new land safe for a crop.

Tobacco Growing.

To the Editor: Where can I get books or advice on how to grow tobacco, telling the kind of seed best for this country and how and when to plant?—J. R., Chowchilla.

You can get a general understanding of methods of growing and curing from the pamphlets which they will send you from the U. S. Department of Agriculture at Washington. If you can get from them and from your own ingenuity a line of practice which will make tobacco in California a dependable and profitable crop, you will do more than hundreds of people have failed to do in California during the last half century—paying in the aggregate probably as much as a million dollars in time and money for their failures. Our advice would be not to monkey with tobacco unless you wish it for your own pipe and you have a good large piazza where your wife will allow you to smoke it. Food crops are now too profitable and too much needed to warrant farther experimentation with California tobacco at this time.

Apricot Scale on Prunes.

To the Editor: Kindly inform me how best to get rid of apricot scale in my French prune orchard.—H. S., Los Molinos.

The most effective treatment of these pests is a very thorough spraying after the leaves fall with a well-prepared crude oil emulsion, according to Mr. Volck's suggestions, as follows:

Prepare in the spray tank as follows: Water, 175 gallons; liquid soap, 3 gallons; crude oil, 25 gallons. Place in the spray tank in the order mentioned with agitator in motion. Allow about one minute for mixing of soap and water, then add the crude oil.

Liquid soap may now be difficult to get. If so, dissolve 20 pounds of whale oil soap in 10 gallons of water by boiling, put this in the spray tank with the water to which 2½ to 3 pounds of lye has been added. When the water has been properly soaped by any of these methods the crude oil will break up into a brown colored emulsion which is easily held in uniform suspension by agitation.

After such a good insecticide is made the secret of success is to use plenty of it and be sure to hit every point on the bark, under sides of branches, drenching of small twigs, etc.

Why Alfalfa with Vetch for Cover Crop?

To the Editor: What do you think of planting alfalfa and vetch seed mixed for a cover crop? Should we inoculate the seed with some prepared bacteria?—V. E. K., Sacramento.

We see no reason for adding alfalfa seed to vetch which is to be winter-grown for spring turning under. The best cover crop of that kind is made with hardy, winter-growing legumes, of which alfalfa is not one in most parts of California. If you wish to increase your chance of a good stand and quick growth, melilotus, not alfalfa, is reasonable in a mixture. If your land has recently grown no legume crop like beans or peas, or if it shows in its weed growth no burr clover, sweet clover or wild peas, etc., you increase your chances with a leguminous cover crop by inoculating the seed, if the stuff you use is properly prepared and fresh.

Weight and Value of Corn Stover.

To the Editor: What is cash value of fifteen acres of corn for feed after the ears have been picked, and about how many tons to acre?—J. H. B., San Jose.

It is sometimes estimated that about one-third of the feeding value of the corn plant is in the stover—if the latter is secured before the dry leaves are subjected to too much loss by wind and weather. The weight of an acre of stover average growth would be about two and one-half tons. Money value depends, of course, upon the price of the products secured by feeding it and is variable. Corn stover caught and cured in good condition is about a maintenance ration for dry stock. If fed with alfalfa hay for general purposes, the amount of alfalfa can be reduced about one-half—if shredded so that it can be eaten up clean.

Tomato Worms on Potatoes.

To the Editor: I have found that my potatoes are being eaten up by big green tomato worms. Is there anything that I could spray them with to get rid of this pest? They are not very numerous yet.—R. R., Lathrop.

These large worms are larvae of the "hawk" or "humming bird" moths, which hover over garden flowers in the evening. They are about the largest caterpillars one has to do with, and though they can be poisoned by spraying the potato vines with lead arsenate it is easier to hand-pick and crush them on the ground. If you do not like the feel of them even with gloves on, go along and cross-cut them with an old pair of scissors. One clip will settle a worm. You are not likely to find many as late in the season as this.

Hay for Horses.

To the Editor: How much hay is sufficient to keep a mare of 1100 pounds that does no work and one of about 950 pounds that does work a few days at a time as necessary. Should the latter be fed grain when working in addition to hay?—E. D. S., Cupertino.

About 15 pounds per day of good grain hay or 13 pounds of alfalfa hay, with access to straw as desired, ought to carry them while rendering no more service than you indicate. The lighter horse ought to be able to do occasional jobbing without grain. Of course, you will feed no more than they will eat up clean at each feeding.

Stacking Teparies.

To the Editor: What shall I do with my tepary beans? They are ready to be threshed, but I can't get a hold of a thresher right away. May I stack them? Will they sweat enough to do them harm? My neighbors seem to differ on this question. As I am depending on this crop, I am very much worried.—Subscriber, Denair.

They can be safely stored in small stacks or massed under cover when they are thoroughly cured or dried in cocks until the stems are brittle. When thus thoroughly dried they will not sweat enough to hurt during a reasonable period in the interior valley.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., October 23, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.68	3.23	66	42
Red Bluff	...	.80	1.95	90	50
Sacramento	...	.51	1.13	86	48
San Francisco	...	.02	1.18	87	52
San Jose	...	.01	1.01	86	38
Fresno	...	...	.78	86	48
San Luis Obispo	...	.09	1.37	94	48
Los Angeles	...	...	.58	94	54
San Diego	...	.16	.41	80	60

Bur Clover Nitrogen in Soil

[Written for Pacific Rural Press.]

Is there any soil advantage in leaving summer covercrops in alternate centers between orchard rows as practiced by some Placer County fruit growers? It certainly saves nearly 40 per cent of the cultivation, which is a great item in these days of scarce labor; and might make a considerable difference in the terms of lease which are being made in the fall for next year. It was to answer this question, that J. E. Bergtholdt and the writer took four composite soil samples in as many representative orchards and submitted them to Prof. C. B. Lipman's office at the University of California for a nitrogen determination. The samples were taken with a shovel after scraping away two to four inches of surface soil. Six shovelfuls from as many different centers were taken for each sample, which was mixed for the analysis. Sample A was taken from a five-year orchard on a steep hillside in which alternate centers had been left in bur clover each summer. It had never been cropped before. Sample B was taken from a more level orchard, where the same system had been practiced over fifteen years. Sample C was taken in a four-year orchard, where conditions were comparable except that clean cultivation had been practiced and it had probably been manured; for its owner has a penchant for hauling all the manure he can get. It also had never been farmed before planting trees. Sample D came from a similarly located orchard twenty years old in which clean cultivation had always been practiced and manure had been applied close around the trees. All dirt was taken from the center of the square between four trees here as in the other samples. Nitrogen determinations were made by W. C. Roberts, Assistant in Soil Chemistry, U. of Cal., who reported as follows:

Sample A	.056%
Sample B	.083%
Sample C	.104%
Sample D	.084%

No. A, which represents the four years of alternate cover cropping, is much lower in nitrogen than any of the others. The 15 years of continuous alternate cover cropping, if it has been practiced on soils which are common to No. A, would show a considerable increase in the nitrogen content and illustrate the value of the cover crop. Sample C from the young orchard on land which had not been previously cultivated shows the highest percentage of all, which is undoubtedly due to the fact that previous cultivation and the growing of grain crops had not depleted the original organic matter from the soil.

Sample D, the one representing the clean cultivated old orchard, is practically the same in nitrogen content as Sample B, upon which cover cropping has been practiced for 15 years. This would seem to indicate that there is no appreciable difference between these two soils as far as the nitrogen content is concerned. Whether this is the actual fact, or whether the samples were not truly representative of these two areas we are not prepared to say. The use of the barnyard manure on the clean cultivated soil probably has much to do with the good nitrogen content found therein. The soluble organic matter compounds would easily distribute themselves throughout the soil; and the application of the manure around the roots of the trees only, would probably also increase, to some extent, the nitrogen supply farther away from the trees.

However, the growing of the cover crops would certainly be a commendable practice, especially where manure was not available and could not be added, so that if Mr. Bergtholdt does not expect to be able to fertilize his orchards with manure in the future, the growing of the cover crop would be of aid to him, not only in increasing the nitrogen, but in improving the physical condition of his soil, as well as opening up the subsoil, due to the penetrating roots of the legumes. We did not make a humus determination on these samples, since such determinations are not, in the light of present knowledge, considered of much value in the determination of soil fertility.

VINEYARDS NEED DRAINAGE.

[Written for Pacific Rural Press.]

Great areas of San Joaquin Valley vineyards have been put under irrigation where drainage is poor, though it seems all right. Vines are dying of mysterious diseases, but J. W. Jeffrey, who has been studying the situation in Fresno County a year or two, announces that the vines are dying generally because of the concentration of all the alkali in the soil into the upper few feet, due to the rising water table and excessive evaporation.

California's crop of prunes this year will exceed all records by 5,000,000 pounds.

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There is a shortage of trees this year. To make sure of getting just what you want, place your order now.

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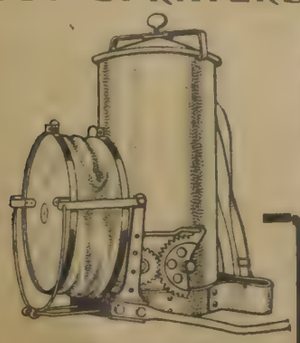

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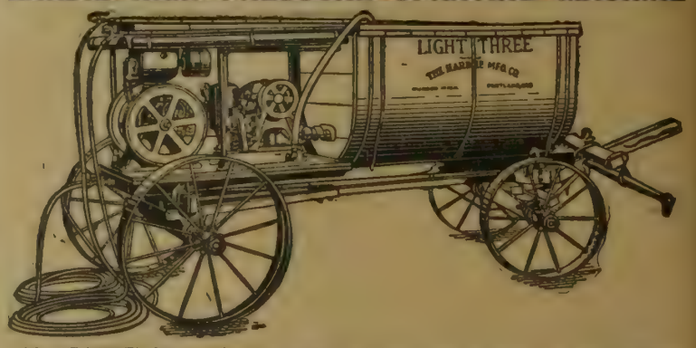

The "HARDIE" Sprayer that has made good from coast to coast, the Power Sprayer with all its modern devices in controlling high pressure spraying. A regulator that holds the high pressure right to the dot and takes all the load off the pump and engine when the nozzles are closed. The HARDIE Power sprayers are made in seven sizes and styles and are right all the way through from the engine to the nozzles. So simple in construction that practically all the difficulties of spraying have been removed. A sprayer for every spraying need. Our catalog tells the story of the wonderful efficient HARDIE sprayer, and all the accessories used in the Orchard. Write today for the 1918 HARDIE Catalog. Our display room is in with A. F. George Company, 200 N. Los Angeles street.

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Fresno is a great fruit growing center, and it is, therefore, only natural that it should be the headquarters in California for choice nursery stock.

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

FRUIT PLANTING POINTERS.

"In planting fruit trees, be very particular about the stock, regardless of price," says W. S. Florington, one of the most successful long-time growers of many kinds of fruit in the Paso Robles district, without irrigation. "It is poor policy to save a few dollars on nursery stock and have a weak, diseased orchard ever afterward.

"Prepare the ground, if possible, a whole season ahead, especially if you have no irrigation. Plow deep right after the first rains unless you have land that washes badly. It will weather mellow like an ash heap during the winter. Cultivate and keep a good mulch through the summer to store plenty of moisture.

"Plant not later than January, so rain will settle dirt about the roots and get them started before leaves put out. Then cultivate early, frequently, and well, so the young trees will not suffer for moisture the first year. Trees planted so will in four or five years be ahead of those planted a year earlier without such preparation."

BLACK OREGON CHERRIES POLLENIZE ROYAL ANNES.

The effect of mixing cherry varieties for pollenization was well shown last season in the orchard of R. W. Skinner of Sutter County. A Royal Anne was excessively loaded on the side where its branches mingled with those of a Black Oregon. The crop was noticeably lighter in the top and farther side.

CITRUS PLANTINGS FORECASTED

While the supply of seed-bed stock will unquestionably be short, the Wallace Nurseries of Los Angeles report that they will have some two hundred thousand fine young trees for the market this fall, fifty thousand being select Valencias, the balance lemons and navels. They believe that if the war situation does not assume too serious an aspect the planting of new acreage to citrus trees will be general. The Wallace Nurseries were established in the year Pacific Rural Press was first issued; and throughout their nearly fifty years in Southern California their confidence in California as a citrus section has remained unshaken.

DO NOT LIKE PEACH ROOTS.

No more peach roots for almond trees in the orchards of R. H. Coombs and W. A. Ferguson of the Banning district of Riverside County. In their opinion, peach roots are too short lived and catch every disease there is.

TREE PROTECTORS
THAT REALLY PROTECT

Fitted with Galvanized Wire Ties that go all the way around the tree.

PRICES PER THOUSAND
Seven inches wide

10 inches long	$9.00	18 inches long	$12.50
12 inches long	9.50	20 inches long	15.00
14 inches long	10.50	24 inches long	17.50
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See your Nurseryman or write us for Discounts and Free Samples.

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DEALERS—Write us today for our Sales Proposition.

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PEARS
On Blight-Resistant Roots—

Although we have already sold heavily, we still have a limited quantity of EXTRA QUALITY stock in Bartlett and other best-selling varieties, all on Japan roots—the root that is aphis-resistant and practically BLIGHT-PROOF. You cannot afford to endanger your orchard success by buying low-grade trees, even if you do save a few cents on first cost.

We shall be sold out long before the end of the season, and if you wish to be SURE of having your orchard investment rest on the best possible foundation—Loma Rica trees—you will instruct us to RESERVE your stock AT ONCE. Then you'll be safe.

Other nursery stock besides pears, of [illegible]

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A. L. WISKER, Mgr.

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PROPRIETOR

THREE HUNDRED ACRES
WEST DESSAU STREET.

Ontario, California,
October 18, 1917.

To Our Customers:---

Many a man sold his fruit this year for more than his land cost him. This means a big acreage will be planted---a big demand for trees.

And already the stock is showing up short. So we say to our friends---place orders early.

Take olives---they've brot $150 to $300 on the tree. Therefore lots of folks plan to plant. Some will have to go without.

A couple of Tulare County men came in last week and told me that a neighbor who has bought over 10000 olive trees from us during the last 5 years, said "Armstrong's is the place to buy olive trees."

They looked over my stock---Ascolano Queen---Mission---Manzanillo---and placed their order.

My 28 years in the business counts---I am able to advise. Better let me know, **right now**, what you're going to want.

We can fill your orders for fruit trees of all varieties, with satisfaction. Don't put off writing.

ARMSTRONG NURSERIES,
J. S. Armstrong, Prop.

Send your name for 1918 catalog.

Field and Garden Suggestions

[Written for Pacific Rural Press.]

BEADED SPUDS.

To the Editor: Your answer to a question in the issue of September 8th, reminds me that the real things in spuds on strings grew wild in Nebraska in the year 1859, on the north bank of the Platte river. At that time I visited some Indians who had them boiling in a pot with beaver meat, and I induced the head of the tepee to show me where they grew. I dug a few about the size of hens' eggs, roasted them in the camp fire and ate them as potatoes.

It is quite possible that the "String of Spuds" which you noted is derived from that stock, and it seems important to know all there is to learn about it, in hopes to be able to double up on the spud crop. I would suggest that one of the Rural Press editors take a trip to the North Platte, interview the Indians, dig a few specimens, take them to the leading botanist of that section to learn the whole history, and then bring the samples here, cross them with our ordinary stock in order to get Solanum Tuberosus double upus.

St. Helena. R. E. WOOD.

[The suggestion is interesting, but we have become weary of looking for things where they were about 60 years ago. We fear we might not find either Indians or spuds and perhaps not the Platte river—at least not in the place where you found it.—Editors.]

CABBAGE WORMS—GET THEM NOW.

To the Editor: I have a fine crop of cabbage just forming heads. I found today that every head in the patch has one or two green worms nearly an inch long and so nearly the color of the plant that it is almost impossible to find.—J. C., Fourth Crossing, Calaveras county.

Powdered hellebore is effective and safe, but seems to be very little used and may be hard to get. Mix with two or three times its weight of dry flour, sulphur, etc. Or spray with white hellebore after steeping one ounce in a quart of boiling water and adding another quart of water when cold. Powdered arsenate of lead, one pound per 50 gallons of water, is safe and effective. A dust made of ¼ dry powdered arsenate of lead, ½ finely powdered tobacco dust, and ¼ of dry sulphur has been used successfully and safely before heads are half grown. Sprinkle very thinly over the plant.

SELECTING COTTON SEED PLANTS.

A cotton grower, if he selects seed at all, is likely to select fine cotton on fine high yielding plants. If this seed is the result of pollen

YOUR ALFALFA SEED

Can be bought to the best advantage right now before extensive plantings and resultant high prices occur.

If quality is a consideration as well as price, you are certain to be satisfied when you buy our

NO WEEDS — GREEN BRAND GOLD — NO DODDER

It's the cream of alfalfa seed; the pure high germinating kind that is field selected and purchased direct by us from the best seed fields in California and Arizona.

Sold with a "money-back" guarantee clause direct to consumer. It must be good.

Write for price and sample of our re-cleaned

New Crop Offering

Bomberger Seed Co.

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"Trade name and firm name on every sack."

Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

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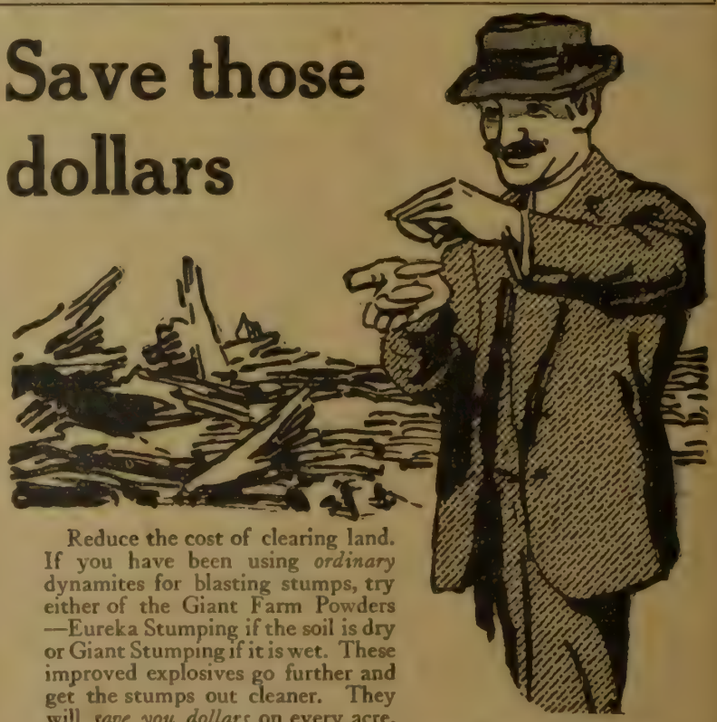
Save those dollars



Reduce the cost of clearing land. If you have been using *ordinary* dynamites for blasting stumps, try either of the Giant Farm Powders —Eureka Stumping if the soil is dry or Giant Stumping if it is wet. These improved explosives go further and get the stumps out cleaner. They will *save you dollars* on every acre, because they are made especially to meet Western conditions.

Blast Stumps With

GIANT FARM POWDERS

STUMPING — AGRICULTURAL

"They save *work* and *money* and give results when all other means of removing stumps have failed," writes Robert Chabot, Moclips, Wash.

"Better than any other," says A. E. Adkins, Woodburn, Ore.

"Most satisfactory," says John Zurr, Santa Rosa, Cal.

It was the product of this company that originated the common name "giant powder." Other explosives are sometimes represented to be Giant Powders. If you want to save dollars on your stump blasting, insist upon having the genuine.

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Get the Giant Book, "Better Stump Removing," and find out how you can cut the cost of clearing land. Our other books on Boulder Breaking, Ditch Blasting, Subsoil Blasting, and Tree Planting with Giant Farm Powders are also sent free on request. Mark in the coupon the books that you prefer.

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With a great world food shortage and with the great war depending on the ability of this country to supply the allies, every acre of land should be made to produce its utmost. This can only be done by feeding the soil, i. e., increasing the available supply of the elements required by your crops.

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are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

Let our Fertilizer Department help you solve the problem of bigger and better crops.

WESTERN MEAT CO.

SAN FRANCISCO, CAL.

from a different type or variety, or if the seed from which the plant came is a hybrid, the crop from that selected plant's seed may show wide variation, according to W. E. Wilsie of Imperial county. Moreover, the high yield or big bolls may be the result of more room, better soil, better irrigation, etc. Seed ought to be selected from normal plants in considerable areas of uniformly excellent plants and yields; so the seed may not include undesirable crosses.

DECIDES LAW UNCONSTITUTIONAL.

Stanislaus county has what seems to be a District Attorney who takes it upon himself to determine the unconstitutionality of the Fresh Fruit Standardization law and refuses, either directly or indirectly, to give the courts a chance at it. Arakelian Bros., who have been in trouble in Imperial and Fresno counties for trying to ship cantaloupes judged immature by the Horticultural Commissioners, have been in trouble also in Stanislaus; but there they have found aid and technicalities which have so far prevented prosecution.

ALFALFA PLANTING IN COACHELLA.

The best month to plant alfalfa in Coachella Valley has been proved to be October, according to A. H. Smith. Land should be levelled very carefully, worked down fine, and well irrigated before seeding, so the young plants will not dry out. Spring windstorms are intermittent through February and regular every day through March, April, and May, so young alfalfa not well rooted by that time, has a poor chance to survive.

STINKING SQUASH BUGS.

To the Editor: Gray-black beetles are on my pumpkin vines by the hundreds, and they stay until the vines shrivel up. They fly around the place but hurt nothing else. They have an awful smell when bothered.—R. L. S., Porterville.

They are common squash bugs. The best method of getting rid of them is to lay pieces of board, bark, etc., about the patch. The bugs take refuge under them and may be collected early in the morning. Burn trash after the crop is off, to prevent their living through the winter.

LIME INCREASED RED CLOVER.

Red clover three years old was plowed up and reseeded soon afterward by W. H. Stewart of Humboldt county. For two years, this also did poorly; so he spread a sack of air-slaked lime on a strip a rod wide. The improvement was very noticeable, and Mr. Stewart estimates that several times as much feed grew on that strip as on the same area in the rest of the patch.

BARLEY WASTED.

While the Kaiser's submarines have been destroying an estimated 8,000,000 bushels of barley per year, the Kaiser has not cared so much about that as about the 70,000,000 bushels worse than wasted in making beer. While farmers are exhorted to produce more food the nation permits the beer trade to thus aid the Kaiser, and nullify that much of the farmers' efforts.

Five Standard Sub-Soil Plow

KILLEFER QUALITY

KILLEFER EFFICIENCY

Subsoil work should be done as soon as possible, while the ground is dry. Reports from grain, bean and other crops, where subsoil plows have been used, are showing big returns for the amount invested. If you are intending to do any of this work this fall, do not delay, but get your tractors moving; they do not earn anything standing idle. We build from the single standard for the small tractor to the five and seven standard for the largest tractors made.

The Killefer Manufacturing Co.

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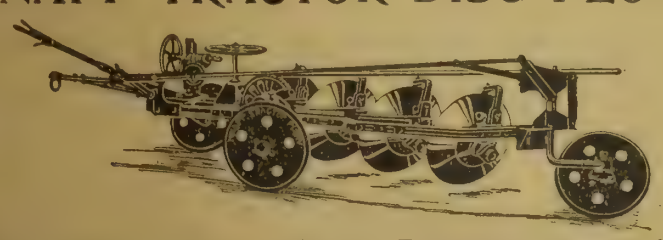
KNAPP TRACTOR DISC PLOW



Breaks up almost any soil. Can't clog. Turns cover crops completely under. Can't catch on low-hanging limbs. Plows close up to the trees. Controlled entirely from the tractor, making tractor and plow a real one-man outfit. Made for all types and sizes of tractors. Write for circular.

KNAPP GOPHER PLOW—"DRAINS THE SOIL"

This sturdy implement smashes its way through hard plow-pan and hard-pan, breaks up the soil for a distance of several feet each side of the cut, and leaves an opening six inches in diameter two feet below the surface, which insures perfect drainage. Just the thing for making alkali land sweet and productive. Consists of Knapp Subsoiler and gopher attachment as shown. Can be used without attachment for subsoiling only.

See these implements in operation at the Power Farming Machinery Demonstration near San Jose on November 1, 2, and 3.

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Make Your Engine Easy to Start

The SUMTER Plugoscillator on medium and large size stationary and marine engines or the SUMTER Starter-Coupling on trucks, tractors, marine and heavy duty engines will make starting sure and easy. Your manufacturer will give you the equipment if you INSIST.

SPLITDORF ELECTRICAL CO.
NEWARK, N. J.

SPLITDORF SPARK PLUGS

GOLDEN SEAL PLANTS
2 years old, $20 per 1000
WILLOWBROOK FARM
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Mechanical Power on the Farm

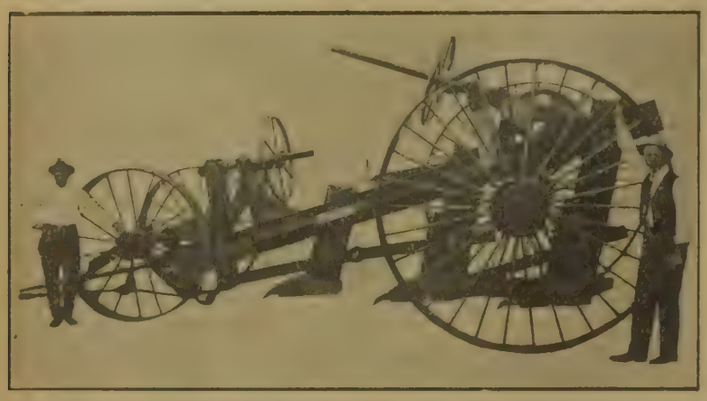
Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

SAN JOSE TRACTOR DEMONSTRATION.

Santa Clara Valley is to have a power-farming machinery demonstration held under the auspices of the Santa Clara Valley Tractor and Implement Dealers. The demonstration will be held on November 1, 2, 3, and will be similar to those held in various parts of the country which have contributed in no small measure to the rapid adoption of tractors and tractor-drawn implements by growers everywhere. The site is ideal for a demonstration of this kind, embracing approximately seventy acres known as the Laederich Tract, which is situated on the Stevens Creek Road, a short distance from San Jose. There will be a good opportunity to see what the tractors and implements can do in orchard work, as well as in the open field. Those who go by automobile will find paved highway all the way, and arrangements have been made for parking all machines close to the grounds. Those who go by rail should buy their tickets to San Jose and take the Peninsular electric line from there.

There is no better way to form a correct idea regarding the merits and capabilities of different types and makes of power-farming machines than to study them while they are performing actual work under exactly the same conditions as would be met on the farm and in the orchard. Especially is this desirable in the case of machines with which the prospective purchaser is more or less unfamiliar. Power farming is of very recent development and there has been such a rapid increase in tractors and power-farming implements of various kinds that an exhibit of this kind never fails to reveal new machines that one has not before known.

At least ten or twelve different types of tractors will be shown, some of these in various sizes. In addition, there will be a comprehensive exhibit of engine plows, subsoilers, harrows and other tractor-drawn implements. A large attendance from Central and Northern California is expected and arrangements have been made to take care of the crowd. A tent covering over 21,000 square feet will be erected to house the display and to afford a covering for the machines when they are not at work in the field.



The Liberty Subsoiler. Standards follow each other, each going deeper than the one in front of it. The rear one goes 48 inches deep.

WORLD'S LARGEST SUBSOIL PLOW.

The largest subsoil plow ever built is pictured above. It was made for the Liberty Farms Corporation in the San Joaquin Valley, for work on their lands in the San Joaquin and Sacramento valleys. Where conditions are not too strenuous, two "75s" and one "60" might handle it, but under ordinary conditions it is a task worthy of the three largest tractors. The Liberty is constructed of highest grade steel. The axle is 4-inch solid steel, the standards holding the steel points are 1¾ by 14 inches, also of highest grade steel. The wheels are 8 feet in diameter. It is supplied with automatic lift which pulls the great plows out of the hardest hardpan. The plows have been forced through sandstone hardpan, breaking it up to a distance of 6 feet either way from the plow. Of the three plows, the first cuts to a depth of 16 inches, the next to a depth of 32 inches, the rear one to a depth of 48 inches. Length of subsoiler, over all, is nearly 24 feet. The Liberty Subsoil Plow is a California product. It was built complete in the Los Angeles shops of Killefer Mfg. Co., and the work of this plow will be watched with interest throughout the State.

NAPA PRUNES LACKED WATER.

Napa county prunes are not proving so heavy and big as expected, according to F. T. Patrick. This

DO YOU HAVE
Belt Troubles?

We are belt engineers—all you have to do is to write us all about your belt troubles—and we'll help you solve them, FREE.

TEST SPECIAL Belting outlasts any other rubber belting, and is backed by our guarantee.

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Fill Out This Coupon—Mail It TODAY

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Send me samples of Belting that you will guarantee to give satisfactory service on my work and quote prices delivered at
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Distance between centers of Pulleys.....
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A pocket memo. booklet giving speed and power tables will be sent FREE to all who mail this coupon.

Cleveland Tractor
Geared to the Ground

Now You Can Forget The Labor Shortage

—and the lack of horses and mules as well.

A single Cleveland Tractor will do the work of three 3-mule teams and their drivers—*and do it quicker, better and at much lower cost.*

Under the very conditions found in the South and in the fruit lands of the West the Cleveland will plow 3½ miles an hour. Such speed used to be considered impractical. The Cleveland has made it not only possible but highly desirable. At such speed it does the prettiest job of plowing you ever saw.

It will plow 8 to 10 acres a day, through loose sand, soft gumbo, flint laden cotton soil or soggy rice fields.

Think of such speed! *Think of the labor saved.* To say nothing of the saving in time and money.

No other tractor built can perform so successfully under the conditions you have to face.

The Cleveland will not pack the soil. Nor will it slip, mire or flounder. For it is light—only 2750 pounds—and has 600 square inches of continuous traction surface.

All this means more cotton, rice, sugar—greater prosperity for Cleveland Tractor owners.

And here's another most important point. The Cleveland is only 52 inches high and 50 inches wide—*actually small enough for use among small fruit trees.* It is just what hundreds of grove owners have been looking for.

Even in the forests it can perform to advantage, threading in and out between trees, and hauling heavy logs as neither horses nor mules can do.

The Cleveland delivers 12 h.p. at the drawbar and 20 at the pulley belt—more than enough for all your requirements.

It is built by Rollin H. White, the famous motor truck engineer. Throughout its construction he has used *only the finest motor truck parts.* He has protected all gears by enclosing them in dirtproof, dustproof cases. He has so designed the Cleveland that it *steers by the power of its engine.* Anyone can drive it and care for it.

These are big important advantages. There are others just as vital. They combine to make the Cleveland just the tractor needed to solve the labor problem of the South.

You need the Cleveland and need it badly. Send today for full particulars and name of the nearest Cleveland dealer. We are so crowded with orders that we cannot promise delivery before December 1. We suggest ordering now for delivery then. Do not delay in getting full information. Address Dept. BG, or use the coupon.

$1185 *f. o. b. Cleveland*

CLEVELAND TRACTOR COMPANY
Cleveland, Ohio

Cleveland Tractor Co.
Dept. BG,
Cleveland, Ohio
Please send me full information about the Cleveland Tractor.
Name_____
City_____
County_____ State_____

F. H. STOW DISTRIBUTOR OF **Cleveland Tractors**
2053-2055 Center St.
Berkeley
—FOR—
NORTHERN CALIFORNIA AND WESTERN NEVADA

has been found true in other districts also. Mr. Patrick mentions the general opinion that lack of water at the right time caused this. The prunes doubled in size frequently until the hot spell of June, when their development seemed arrested. Napa Valley is proud of her heavy rainfall and lack of irrigation. Some of these prune growers, however, would be prouder of a heavy prune crop whose increased weight would in many cases have paid the cost of an engine and a pump that, if it had been put in before June, would now be ready to insure the 1918 crop so far as moisture is concerned, free of charge except for oil and gas.

HUDFORD TRUCKS.

[Written for Pacific Rural Press.]

A truck body is put behind the Ford engine and front wheels, using the shaft drive and internal gear axle, to make trucks of one to two tons capacity. These were shown at some of the fairs; and many are being sold to enable farmers to keep their workstock off the road.

CALIPER TESTS FIRE PRESSURE.

[Written for Pacific Rural Press.]

What looks better than a pressure gauge for determining whether you have enough air in the tire is an adjustable tire caliper recently put into use. After adjusting to your tire at the proper pressure, if it does not fit snugly, the tire is either over inflated or under inflated. The test is applied instantly without removing the valve cap or disturbing the valve.

SOFT TIRES SLIP OFF RIMS AT TURNS.

[Written for Pacific Rural Press.]

An automobile accident occurred on Market street recently which would have been serious had the car been going at customary road speeds around a curve. The driver turned toward the curb; and the front tires being rather soft, they both slipped off the rim at the ground. Soft tires are not only dangerous, but expensive.

SNOWSHOE EFFECT OF TRACTOR.

[Written for Pacific Rural Press.]

Cultivating irrigation furrows sooner by tractor than by horse in order to save moisture is possible with the Samson Sieve Grip, according to H. L. Marsh of the Samson Sales Co., because the Sieve Grip has the same effect on the ground as a web snowshoe.

The KROGH Vertical Pumps

New Type Vertical

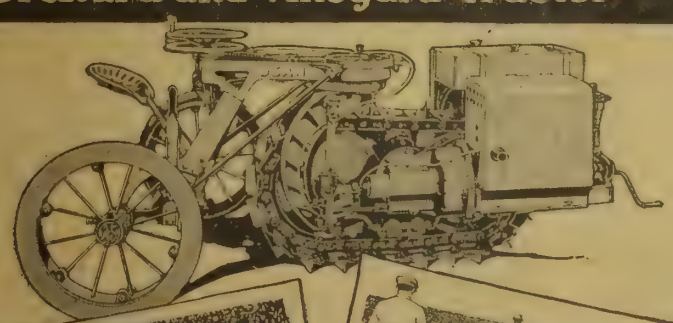
Are automatically water balanced and require no adjustment of any kind. All weights of shafting and rotating parts are carried on the water film absolutely without the use of thrust bearings or adjustment of any kind.

No BALANCE RINGS or PLATES in KROGH PUMPS. They are unnecessary, and mean only continual trouble. KROGH PUMPS with the least number of parts means less friction and greater efficiency. Get our Bulletin No. 78 before deciding on a pump.

Krogh Manufacturing Co.
SAN FRANCISCO. LOS ANGELES.

Downright Dependability

Built right into this remarkable little Orchard and Vineyard Tractor



Get This Tractor Book

No orchardist or vineyardist should buy any tractor until he reads the Bean TrackPULL Tractor Book. It tells all about a wonderful 3100-pound tractor that

Pulls instead of pushes itself over the ground
Can be "gee-ed" and "haw-ed" out of holes and soft places like a team.
Has full-power pull on turns as well as on the straight-away.
Turns clear around in a 10-foot circle (5-foot radius).
Plows or harrows as close up in the corners of a field as a team.
Plows as close to vines and trees as a team.
Makes little difference how far off center you hitch.
Goes under branches of trees that no team can get under.
Runs stationery machinery up to 10 H.P. when not plowing.
Weighs less and costs less to run than wheel-type tractors of same power.
Pays for itself in what it saves.
Cultivates 10 to 15 acres in 10 hours.
Plows from 4 to 7 acres in 10 hours.

BEAN TrackPULL Tractor

And this tractor is built by the Bean Spray Pump Co. makers of the famous Bean Spray Pump.

That means it is a *tested reliable* tractor and is in *successful* operation on hundreds of farms.

Send the coupon now for the Tractor Book and note all that this tractor does. Price now $1150. Prices may advance without notice due to steadily increasing cost of materials. Order now at the present price for delivery later. Send the coupon for the Book. Make sure of your tractor.

Bean Spray Pump Co.
511 W. Julian St. San Jose, California
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Please send me your Tractor Book with full information about the Bean TrackPULL Tractor.

Name.....
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City.....
County..... State.....

See the Bean TrackPULL Tractor

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Power Farming Machinery Demonstration

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"Sammies" will be there

"Sammies" Will Maintain The Honor of America

The Nation is safe when "Sammies" Serve. "Double your present Crop Production," is demanded. You can do this, even with reduced farm labor, when you let Samson Power Serve Your Farming Needs.

SAMSON SIEVE-GRIP Reg. & Pat. U. S. & Foreign Countries **TRACTORS**

Replace the Men Uncle Sam has Drafted

Do ten horses' work—operate 24 hours a day without fatigue. SAMSON SIEVE-GRIP TRACTORS are easy and economical to operate—Patented Sieve-Grip Wheels give Traction on all surfaces.—Other exclusive features promote long life, assure satisfaction. Built of quality materials—over strong—Lowest upkeep costs. Samson Sieve-Grip Tractors cost more to build—Sell for More—are Worth More. Mechanical Farm Power can maintain your present crop production—even surpass it—Replace the men and horses with dependable Samson Power. Delivery sure on orders placed now. Use coupon below for more information.

SAMSON SIEVE-GRIP TRACTOR CO.
(Division, General Motors Company)
STOCKTON, CALIFORNIA.

Gentlemen:—I want to help maintain the honor of America by raising bigger crops. Send me a copy of Samson Siftings. I want to learn how other farmers use Samson Sieve-Grip Tractors on their farms. Send latest catalogue and name of my dealer. My farm is ____ acres. I work ____ horses.

Name ____ Address ____
County ____ State ____
Remarks or special questions ____

General Agricultural Review

Field Crops.

Alfalfa hay in Orange county is selling for $20 per ton.

Bean straw in Southern California is selling for $13 per ton.

Alfalfa seed threshing in the Elsinore district is about completed. Growers are selling the seed for 15c per pound.

In some counties the sugar beets are about all harvested. In Orange county a good percentage of the crop is yet in the fields.

From figures that have been compiled on California's hop output for 1917 the yield is shown to be 36,329 bales less than the 1916 crop.

It is reported that bean prices have dropped in consequence of the announcement that the Government will on November 1 take control of the bean output.

At the University Farm Seed Show, recently held at Davis, J. M. Bomberger of Modesto was awarded first prize on a five-pound sample of his Green Gold alfalfa seed. The same sample was awarded grand prize for being the best legume seed shown.

Cotton growers of the Imperial Valley are calling for 5,000 cotton pickers and are offering $1.50 per 100 pounds to pickers. A movement is on foot to transfer the 2500 Mexicans imported into Orange and Los Angeles counties to harvest the beet crop to the Imperial Valley to help harvest the cotton crop there, the beet harvest now being over.

Mrs. Ethel Adams of Murphys is having splendid success with fall meadow oat grass, some of which she sowed four years ago. After cutting it two to three times a year, it furnishes the finest pasture up till Christmas or cold weather. The hay is very fine and sweet.

The sugar beet harvest in the Turlock section has been so satisfactory, both in tonnage and sugar content, it is expected that many of the farms in the district will be planted wholly to beets next year. The sugar content will average 18 per cent, in some cases going as high as 25 per cent.

Imperial prunes artificially dried without dipping or processing and at a cost little exceeding sun-dried prunes were exhibited in candy boxes at the California Land Show by J. T. Wann of Healdsburg. Mr. Wann also showed dried pumpkin, which he said would make better pies than the pumpkin that our wives simmer the water out of by long cooking.

While the production of alfalfa seed in California is not up to normal, growers are realizing better profits than usual, owing to the unprecedented demand. Dealers variously estimate the amount being shipped to Middle Western points at twelve to fifteen carloads, and it is claimed that a considerable quantity has been purchased for South American shipments.

Citrus and Semi-Tropical.

Manzanillo olives are ripening rapidly in the Lindsay district.

According to a prominent packer, a 50 per cent citrus crop is a conservative estimate for the Lindsay-Porterville district.

A "Festival of Dates" is advertised as the leading feature of the Coachella Valley Fair at Indio, November 1, 2 and 3, 1917.

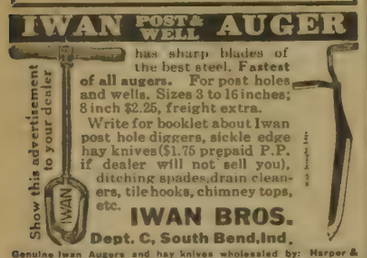
It is expected the Florida citrus crop will be about 50 per cent short this season owing to the severe freeze which killed the early bloom.

The California Avocado Association held a session in the famous Glenwood Mission Inn, Riverside, Cal., October 26 and 27, 1917.

The olive crop around the Lake Elsinore district will be light, with the exception of the Lakeside Ranch, which has a good crop on the trees. Mission olives are bringing the growers from $125 to $150 per ton, orchard run.

About 2,600 boxes of grapefruit and 7,900 boxes of oranges, comprising the first of the season's shipments from Porto Rico, were held up by the

FOR FIGHTING FIRE USE
GARSTANG GRASS BURNER
For the city lot owner or rancher. Designed solely for fighting dangerous and useless brush and weeds. Clears off city lots or vacant acreage. Kills the seed of weeds and rank vegetation at the right season. Safe, inexpensive and an efficient safeguard against accidental fires. Burns oil, distillate or gasoline. Prices on application. State and County Rights For Sale. Write for circular.
RICHARD GARSTANG, Patentee
224 W. 30th St., Los Angeles.
State and County Rights for Sale.

IWAN POST & WELL AUGER

has sharp blades of the best steel. Fastest of all augers. For post holes and wells. Sizes 3 to 16 inches; 8 inch $2.25, freight extra.
Write for booklet about Iwan post hole diggers, sickle edge hay knives ($1.75 prepaid P.P. if dealer will not sell you), ditching spades, drain cleaners, tile hooks, chimney tops, etc.
Show this advertisement to your dealer
IWAN BROS.
Dept. C, South Bend, Ind.
Genuine Iwan Augers and hay knives wholesaled by: Harper & Reynolds Co. Los Angeles; Thompson-Diggs Co., Sacramento; Baker & Hamilton; Dunham, Carrigan & Hayden Co.; Pacific Hardware & Steel Co., San Francisco; Western Metal Supply Co., San Diego, California.

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AGRICULTURAL ENGINEERS
Agricultural Investigation, Drainage, Legal Engineering and Water Right Reports. Alkali and Marsh Land Reclamation. Appraisal of Irrigation Systems. Management and Development of Lands, Ranches and Irrigation Projects. Soil Surveys.
58 SUTTER ST., SAN FRANCISCO, CAL.

FRUIT GROWERS'
GREATEST LABOR-TIME-MATERIAL SAVING DEVICE

WRITE FOR CIRCULARS AND PRICES TO
CALIFORNIA REX SPRAY CO.
BENICIA, CALIFORNIA

LIME FOR LAND
HYDRATED LIME OR GROUND LIME ROCK
One ton Hydrate equals two tons Ground Lime Rock. Send for Free Booklet and Prices.
PACIFIC LIME and PLASTER CO.
HOLBROOK BLDG., Manufacturers, SAN FRANCISCO

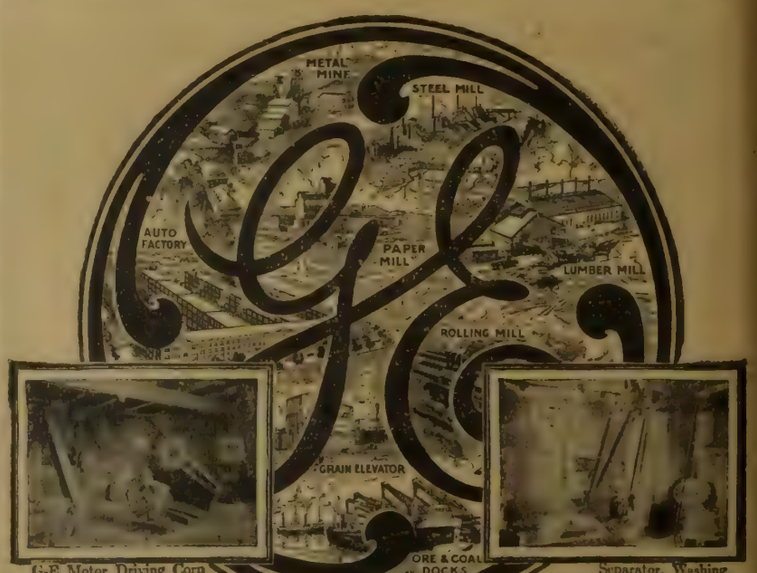
DEMONSTRATION OF
POWER-FARMING MACHINERY
NEAR SAN JOSE
Thursday, Friday, Saturday—November 1st, 2d, 3d

Tractors and tractor-drawn implements of many different types and sizes—in actual operation—under everyday working conditions. Held by the Santa Clara Valley Tractor and Implement Dealers as their contribution to the new day of Power-farming—and to the patriotic campaign now on to encourage farming efficiency and to increase farm production.

A matchless opportunity to study Power-farming Machinery at close range—and to see for yourself just how and why Power-farming gets the work done quickest, best, and at least cost—increasing production and adding to the grower's profits.

Admission is free Lunch may be obtained on the grounds at small cost. Good hotel accommodations at reasonable rates for those who want to stay over night. It will pay you to come.

Santa Clara Valley Tractor and Implement Dealers
Room 40, Porter Bldg. SAN JOSE, CAL.



G-E Motor Driving Corn Sheller and Grinder
Separator, Washing Machine, and Butter Churn

Building Bigger Business by Better Methods
G-E Equipment is reliable and economical

When you cut down manufacturing costs—up go your profits. When you increase your productions, when you increase the quality of your products, when you decrease spoilage—*up go your profits.*

When you make it easier for an employee to produce more, you make it easier for him to earn more; and you find it easier to get the better kind of help and much easier to keep it. *And up go your profits.*

When you cut down your power costs, when you cut down maintenance of plant, when you reduce overhead supervision, when you lessen breakage of machinery, when you reduce stoppage of machinery—these mean *more profits.*

The principles that have helped to make America's Greatest Industries what they are today are equally applicable to farming. Drainage, irrigation, ensilage cutting, wood sawing, and dozens of other operations are performed most efficiently with G-E motors.

Ask the nearest G-E Motor Agent or your lighting company about G-E motors for your farm.

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General Office, Schenectady N.Y. Sales Offices in all large cities
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Health Board in New York, the claim being that the fruit was entirely too green to sell.

A large tract of land just south of Lake Elsinore is being placed under irrigation by the Sedco, preparatory to planting out part of the land to oranges and lemons. About 2,000 acres owned by the company will be seeded to grain this winter.

The Ontario-Cucamonga Exchange reports its shipments of oranges and lemons the past season 131,786 boxes and cash received for them $218,454. A. L. Swift, a former New Yorker, who recently purchased the forty-acre orange grove, Alto Loma Rancho, has been elected a director and vice-president of the Exchange Association.

Deciduous Fruits.

Fresno county fruit canneries have been using boys where they wanted men, who have been too scarce.

It is estimated that there are six to seven thousand tons of Napa county prunes in the hands of the packers for marketing.

County Horticultural Commissioner Bishop reports walnuts at about 50 per cent and oranges as promising 70 per cent of a yield in Orange county.

Preparations are being made by the special "Prune Week" committee for the observance of the annual event scheduled for November 19 to 24, and every effort is being put forward to make the occasion excel all others.

The Santa Ana Valley Walnut Growers' Association shipped from its packing house last week a car of walnuts East containing 695 bags. The car was valued at $12,900. Twenty-six cars have been shipped by that association so far, representing a moneyed value of $160,871.

The apple industry of Southern California is growing in importance every year. It is estimated that the Oakglen section, near Redlands, will have more than 200,000 boxes this year and in the Yucaipa district the crop is estimated at 125,000 boxes. As there are many young trees in these districts, it is estimated in two or three years these districts will produce 500,000 boxes of fine apples a year. In Riverside county, it is said, that in a year or so there will be 3800 acres in bearing apple trees, in Los Angeles county 1000 acres and in the Julian district in San Diego county 1,500 acres.

Miscellaneous.

The help problem in the San Joaquin Valley has been quite serious, but as the harvest season is nearly over farmers are not worrying except as to what may occur next spring. Wages in the vineyards are now from $4 to $5 per day. The canneries are paying $3.50 per day for nine hours and pay for overtime, which allows the workers to average about $4.50 per day.

Old Style Grafting

Ruins Trees
Destroys Crops
Grafts often broken by wind
Limbs split and decay

Our Method of Side Grafting

Remedies all this. Saves wax. Saves labor. Grafts grow better and mature sooner than by any other method. It will work over your Grapes and Citrus Fruits with practically perfect results.

Full Information sent free.

W. S. TUTTLE & CO.
213 Cap. National Bank Bldg.
Sacramento, Cal.

UNIVERSITY FARM GRAPE JUICE.

A large amount of grape juice is being turned out by the Viticulture Division for experimental purposes. The grape harvest has been in progress for a couple of weeks. Some of the grapes are being dried, some sold and the balance manufactured into juice under the supervision of Mr. Flosfeder. Several new varieties have come into bearing this year, the best of them being the Black Manukka, which is of exceptional good quality. —U. F. Agricola.

Owing to the shortage of cars, many of the grape growers in the Lodi section have been forced to send their grapes to the wineries.

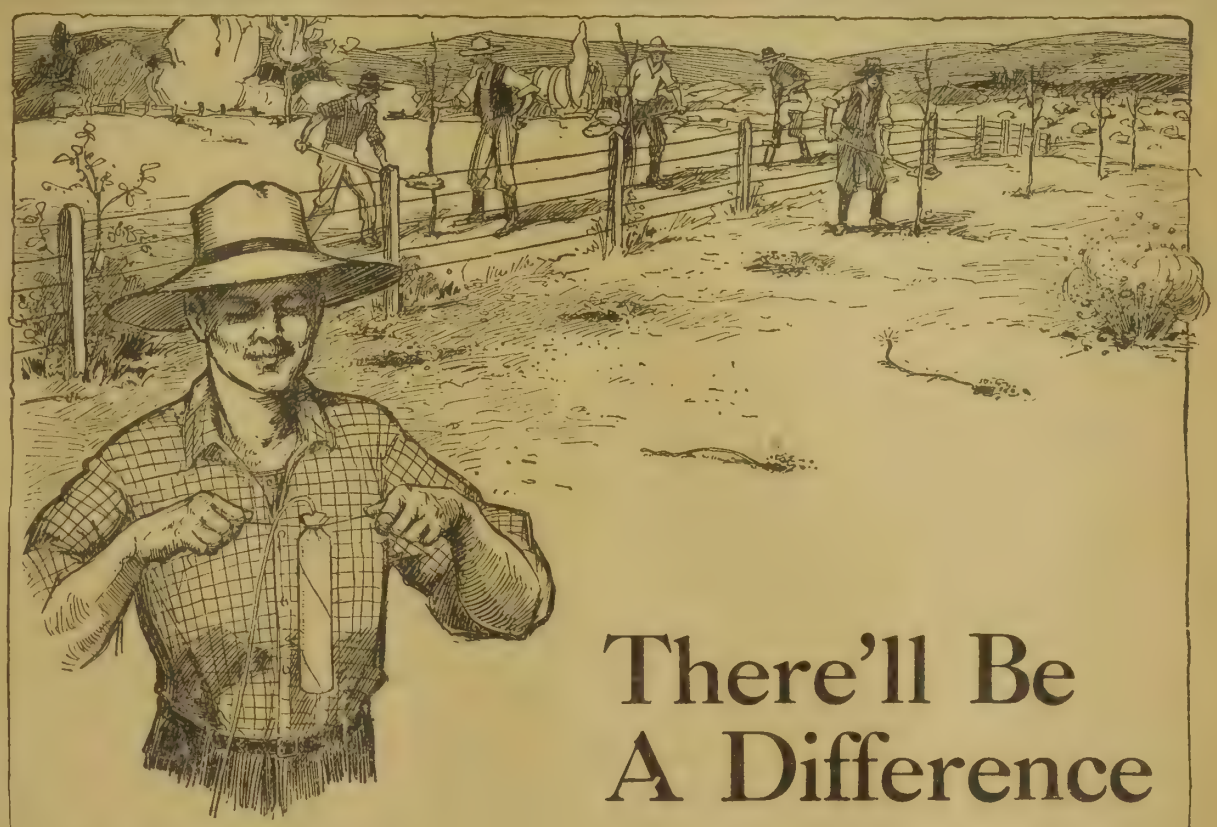
Serve the Nation

by getting the most feed value out of your corn Husking ears and making fodder of the rest, gives 25% *more feed value* from the crop, besides saving labor of hand husking. Appleton, the first successful husker, has 45 years' farm machinery knowledge built into it. Simplest, strongest, mechanically *perfect*—husks cleanest, shells least; has most efficient corn saver. Cuts or shreds stalks etc., while husking ears.

APPLETON Husker & Shredder

Guaranteed to do more work with less power than any husker of equal size.

Easiest, safest to run, works corn in any condition. 4 sizes for 4 h.p. engines and up. *HUSKER BOOK FREE.* H.C. Shaw Co., Dept. A., Stockton, Cal., Distributors



There'll Be A Difference

IF your neighbor plants an orchard in holes dug with a spade, and *you* plant in holes made with Hercules Dynamite, there will always be a difference in your favor.

The difference will show in the first cost in time and labor; in the size and strength of the trees a year from now; in the quantity and quality of the fruit obtained four and five years hence; and lastly, in the profits deposited in the bank. Eventually your neighbor will follow your method of tree planting. The difference will make him.

HERCULES DYNAMITE

not only makes holes more quickly and cheaply but it makes *better* holes. The soil is loosened and broken up. Roots have a chance to spread as they should. The tree has nothing to do but live and grow and prosper.

When planted in a spade-dug hole it has to fight for life. The difference always shows.

Find out more about the use of Hercules Dynamite on your farm. Write today for the 64 page book, "Progressive Cultivation." It is sent free on request. The coupon below is ready for your signature.

HERCULES POWDER CO.
Chronicle Building
San Francisco California

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Chronicle Building, San Francisco, Cal.
Gentlemen:—Please send me a copy of "Progressive Cultivation." I am interested in dynamite for_____
Name_____
Address_____

Drying the Cow Before Freshening

[Written for Pacific Rural Press.]

We have been told many times that the way to dry up a cow was to milk her less clean and less often. That may be all right with scrub cows, whose beef value is greater than their dairy value; but if you want to keep a cow doing her dairy best, follow the system of those who make a business of getting the dairy best out of their cows. Many queries have come to our office asking whether to dry up persistent milkers before freshening. We print the experiences and opinions of leading dairymen in this and following issues:

USE CARE DRYING OFF HEAVY PRODUCERS.

A. W. Morris & Sons Corporation, Woodland: "It is our judgment that a cow should have one to two months' rest, depending upon her condition, etc. We like to have our cows dry six weeks if possible. Dry feed in limited amounts will usually reduce milk flow fast enough. After a few days on dry feed, increase the time between milkings gradually until the cow drys. Occasionally we have a persistent case that will not dry without too much of a sacrifice in flesh; and in such cases we have gotten good results by limiting the water for a few days. By commencing in time most any cow can be dried in this way, but if the time is too short it is better to feed well and milk her up to freshening rather than sacrifice condition and strength at this time, when good feed and care is so essential. We find that very careful attention is necessary in drying off a heavy producer, especially one that has been fed for maximum production, in order that udder troubles do not arise. The milk should be kept free from clots, which are the first indications of inflammation."

WHEN COW IS DRY FEED ABUNDANTLY.

Jas. W. McAlister, Jr., Chino: "We believe that a cow should be dry at least two months before freshening. A good way to dry a persistent milker up is to gradually take water away from her, reducing at the same time the amount of feed, and substituting straw for alfalfa hay. After the cow is dry, the water should just as gradually be restored. During the period a cow is being dried up the intervals between milkings should be increased to one a day and gradually lengthened until the cow is perfectly dry. We believe it important that each milking should be clean, however—that is, that no milk should be left in the udder after the cow is milked. We believe, after the cow is dry, that she should be fed abundantly on good, wholesome feed. The practice resorted to by many dairymen of taking away the feed from a dry cow is a very bad one and is sure to cause a decrease in the flow of milk and a drop in the percentage of butterfat after the cow freshens."

REDUCES FEED, THEN FEEDS UP.

A. M. Bibens, Modesto: "We skip one milking and each time we make the milking period farther apart, but always milk them clean and generally have to cut their feed down, especially if heavy milkers. Then when I get them dry I begin feeding their grain ration of whatever feed I have that will put on fat and make a strong, vigorous calf. I usually want them to be dry at least eight weeks."

BARLEY SILAGE FINE NOW.

Barley silage put up in a concrete stave silo is being fed to his purebred Holsteins by J. W. Benoit of Modesto. The straw is now the same color, but the leaves have turned brown. The cows thrive on it. The barley was cut in heavy dough and immediately raked, hauled, and chopped, with a ¾-inch stream of water under good pressure running into the blower with it. Corn silage is to be put in on top of the barley silage that remains at corn cutting time; and the remaining barley will be fed next spring.

AYRSHIRES AT PRESTON SCHOOL.

The Preston School of Industry at Ione, the first State institution to take up Ayrshires, has two new silos and a new creamery. They believe, according to Dairy Superintendent E. S. Willard, that Ayrshires will do better than other breeds, due to their hill ranges and lack of lowland pastures.

RICE STRAW AND BEET PULP.

To the Editor: How would it be to feed cows with rice straw and beet pulp?—J. P., Orland.

The beet pulp will furnish part of what the cows need, but not the protein that should be furnished in alfalfa, oil cake meal, bran, etc. The rice straw may be filling, but it has practically no other value.

Production and Show Quality
are combined in
GIBSON HOLSTEINS
Cows won First in both classes in the 3 days' butterfat contest of all breeds.
In the Show Ring, won 4 First prizes, 8 Seconds, and 3 Thirds.
IS NOT THIS THE BLOOD YOU WANT IN YOUR HERD?
J. S. GIBSON COMPANY
Box 97 Williams, California
The name GIBSON insures quality

The MORRIS CONSIGNMENT
HOLSTEIN BREEDERS' SALE
SACRAMENTO, CAL.
OCTOBER 30-31
Twenty Choice Heifers in Calf to—
PRINCE GELSCHE WALKER
KING MEAD OF RIVERSIDE
SIR AAGGIE DE KOL ACME
KING MORCO ALCARTRA
—ENOUGH SAID—
Four Splendid Serviceable Bulls
A son of King Mead of Riverside from a 29,000 pound cow with almost 1100 pounds butter.
Three excellent sons of Prince Gelsche Walker from dams up to 28 pounds.
Your Opportunity==Don't Miss It
A. W. Morris & Sons Corporation
WOODLAND, - - - CALIFORNIA

A Guaranty Consignment
At the California Breeders' Holstein Sale at Sacramento, October 30-31. We are making a "guaranty" consignment consisting of 16 heifers—12 of them are in calf to our herd bulls; 9 of these heifers are in calf to our own famous sire "It," the "Premier Sire of the West." The young bull we are consigning is a grandson of King Korndyke Sadie Vale out of a 29-pound three-year-old daughter of King Segis Pontiac, her next dam is a 28-pound daughter of King of the Pontiacs. You can't beat this breeding.
WE GUARANTEE VALUE RECEIVED
BECAUSE WE OFFER TO BUY EVERY HEIFER CALF SIRED BY OUR FAMOUS HERD SIRE "IT" AT FIVE MONTHS OF AGE AT THE PRICE THE DAM BRINGS IN THE SALE. This is an extraordinary offer, but we are glad to do so to demonstrate our unlimited confidence in the future of "It." We will make money on calves we are lucky enough to buy on these terms.
The Calves Sired by "IT" will be Worth More Than Their Dams Will Sell for at This Sale
WE GUARANTEE HEALTH
We guarantee every animal over six months of age to be free from tuberculosis and not to react to the tuberculin test within 60 days after the day of the sale—subject to the conditions covering the same guarantee of the Holstein Breeders' Guaranty Sale, December 5. This is the most liberal guarantee we have ever seen and one which should be appreciated by the buyer. We offer to you at the
Sacramento Sale, October 30, 31
quality—sound cattle and value received and more—a great speculation. Be there and buy!
McAlister & Sons
CHINO - - CALIFORNIA

Mammoth Purebred Dairy Proposed

[Written for Pacific Rural Press.]

The man who saw opportunity in Imperial Valley when there was not a soul there but the surveyors a few years ago has seen its production increase to nearly $30,000,000 of exported farm products this year. This man, to whose generous but business-like colonization plan perhaps more settlers of limited capital owe their success than to anyone else in California, is W. F. Holt, who now proposes to establish a purebred Holstein herd of 200 head for dairy purposes only, on his 600-acre ranch in the hills back of Hollywood, Los Angeles county. Mr. Holt is exercising the same business coolness and calculation in this that made him so successful and highly respected in Imperial Valley. He has made it a policy to consult all the authorities available before entering a business venture. He asks all manner of questions and gets all manner of answers to each. Then he makes up his own mind and is not afraid to go in deep. In line with this policy he was one of the most interested visitors at the State Fair. His questions cover not only the stock and their diseases, but also the equipment, such as silos, milking machines, etc. He had already made up his mind on several points and has laid plans about like this:

He will build about fifteen cottages for married helpers on the ranch, each to cost about $3,000, and to include all modern conveniences. The operating cost of these, such as electricity, is to be at wholesale rates, which Mr. Holt can obtain by buying in quantity and pro-rating the cost.

About 400 acres under irrigation are to produce alfalfa and Indian corn. The latter is to go into half a dozen silos of 250 tons each. This is not only to produce a balanced ration but also a permanent succulence.

The cows must all be registered, tuberculin tested, non-reactors; and if Mr. Holt becomes satisfied that there is a reliable abortion test they will have to be tested that way too. Since cows with records would be too expensive, Mr. Holt proposes to buy the best young stuff from weaning age to 18 months old and use the best bulls on them to improve the herd. They will, of course, be tested for production to avoid feeding or breeding low producers.

So many herds in California are being built up now that females are scarce, even at high prices, and there is no one herd where Mr. Holt can get all or half that he wants. There would be much advantage in getting all at one place because of the uniformity of breeding and the smaller risk of introducing disease, so it may be necessary to go East for this herd. The time is coming, however, when California can furnish large lots of purebred females. May it be soon!

Greater Cattle Profit for California

(Continued from first page.)

From feeding large numbers of animals in experiment stations it has been found that a growing animal makes use of its food in two ways, a part for maintaining itself and a part for the addition of weight. As an animal increases in size the percentage used for maintaining itself increases, while the percentage available for the addition of weight decreases. In other words, a well-bred hog, if fed a full ration of grain and alfalfa, will weigh 200 pounds in six months after consuming not over 600 pounds of grain. The same hog, allowed to build his frame on pasture, will at the same age weigh 80 pounds, and if then fed a full ration of grain and alfalfa until he weighs 200 pounds he will have consumed considerably more feed.

MARKET EARLIER AT SAME WEIGHT.

In war times more so than peace it is a crime to permit cattle to lose weight when the purchase or raising of feed for fall and winter feeding will keep them growing and prevent death from starvation. If the feeding of range animals could become more general over the State, and they could be fed full rations rather than just enough to carry them through the winter, it would be possible to turn off long yearlings at the same weight that two-year-olds are now marketed, also long two-year-olds at the same weight as long three-year-olds.

It has been estimated that it costs under our present system of management $27.50 to raise a yearling and $40 to keep him till two years of age. Under the proposed system it would cost slightly more to produce the two-year-old, but having the weight of a three-year-old at present prices it would be more than profitable. It would also increase the number of cows that could be carried on the ranges; and while the actual number of beef animals in the State might not increase, the annual sale of animals ready for the block would be greatly increased.

GOOD INDIVIDUAL PUREBRED BULLS.

When animals are fed it becomes evident that the better bred animals make the fastest gains and bring the largest prices. California cattlemen have in the main recognized this fact

(Continued on page 430.)

Shorthorns

PAICINES RANCH COMPANY
offers for summer and fall delivery both registered and unregistered weanling bull and heifer calves.

For prices and particulars apply to

PAICINES RANCH COMPANY
Telephonic and Telegraphic Address
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DAIRY COWS
REGISTERED BEEF BULLS
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Large or small lots. Any order executed.
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Get the manure out of your barn in half the time, with half the work. Keep barn cleaner, stock healthier; save all the valuable liquid manure. Our up-to-date

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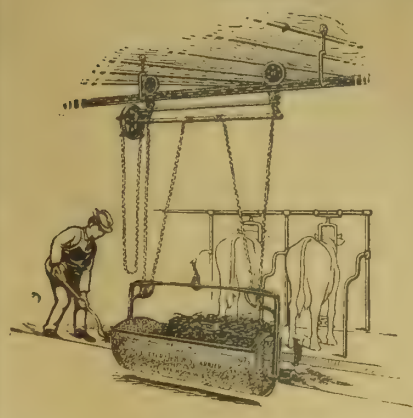

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Easy to Install in Any Barn.

Send for Complete Description.

DE LAVAL DAIRY SUPPLY CO.
61 BEALE STREET SAN FRANCISCO, CAL.

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop. DAVIS, CALIFORNIA

BREEDER OF

SHORTHORN CATTLE

AND

Shropshire and Merino Sheep

Shropshires sired by rams imported by me from England

The Famous Glide Merinos

Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
First Prize Breeders Young Shorthorn Herd at Sacramento

10 2-year Bulls **SHORTHORNS** 10 Bull Calves

We have just received a shipment of yearlings and 2-year-old heifers, bred to a son of Cumberlands Type, the bull that won 36 Grand Championships at 36 Fairs. This is the best lot of females we have ever offered for sale.

Better look them over soon, as they will sell quick.

H. L. & E. H. MURPHY, Perkins, Cal.

SCOTCH SHORTHORNS

We have just purchased the entire herd of Shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.

FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.

CARRUTHERS FARMS, MAYFIELD, CAL.
City Address: Hearst Building, San Francisco, Telephone Sutter 1311

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

SHORTHORNS

Herd combines some of the strongest blood lines of this country and Great Britain.

THOMAS T. MILLER 314 So. Normandie Avenue LOS ANGELES, CALIFORNIA

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

M. H. Tichenor of Palo Alto has a Holstein cow which he expects will make a big year's record. She recently completed six months with 570 pounds fat, including a seven-day record of 32.2 pounds fat.

The value of yearly records for cows is appreciated by A. W. Morris & Sons, who print at the bottom of their letters "80 cows in our herd, including 28 heifers, average 16,932 pounds of milk and 722.79 pounds butter in one year."

J. S. McDonald of the Ormondale Co. of Redwood City recently received nine Shorthorn cows from Thomason of Missouri. It was from Ogden & Sons of the same State that they obtained Mayflower 4th, the heifer which won first at State Fair.

F. Stenzel of San Lorenzo exhibited at the California Land Show four daughters of Dutchland Sir Pietertje Creamelle. Their records as two-year-olds averaged 22.17 pounds butter in seven days. J. J. Sullivan, who has charge of the herd, believes that they could make far better records if they had more concentrate feeds.

The attention of readers interested in Holsteins is directed to the announcement in this issue of Gotshall & Magruder of Ripon, in which they offer for sale the year-old bull, Moorland Sir Cristeria, by Colantha Sir Pontiac Aaggie, out of Lady Cristeria Mechthilde. The average per cent of fat of his three nearest dams is 5.16 and the seven-day records of his five nearest dams averaged 29.37 pounds butter, which would indicate his great value as a herd header.

Jas. W. McAlister, Jr., of Chino sends us the following items: "In July we broke the State senior three-year-old record on the cow Meta Ward Kuperus; she freshened at the age of 3 years, 10 months, 10 days and produced 32.43 pounds of butter in 7 days and 533.7 pounds of milk. Her son, born July 4, 1917, was sold to Agee Bros. of Brawley, Cal.; they are getting together a herd of registered Holsteins and with such a sire to head the herd will undoubtedly make good. During the same month we made another record of 31.05 pounds of butter and 437.9 pounds of milk on K. P. Idyle Segis. She calved at the age of 3 years, 4 months, 24 days and is the third highest junior three-year-old in the State and the twentieth 30-pound daughter of the great King of the Pontiacs. In the last couple of weeks we sold three bulls to Roher Bros. of Holtville, Cal."

Swine and Swinemen.

The grand champion Berkshire sow and boar of the National Swine Show at Omaha were on exhibit the last few days of the California Land Show.

Riverbend Farm of St. Helena shipped on October 18 the Duroc-Jersey foundation stock for the 44,000-acre Chowchilla ranch of the Western Meat Co.

H. E. Boudier, Napa, writes: "Thanks to the Rural Press, I have the following late sales to report: Bred sow to Dr. W. R. Livingston, Oxnard; two gilts to Dr. W. R. Livingston, Oxnard; one sow to J. W. Bryan, Shively; one boar to A. J. Caldwell, Yreka; one boar to G. W. Young, Napa."

Hans Duveneck, Dos Hermanos Ranch, Ukiah, reports the following recent sales: Bred sow to Dave Squires of Lakeport, 3 bred sows and 4 spring gilts to the Improved Hog Raising Syndicate of Ukiah, 2 boars to Dashiell & Frasier of Potter Valley, a boar to Theo. Mathis of Ukiah, and 1 to C. M. Crawford of Lakeport.

Beef Cattle.

The Clark Estate bought three weanling Shorthorn bulls from the Ormondale Co. for use on their range in Modoc county. They paid $500 each.

Eighty per cent more frozen beef was in stock on October 1 than a year ago. Stocks of cured beef showed an increase of 46.4 per cent on the same date.

Feeding conditions for cattle are extremely bad over Calaveras county. Cattle are in bad shape and much loss is bound to be the result. Plenty of acorns for hogs, and hogs are looking well.

Harris & Sons of Missouri, at whose June sale 400 Herefords brought $412,000, recently shipped a carload of 22 bulls to a company in the Hawaiian Islands. They have an office in Los Angeles.

William Bond of Newark offered T. T. Miller of Los Angeles $1,000 for a red bull calf dropped not long ago by his Shorthorn Imp Brandsby's Jinny 18th to be delivered at weaning; but Mr. Miller prefers to develop the calf himself.

W. J. Bemmerly of Woodland has just sold to Benj. Quigley of Linne, San Luis Obispo county, 12 registered Hereford heifers of his own raising and a bull bred in the East. Mr. Quigley has the conditions to make them pay.

SUCCESSFUL HOLSTEIN SALE AT SANTA ANA.

The Southern California Holstein Breeders' consignment sale of registered Holsteins, held at McClure Farm, Santa Ana, on October 16-17, was a marked success, although no sensational prices prevailed. There was only a small representation of the larger breeders present and much of the bidding was in the hands of dairymen and beginning breeders. As a result a large number of beginners secured excellent foundation stock at very moderate prices and the sale will have far-reaching effects in furthering the breeding of black and whites in Southern California.

Top price of the sale was $700, paid by McAlister & Son, Chino, for the six-year-old cow, Inka Wayne Pietertje Beets, a splendid daughter of Sir Skylark Ormsby Hengerveld and out of Mandel Wayne, dam of the 30-pound cow, Edith Mandel Wayne. The McAlisters also secured Georgie Pontiac 2nd, a most promising grand-daughter of Rag Apple Korndyke 8th, consigned by A. Satterberg.

The dispersal of Ernest Otto McClure's herd scattered about seventy choice animals among a large number of buyers. The $700 cow was McClure's top price female, with many others going from $250 to $360. Barton Riechard of Chino was one of the heavy buyers and took home a choice bunch of females and the 34-pound bull, Duke Cornucopia Sarcastic. The great 28-pound cow, Cristeria Overton Mechthilde 3rd, went to Frank Hatch, Modesto, in whose herd she will be bred to the great sire, Sir Skylark Ormsby Hengerveld, and this mating should produce something extra choice. The auctioneers were Col. Ben A. Rhoades and Harold B. Rhoades of Los Angeles. The junior colonel was in especially good form and sold some of the highest priced animals in the sale in good fashion. The sale was under the management of the California Breeders' Sales and Pedigree Company, Sacramento.

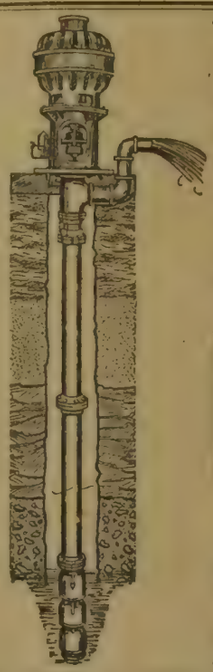
DAIRY CATTLE AWARDS AT CALIFORNIA LAND SHOW.

[Written for Pacific Rural Press.]

Dairy cattle awards at the California Land Show, October 13 to 20, follow, as promised last week. For probably the first time in the history of California fairs, all premiums were paid to exhibitors before their stock left the grounds. This, in common with their convenient provision of feed and bedding at cost, the shower bath and other conveniences provided for herdsmen and the uniform courtesy extended to exhibitors, have created a feeling that will bring them back next year with more competition.

FIRST PRIZE HOLSTEINS.

Exhibitors were: Napa State Hospital, Napa; F. A. Heroux, Oakland; E. Sauseata, Davis; Jas. Gibson, Modesto. Aged bull, grand champion, State Hospital. Yearling bull,



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No valves to pack or plunger to get out of order. For use in any well ten inches in diameter or over.

A complete line of irrigating pumps of all descriptions, horizontal, and vertical for belt drive or direct connection to electric motor.

Prices as low as are consistent with good quality and workmanship.

WRITE FOR CATALOGUE NO. 47.

BYRON JACKSON IRON WORKS, Inc.
SAN FRANCISCO.
LOS ANGELES, STOCKTON, VISALIA

MOORLAND SIR CRISTERIA

READY FOR SERVICE BORN NOVEMBER 1st, 1916 FOR 1000.00 DOLLARS

THE average per cent of fat of his three nearest dams 5.16 is not excelled by any sire on the Pacific Coast. The seven day records of his five nearest dams average, Butter, 29.37 lbs.

He is a son of COLANTHA SIR PONTIAC AAGGIE, one of the four leading sires of California, who is the sire of 14 ARO daughters, seven above twenty pounds, one a 32.87 lb. Junior Three-Year-Old whose average test was 6.33%. One of his sons won first at the California State Fair this year. His dam, LADY CRISTERIA MECHTHILDE, was selected by Messrs. Hughes, McAlister & Morris for the December Guaranty Sale, and has a record of 26.93 lbs. butter; she is by De Kol Spofford Promise and from CRISTERIA OVERTON MECHTHILDE 3rd, who has a record of 28.43 lbs. butter.

He is ready for service, well grown, long-bodied, more white than black and unquestionably a youngster of exceptional promise

TERMS to Responsible Parties

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THE HOME OF THE STATE CHAMPION TWO YEAR OLD

State Hospital. Senior bull calf and junior champion, Heroux. Junior bull calves, Heroux. Aged cows, State Hospital, grand champion. Two years, under three, Heroux; senior yearling, Heroux; junior yearling, State Hospital; senior calf, Heroux, junior champion; junior heifer calves, E. Sauseata.

FIRST PRIZE GUERNSEYS.

Exhibitors: B. E. Nixon, Yountville; A. J. Welch, Redwood City; L. D. Smith, Berkeley. All firsts and championships on bulls went to Nixon. Aged cows, grand champion, Welch; two-year cows, Nixon; senior yearling, Welch; junior yearling, Nixon; senior calf, Nixon; junior champion, Welch on junior calf.

FIRST PRIZE JERSEYS.

Exhibitors: J. B. & J. E. Thorp, Lockeford; N. H. Locke Co., Lockeford; Guy Miller, Modesto; J. A. Goodall, Turlock; W. J. Hackett, Ceres; C. D. Hayworth, Modesto. Grand champion aged bull, Thorp; two-year bull, Locke; junior champion senior yearling, Thorp; junior yearling, Hackett; senior calf, Locke; junior calf, Locke; grand champion aged cow, Locke; two-year cow, Thorp; junior champion senior yearling, Thorp; junior yearling, Locke; senior calf, Locke; junior calf, Locke.

AYRSHIRES.

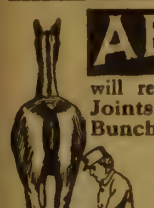
All Ayrshire prizes to Steybrae Farm, San Mateo. The State Fair grand champion and world's record cow here lost grand championship.

BEEF AWARDS AT LAND SHOW.

Only the bull awards have been made as we go to press.

Aged Shorthorns: 1, Jack London Ranch; 2, T. T. Miller. Two-year: 1, grand champion, W. M. Carruthers; 2, Pacheco Cattle Co. Senior yearlings: 1, junior champion, T. T. Miller; 2, Carruthers. Junior yearling: 1, Carruthers. Senior calf: 1, Pacheco Cattle Co.; 2, Ormondale Co. Junior calf: 1, Pacheco Cattle Co.

Herefords: Two-year-old: 1, senior champion, Chas. Rule. Senior yearling: 1, W. J. Bemmerly. Junior yearling, junior and grand champion, D. O. Lively; junior calf, Bemmerly.



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Poland-Chinas.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

FOR SALE—Big type Poland-China boar, ready for service; second in class Modesto Fair; sire Cantralls Ideal by Big Joe; dam Miss Long Model by Long Model; refund money if not satisfactory. Alex. D. McCarthy, Box 2250, San Francisco.

POLAND-CHINAS—Size combined with quality; the big, easy-feeding kind, money-makers, prize winners; bred sows and gilts; service boars and young boars. W. Bernstein, Hanford.

BOARS of serviceable age all sold. We have a few choice gilts bred to John Henry, an exceedingly choice boar. Also have a fine lot of fall pigs, either sex. Bar N Ranch, E. A. Noyes & Son, props., Sutter, Calif.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

LARGE TYPE POLAND-CHINA GILTS, bred to Alexander; prices reasonable. G. E. Shelford, Healdsburg.

POLAND-CHINAS—Big type combined with quality. Choice bred sows, gilts, boars. W. D. Trewhitt, Box 82A, Hanford, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend streets, San Francisco.

A-1 BERKSHIRES — Herd boars Winona Royal Champion and Charmers Star Masterpiece. Best blood lines. Immunized stock. Ayrshire cattle. Arlington Smith, Visalia.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRE GILTS—Rival's Champion Best and Bandmaster blood lines. D. B. Wentworth, Napa.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. P. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

MAKE BIG MONEY with our famous Whitten Ranch Poland-Chinas—the mammoth, prolific, fast-growing, easy-feeding, money-making kind. Weaned pigs, service boars and bred gilts, many bred to our great $1,000 Jumbo Model. Prices reasonable; satisfaction guaranteed; everything immune. Send for free illustrated book, "Hogs for Profit." Packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, 519A Marsh-Strong Bldg., Los Angeles.

ANDREWS' QUALITY DUROCS—On receipt of bred gilt shipped him, Dr. R. B. Homan, Texas breeder, writes: "Miss Mabel Wonder arrived in excellent condition and am well pleased with her. None of them (other sows in his herd) are as good as the one purchased from you, and I am expecting great things from her pigs." Place orders now for November bred gilts and weaned pigs, all sired by California's Grand Champion, Daggs' Good-E-Nuff, and a fine specimen Gold Model boar. W. P. Andrews, Route A, Modesto.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

DUROC-JERSEY SPRING BOAR — Sire, dam, dam's dam and three litter mates of dam were 1916 Riverside winners; a high-class boar priced to sell. H. C. Witherow, Palo Cedro, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

DUROCS OF GUARANTEED BREEDING—Pigs $15 up, sired by State Fair prize winner. H. E. Boudier, Napa.

RANCHO DEL SUR DUROC-JERSEYS—Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

DOS HERMANOS DUROCS—Young boars and gilts. Hans Duveneck, Ukiah, Cal.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND — The mellow, easy feeding type; 20 bred gilts due to farrow during October and November; 50 spring pigs, both sexes, sired by Billiken; every animal is cholera immune; Billiken was grand champion boar at the State Fair; a son was reserve grand champion and a daughter was grand champion sow. Why not get started right and with the best? Write for prices and for booklet on Chester Whites. C. B. Cunningham, Mills, Sacramento Co., Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

TOYON FARM HOLSTEINS—Sons of Finderne Soldene Valdessa for sale. Toyon Farm Association, First National Bank Building, San Jose.

BUENA ALTA HERD registered Holsteins, blue ribbon winners at State and county fairs; heifers and bull calves for sale. F. A. Heroux, 629 Fifty-sixth street, Oakland, Cal.

HOLSTEIN BULLS from cows with records; won two firsts and one second at Modesto butterfat contest. A. M. Bibens, Modesto.

REGISTERED HOLSTEINS — Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

YOUNG BULLS sired by Grand Champion King Hengerveld Ormsby, grandsons of Pietertje Maid Ormsby, 35.55 pounds 7 days, test 5.31 per cent. Kounias, Registered Stock Farm, Modesto.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Calif.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Modesto.

Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY COWS for sale. O. J. Ames, Oakdale, Cal.

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GUERNSEY BULL—18 months old; a good animal, sired by a State Fair winner out of a cow with a private record of 500 lbs. of butterfat; price, $125; he will soon be gone at this price. Calla Grove Farm, Manteca, Cal.

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SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

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FOR SALE—Some registered A. R. O. cows; write for pedigrees or call at ranch. J. W. Benoit, Route C, Modesto, Cal., three miles out Maze Highway, one mile south.

FOR SALE—Thirty-nine head of stockers and feeders; 22 steers, balance cows and heifers. Chas. Lampley, Waterford, Stanislaus county, Cal.

DEVONS FOR SALE—35 heifer calves, 11 months old, at $50 per head on the ranch. W. E. Gird, Bonsall, San Diego county, Cal.

Hogs Widely Distributed From Hanford

[Written for Pacific Rural Press by R. H. Whitten, Secretary California Poland-China Breeders' Association.]

If it is true that the way to reach a man's pocketbook is through his stomach, then the Kings County Poland-China breeders certainly have learned the gentle art of reaching one's pocketbook, for no king ever sat down to a better dinner than that furnished the visiting buyers the night before the Hanford sale, which was held Friday, October 19.

Roast turkey and pork, with all the fixin's, were served in abundance, and for about the steenth time the Hanford breeders proved themselves the best entertainers in the State. But they really did not need to go to this expense to put the buyers in a good frame of mind, for the animals offered at the sale were their own best advertisements. Never before has such a fine lot of hogs been offered for sale on this Coast. The writer visited nearly all of the herds represented before the sale, and knows from his own observations that, instead of consigning inferior animals that they wanted to get rid of, the breeders put in the tops of their herds. The hogs were from prize winners at the P. P. I. E. and the State Fair, and several of the winners themselves were offered, including the reserve grand champion boar at the State Fair this year.

This senior yearling boar, Rosebud's Chief 1st, nicknamed the Great Westerner, was consigned by W. Bernstein, and proved a drawing card. The bidding on him was spirited and he was finally knocked down to Banta Bros. of Tracy for $300. These two young men, who are just entering the game, could not have selected a better boar to head their herd. He is a splendid individual and is backed up by some of the best blood lines of the breed.

Mr. Bernstein also had the honor of selling the highest priced sow, this being a fall yearling, Belle's Beauty, which was bid in by Frank Guerin of Visalia for $360. The sow was rightly named, for she was one of the most beautiful animals ever driven into a sales ring.

In all, there were 94 animals which brought an average of $73.40, the 12 boars averaging $66.25, and the 82 sows averaging $74.45.

The animals from one herd were too young to sell to good advantage, and those from another herd had not been fed enough, so this kept the total average down. Leaving these two herds out, the average for eight boars was $85 and for 63 sows $83.05, a general average of $83.27 for 71 animals.

C. G. De Raad of Lemoore was the heaviest buyer, securing 10 head for $692.50; Banta Bros. of Tracy bought 5 head for $625; Hale I. Marsh of Modesto 4 head for $400; Frank Guerin of Visalia 1 head for $360; Walter A. G. Nelson of San Jose 3 head for $292.50; R. M. Cushman of Riverdale 6 head for $282.50; M. Bassett of Hanford 3 head for $250.00; G. W. Wyllie of Dinuba 3 head for $240.00; A. T. Lewis of Riverdale 4 head for $220.00; T. H. Flint of Del Rey 4 head for $167.50; J. Harold Cloer of Porterville 3 head for $160.00.

Other buyers were C. L. Newport, Hanford; Orson B. Lolmaugh, Hemet; H. Halstead, Malaga; H. L. Latham, Hanford; W. Smith, Hanford; L. Y. Montgomery, Hanford; R. E. Wilkinson, Laton; W. Bernstein, Hanford; H. N. Colver, Wasco; M. M. Dyer and L. McKean, Chowchilla; W. M. Johnson, Clarence Dimmick, L. M. Essick and W. S. Hubbard, Lemoore; R. D. Fowler and A. Craig, Oakdale; W. Polly, Visalia; Frank Johnson, Hardwick; P. B. Lang, Tulare; R. M. Cross, Raisin; Allan Milnes and E. S. Myers, Riverdale; A. Craig, Oakdale; A. Camarillo, Camarillo; French Marin Cheese Co., Petaluma; W. C. Lewis, Woodlake; C. T. Starr, Chas. Llewellyn, G. Motheral, Rae Clark, Alfred Buckland, C. A. Vaughn, J. Merrill, W. D. Trewhitt, J. McCord, Fred Gibson, O. T. Jenkinson and Lloyd Wiles, Hanford.

The sale was strictly a farmers' sale. Very few breeders purchased, and nearly all of the animals went to farmers, who came from a wide territory to secure some of this choice foundation stock. They showed their appreciation by bidding liberally, yet all animals were well worth the prices they brought, and they certainly will give good accounts of themselves in their new homes. Col. Ben A. Rhoades conducted the sale, ably assisted by his son, Harold B. Rhoades.

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Insist on Cutter's. If unobtainable, order direct.
Write for new booklet, "The Control of Blackleg." It tells about Anti-Blackleg Serum which cures Blackleg and may be used simultaneously with vaccine to combat outbreaks and safely protect valuable stock.
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Invaluable also as a cover crop. Can be planted for their forage and later turned under for green-manuring.
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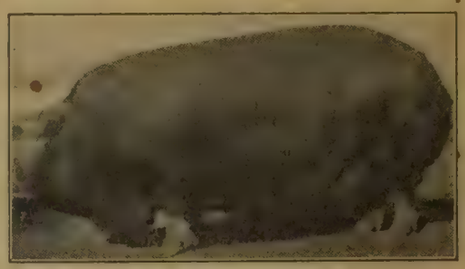
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TAMWORTHS
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Largest Herd in the State
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Mature Stock and Weanlings of both sexes. Sure to please.
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W. O. Pearson, Prop. Woodland, Cal.

SCATTERS PUREBRED HOGS.

[Written for Pacific Rural Press.]

While older breeders are squabbling about what prices should be charged for purebred animals, a young breeder at Fair Oaks, Sacramento county, has been doing real service to the purebred cause in a community which has derided and neglected the assertions of purebred superiority by older breeders who have held their stock at such a price that unbelievers were not tempted to try out a good thing. R. L. Robinson may perhaps have lost a little at first, but henceforth his market at home awaits all the pigs he can raise.

It was perhaps a year ago that he offered to several skeptical ranchers in his community a proposition that they could not turn down, even though they had not been in the hog game at all. He told the ranchers he would give them a Chester White sow pig at weaning twelve weeks old and would breed her free of charge at eight months if they would feed her right, care for her and the pigs until they should be twelve weeks old, and give him half of the pigs. Instead of returning the sow to Mr. Robinson, the rancher would keep her, this arrangement being necessary to get them to undertake the proposition. Five neighbors took seven gilts. They have become so interested that their neighbors and visitors also became interested, and were sent to Mr. Robinson for more stock. Thus has a breed become established in a community which may in time become widely known for its Chester Whites.

SHEEP WEIGHTS BY BREEDS.

[Written for Pacific Rural Press.]

A fine lesson in livestock exhibition to attract attention of visitors and make them remember the exhibit was to be seen in the sheep pens of the University of California at the California Land Show. A card over each pen told breed, age, sex, and weight. Two Southdown wethers, born March, 1916, weighed 160 pounds each. Two cross-bred wethers, born March, 1916, weighed 175 and 140 pounds. In this case, as in others, results of crossing proved uncertain. Two Romney ewes with three lambs weighed 135 pounds each, having been born in September, 1916. Three Shropshire ewe lambs, born April, 1917, weighed 105 pounds each. Three Hampshire ewe lambs, born February, 1917, weighed 150 pounds each. Three Southdown ewe lambs, born March, 1917, weighed 105 pounds each. Three Rambouillet ewe lambs, born January, 1917, weighed 140 pounds each, and three ram lambs of the same breed dropped at the same time weighed 160 pounds each. A Rambouillet ram, born March, 1914, weighed 265 pounds.

KERN COUNTY INCREASING PUREBRED.

[Written for Pacific Rural Press.]

No district of the State is putting more money into high-class livestock on actual farms than Kern county, according to Arlington M. Smith of Visalia. Mr. Smith has sold more registered stock there than to all other parts of the West. Great numbers of up-to-date people are going in there. He predicts that the Kern County Fair will develop into The Fair of the southern end of the State.

SOUTHERN CALIFORNIA PROMISING FOR BEEF.

Southern California is at the door of Mexico and ought to be able to compete with Texas, New Mexico, and Arizona in supplying purebred animals, thinks T. T. Miller. Mr. Miller may eventually move his registered Shorthorn herd to his ranch in Imperial county, which is "the livestock county of Southern California, though there is lots of chance to increase livestock in all of Southern California away from the fruit districts."

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Meeting of the Western Duroc Association

[Written for Pacific Rural Press.]

A special meeting of the Western Duroc Association was held in Sacramento on the evening of October 12, with 42 breeders in attendance. The meeting was called for the purpose of ratifying the constitution and by-laws and for the election of new members. The by-laws provide a unique manner in which the dues shall be paid so that both the large and small breeders have an equal interest in the organization. There is no initiation fee and each member remits 50 cents to the secretary out of each sale of a registered Duroc. This is a most equitable arrangement and will eventually place the association upon an extremely firm foundation, while the members will not feel any financial strain. The constitution provides that every Duroc breeder shall be elected upon the filing of his application, but the continuance of his membership will depend upon the manner in which he conducts his business relations. At the October meeting 38 new members were elected and these will be notified at once by the secretary. It is also the intention of the association to elect certain press representatives as honorary members, as the Duroc breeders realize what is being done for the swine interests by the press.

An arbitration committee is also provided for by the association's constitution, in whose hands will be left the decision of all matters in which breeders may clash. The association itself, at a meeting called for that purpose, will be the final court of action and the democracy of the movement can be appreciated most readily.

The association went on record as being heartily in favor of a hog show to be held in the larger cities of the coast whereby the farmers and hesitating breeders may become acquainted with the value to be derived from using only purebred swine on their ranches. It seemed to be the general feeling, judging by the short speeches made by the attending members, that such a show would do more in a week than other efforts might accomplish in fifty times that interval.

Every breeder of Durocs west of the Rockies is eligible for membership and his co-operation will be appreciated by the association. All that is necessary for the applicant to do is to write the secretary, Haden Smith of Woodland, Cal., asking that he be made a member.

GREATER CATTLE PROFIT FOR CALIFORNIA.

(Continued from page 425.)

and have been using purebred bulls for some time. But purebred is not enough. Animals used for breeding purposes must be good individuals. Otherwise the calf crop may be below normal. One large cattleman told me that he had bought bulls ten years ago for $100 a head and that he did not propose to pay more now. He lost sight of the fact that his beef animals were now worth more than double their value in 1907. On some ranches in California where improved methods of management are in operation an 80 per cent calf crop is the rule, while other ranches are content with a 60 per cent calf crop. The average for the State is 73 per cent.

DISEASE AND POISON.

Another factor in the production of cattle in this State is the loss from disease and poisoning. With most cattlemen recognizing the common poisonous plants, and either avoiding them at the time of the year when they are most deadly or grubbing them out, this loss is becoming less.

The improvements that have been made in blackleg vaccine during the past few years should cause every man to protect his calves against this dread disease. Any man who loses cattle from blackleg in this day may charge it to his own negligence.

SHORTHORN SALE DECIDED.

[Written for Pacific Rural Press.]

The long-anticipated auction sale of registered Shorthorns is to be held in February, as decided by the California Shorthorn Breeders' Association at their meeting in San Francisco, October 23, according to Secretary David J. Stollery. The exact date depends on whether it will be more convenient for the auctioneer to come shortly before or after the Portland sale, with due regard to the National Congress of Shorthorn Breeders to be held in Chicago about February 22. It is hoped that the Iowa auctioneer, N. G. Kraschelle, who has conducted the Portland sales for several years, may be obtained. Other auctioneers are also being considered with relation to their knowledge of the Shorthorn breed.

At the meeting the breeders voted thanks to the management of the Land Show for the greatest thoughtfulness for their comfort of any show held in the State.

A committee was appointed to interview San Francisco business men and organizations to make the San Francisco Livestock Show a permanent affair, fitting into a Western circuit to include Portland and Los Angeles and the local fairs en route.

The creameries at Eureka recently paid dairymen 55c a pound for butterfat, which is the record price.

PERFECTION OIL HEATER

The Instant Summons

"Instant, through copse and heath, arose
Bonnets and spears and bended bows;

* * * * *

As if the yawning hill to heaven
A subterranean host had given."

The whistled summons of Roderick Dhu, the hero of Scott's "Lady of the Lake," caused his Highland warriors literally to spring from the earth. Ere the echo died away, from behind bush and rock emerged the loyal and ready clansmen. In armed silence they awaited their chieftain's bidding and typified his might.

Today the Commander-in-Chief of our nation's armed forces and the resources behind them, can, by lifting the telephone receiver, instantaneously set in motion all the vast machinery of warfare, munitions, transportation and food conservation.

Like the Scottish mountaineers, the American people must stand in loyal readiness to perform any service in furtherance of the nation's high aim. Such a spirit of co-operation and sacrificing of individual interests can alone make certain the accomplishment of the great task to which our country is committed.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

PENDULOUS CROP.

To the Editor: Others are asking questions and receiving answers. May I ask one? What is the cause of big crop in turkeys? Is there any cure? Out of my band of 200 about 200 have this trouble. The enlargement is not caused by grass or grain—they are just filled with water and a few grains of wheat. They have plenty of grasshoppers, grit, and water, and a feed of wheat each night. What is the best cure or preventive?—Mrs. F. P., Middletown.

There is no way to prevent this trouble because you never know which is going to eat too much. Eating too much grain that swells in the crop is the beginning, then the muscles get weak and cannot force the food along. The remedy is to take the bird by the legs head down and run all that water out, then give the ones affected a teaspoonful of saleratus in a small amount of water. Put them in a place by themselves and give them a drink made of flaxseed by pouring boiling water on flaxseed and letting it stand a short time. Repeat the dose of saleratus for a day or two and feed nothing but a little soft mash just moistened with the flax tea. Don't give more than they can eat in just a few minutes, then take away. This gives the muscles time to contract and the soda sweetens the crop while the flax tea nourishes and heals.

PERHAPS PNEUMONIA.

To the Editor: My young turkeys are slightly dumpish for two or three days, then die. They feed and drink up to the last. They are running at large. Those that die stay near the house. On opening one I found the lungs to be of a brownish color. They are fat and heavy in weight. I fed them sour milk this summer.—Mrs. C. J. H., Marysville.

The brown color of the lungs would indicate pneumonia, but unless the breathing was hard and the turkeys stood around with their wings drooping and half spread it could hardly be that. The information is not full enough, as this is a hard case to judge. It may be something the fowls or turks pick up in the range. Give a little epsom salts to clear them out, then as a tonic a teaspoonful of tincture of iron in a quart of water and be sure that they are not exposed to cold winds or wet while under treatment. Ask for further information if this does not stop the trouble.

RHEUMATISM.

To the Editor: My neighbor's turkeys die after a brief illness. They get weak in the legs and gasp for breath; otherwise seem perfectly healthy and eat well. I have a large flock of turkeys and would like to know if this is a preventible disease.—D. J. J., Princeton.

The symptoms point to acute rheumatism. When this disease attacks turks there is no sign of trouble except the weakness in the legs, but if care is taken in the autopsy, you will find a small sack of water around the heart and this is what kills the bird. Prevention is the only thing you can do; there is no cure. Prevention lies in keeping the birds on dry soil and out of cold drafts. Give fifteen grains of iodide of potassium in a quart of water once a day until the blood is changed. Iodide of potassium is an alterative.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

POULTRY HOUSES.

TYPES.

There are the long house and the colony house, the former consisting of several permanent pens under one roof or all in one pen, as in the flock where market eggs are produced, the latter holding a single isolated pen or unit, where scratching pen and roosting quarters are in the same building. It is known as a combination house. The colony house is often portable and is in many ways advantageous, but adds to the labor requirement.

REQUIREMENTS OF A GOOD POULTRY HOUSE.

1. Ventilation. Plenty of ventilation, without drafts. Ventilation also keeps the house dry. It is best secured by an open or partly open house.

2. Protection from cold and storms. Storms increase the demand for fuel for heat, taking part of the material required for eggs. The litter must be dry and rain must be kept off the fowls.

3. Economical construction: Efficiency with economy. Too many expensive poultry houses are erected on "so-called" model plants, and the interest and depreciation more than eat up the profit. Do not construct the house flimsily.

4. Convenience. Easy to work in and keep clean. Build the house high enough to avoid bumping the keeper's head.

5. Should permit plenty of sunshine and light. The front should be sufficiently high to permit sunshine to reach the rear sill sometime during a short winter day. On stormy days, when the hens are shut in, plenty of light should be afforded. A southern or eastern exposure is preferable.

6. Plenty of room for exercise. Exercise makes eggs in winter when it is stormy outdoors.

SIZE.

The tendency is toward larger houses and flocks as units. They require less equipment, less labor and less output for construction. But the danger of disease is greater.

FLOOR SPACE.

The amount of floor space per hen is reduced somewhat proportionally as the size of the flock increases, as each hen has a wider range. The minimum space for the Mediterranean class is 2 square feet, larger breeds requiring more.

The space requirements for Leghorn flocks are: 1,000 require 2 square feet per fowl; 300 require 3 square feet per fowl; 100 require 1 square foot per fowl.

PROPORTION AND SHAPE.

The house should be as low in the rear as possible without making it inconvenient. Four feet 6 inches has been found a good height at the Davis Farm, but the writer prefers it a little higher. Fifteen to 16 feet in width has been found most satisfactory. A 15-foot house should have a front elevation of 7 feet; a 16-foot house 8 feet.

WHAT IS THE POULTRY SITUATION?

The articles by the several poultry authorities two weeks ago proved that the poultry situation is up in the air. Nothing definite can be determined at present. Is the Government going to establish a minimum price? The grain farmer has been protected and why should not the poultryman be protected also? The feed men are not able to carry a large supply because a large amount cannot be had. The Government food authorities should take definite steps now to protect the poultryman. If he sells off all the old stock, what will be used for breeding? Pullets, without a doubt. Then the result will be inferior stock, as pullets will not produce good big chicks that will grow into early maturing pullets. The housewife will soon be forced to pay high prices for eggs and then the "Housewife's League" or some other kindred organization will boycott the eggs because the poultrymen are getting rich, when in reality the poor fellow has a hard time to keep his children in shoes.

Now is the time to show our food administrators the true conditions. Eggs and poultry are necessary to win this war. They are both prime food and must be protected. We urge you to take up the proposition through your poultry organization, farm bureau or grange. Organized effort will win our point. A minimum, living price must be established or the poultry industry will suffer. This article is not written to make pessimists but to awaken the poultry people to the true situation as it now exists. We are up in the air and must get to earth.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

OUR GEESE AND BRONZE TURKEYS win again; champion sweepstakes special for the best pair of birds in show; for size, vigor and quick maturity, ours are best East or West; stock and eggs in season; also Collie Pups; correspondence solicited. John G. Mee, St. Helena, Cal.

HENRY SHARP'S WHITE LEGHORNS win at State Fair 1st, 2nd, and 3rd on cockerel; 1-2-3 on pullets; 1st cock; 1st pen and special for 2nd best pen in show. Route 1, box 187, Selma, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

DON'T QUIT—We will have fall chicks; write us about them; remember, few hens are being kept—result, high prices for eggs and fowls. Several breeds. Campbell Poultry Ranch, Campbell, Cal.

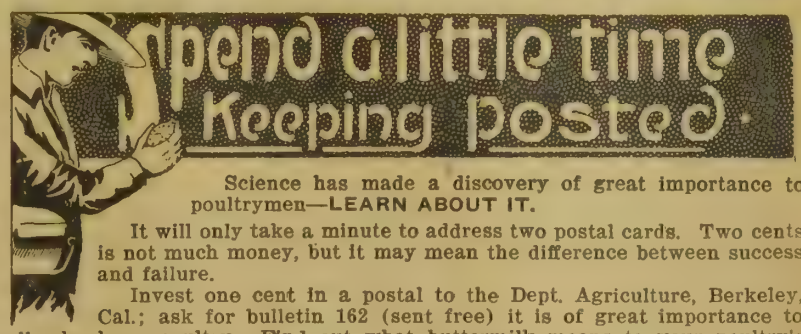
EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; fall chicks; eggs; cockerels. Fairmead Poultry Farm, Fairmead, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal.

MAMMOTH BRONZE TURKEY HENS—Two years old, $5 each. Toulouse geese, $3 to $5 each. Mrs. Coghlan, Walnut Creek, Cal.

WANTED—Laying Silver Campines and Columbian Plymouth Rock or Wyandotte pullets. E. M. Ryder, Parkfield, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.



Science has made a discovery of great importance to poultrymen—LEARN ABOUT IT.

It will only take a minute to address two postal cards. Two cents is not much money, but it may mean the difference between success and failure.

Invest one cent in a postal to the Dept. Agriculture, Berkeley, Cal.; ask for bulletin 162 (sent free) it is of great importance to all who keep poultry. Find out what buttermilk means to your poultry's health and your poultry success.

Invest one cent in a postal to Globe Mills, Los Angeles, for a free sample of GLOBE, A-1 BUTTERMILK MASH and valuable feeding information.

GLOBE A-1 BUTTERMILK MASH costs but little more than ordinary mash. Learn why it's worth a great deal more.

You can stop Chick Funerals. Get more Eggs. Keep your flock in GLOWING HEALTH; let us tell you how.

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Your dealer will supply you with Globe A-1 Buttermilk Mash.

Buttermilk GLOBE A-1 Dry Mash

Great Western "Besgrade" Health Grit

DO NOT allow your hoppers to run low on Great Western "Besgrade" Health Grit, either for Poultry or Pigeons. If so, you are the loser, for Great Western "Besgrade" Health Grit creates more vigor, improves the growth of the fowl or squab and makes every grain digest. Ask us for expert instructions for feeding and any particulars you may require. Do not accept a substitute for "Besgrade." None so good.

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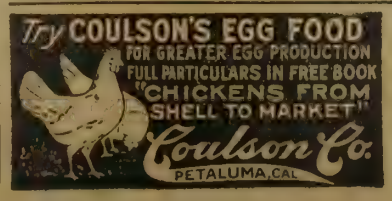


REDWOOD TANKS.

35 years in this business. I sell direct to the consumer. You act as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.

R. F. WILSON, Stockton, Cal.

Mrs. Best's Letter.

FALL NOVELTIES FOR WOMEN'S WEAR.

My Dear Friends: Quite the newest articles in women's apparel now are the Egyptian blouses in wonderful colorings for wear with separate skirts for semi-dress. These are elaborately simple in style, the kind of simplicity that is hard to accomplish without skill. The sleeves of these blouses are many of them in a modified kimono shape.

BEAD TRIMMING.

Beads continue to be popular for trimming and on a Russian blouse are run along the lower edge of the blouse and dangle from coarse embroidery silk along the edge of the sleeve from elbow to wrist, as well as outlining the edge of the collar.

BAGS FOR ALL FANCIES.

The bag craze has brought in many varied handles. There are the Chinese rings of jade in every size, and, more novel, the ovals of similar materials in jade or turquoise colors or to match nearly any color predominating in the bag. Then there are the odd-shaped wire handles for winding with silk or ribbon, as well as the oval embroidery hoops covered with shirred material. The handles of heavy silken cord are also used and the rods with prettily colored ends.

NOVELTY RIBBONS.

Some of the newest ribbons are of tinsel in gold or silver and have dainty flowers embroidered on them. These are used for hair bands, for trimming gowns and for banding hats, or as an edge for scarfs to use with evening dresses.

The lace-trimmed jabot with attached collar that converts a low-necked blouse into a high one is shown now fastened to a snug sleeveless net under waist. This is an improvement, for there is no possibility of slipping.

Sky blue velvet in a simple model of surplice waist and modified peg top skirt makes a charming evening frock for a young girl. This is entirely devoid of trimming except a bit of lace for the sleeve.

For street and afternoon wear many dresses have very tight-fitting sleeves, and much fur is being used on the collars.

SKIRT LENGTH DEBATABLE.

In separate skirts, especially plaids and stripes, there are many pleated models shown, but in dresses there is a strong tendency in the skirt to a more scant style than we have been wearing. The length of the skirt is still a debatable question and there seems to be no hard-and-fast rule regarding it. People generally are wearing what is becoming to their figures.

BLOUSE COLLARS.

Nearly all the practical blouses come in the convertible collars, and as winter approaches more and more of them will be worn high with stock collars of ribbon or silk.

Some of the department stores are showing muffs of white cotton cloth, all filled and ready for the covering. Some of them are lined, so the outside covering would be all that is necessary to have a finished article. These, with scarfs of plush or fur, make very attractive and becoming sets. ROSABELLA BEST.

THE HOME CIRCLE

CORN PONES.

When there is so much corn and not enough wheat, it is worth while to learn to eat corn bread. The success of this venture depends on the kind of corn bread the American woman serves. She may make her dinner corn bread plain or make it with eggs, but if she wants to create a corn bread appetite in her family she should make it of fresh unbolted meal and make it crisp and golden brown. Here is a favorite dinner bread: 2 cups white meal, 2 cups buttermilk, ½ teaspoonful soda, 1 teaspoonful salt, 1 tablespoonful melted fat.

Put fat in biscuit tin or iron griddle on top of the stove. While it is heating, sift meal and add salt. Stir soda into the buttermilk, mixing thoroughly. When frothing reaches its height, pour milk into meal and stir together. Add the smoking hot fat. The mixture should be a very stiff batter. If too thick, more milk or water may be added. Drop from spoon in small oblong cakes in the hot pan. Leave the pan on top of the stove until the bread begins to rise, then cook in moderately hot oven. The crust of the corn bread should be thick, crisp, and golden brown.

APPLE BUTTER.

Good apple butter may be made without cider, by adding to the peeled and sliced apples enough water to make a thin sauce and cook very slowly over a slow fire for three or four hours. Brown sugar is usually added, instead of white, when the cooking is two-thirds done. A pound of sugar to a gallon of butter is considered enough. Apple butter is spiced to taste, but 1 teaspoon each of cinnamon, cloves and allspice to a gallon of butter is considered about right. This is not put in until the cooking is done.

While still boiling hot, apple butter should be packed in sterilized glasses, jars or stone jars with close covers and either sterilized in a wash boiler, or, if the covers are loose, cover with paraffine to prevent spoilage. If making apple butter with cider, the cider should be boiled down to one-half its original quantity before the fruit is added. Cooking should be continued until the cider and apples do not separate, and when cold should be as thick as good apple sauce.

KNITTING NOTES.

What is considered the most expeditious way to knit socks now is to knit two socks or one pair on the same set of needles at the same time. This method is being taught at some of the Red Cross headquarters, and while it sounds difficult it can be done by anyone who knits well.

It is easier to cast the stitches for the socks on separate needles and then, after the purling is done, work on to one set of needles, the stitches being put on alternately. Have two balls of yarn and after the stitches are all on one set of needles use the forefinger for one thread of yarn and the second finger for the other. Purl with the forefinger and knit with the second, continuing just as though only one sock were being knitted. Those who are adept at this use the same color of yarn for both balls, but until one was sure of their ability it might be well to use two shades of gray so as to distinguish one stitch from the other. By making two pairs of two shades of gray, one would have perfectly matched pairs.

STORING HONEY.

The average housekeeper will put honey in the cellar for safekeeping and that is the worst place possible. Honey absorbs moisture from the atmosphere and in the cellar will become thin and in time sour. With comb honey the appearance is affected as well as the quality. Where salt will keep dry is a good place for honey.

If honey has granulated or candied, put the can containing it in a larger vessel holding water no hotter than the hand can be borne in. If the water is too hot, there is danger of spoiling the color and ruining the flavor of the honey. The can of honey should be supported on a block of wood in the vessel of water, so that the heat from the stove will not be too intense.

NATIONAL FOOD PLEDGE WEEK POSTPONED.

The United States Food Administration has now set the week of October 28 to November 4 for a special and supreme effort to get all the women in California to sign the food conservation pledge. This campaign is considered by Herbert Hoover the greatest thing to be attempted at this time in the war against food waste and the saving of certain staples for the fighting men abroad. The pledge was printed in this department last week.

HONEY AND SUGAR.

Use honey, maple syrup, molasses and dark syrups with hot cakes and waffles in order to save butter and sugar. Use all classes of fruit preserves, jams and jellies. Use brown sugar in cooking and economize on the use of granulated sugar on the table. Do not frost cakes. Use honey for sweetening pastry and cakes.—U. S. Food Administration.

A simple way to fit lace to a round centerpiece is to allow one-quarter more lace than the centerpiece measures, roll the lace tightly, dip the upper edge in water and allow to dry in that shape. When thoroughly dry, unroll and you will have a circular lace edging ready to sew on the centerpiece.

EACH IN HIS OWN WAY AND SPHERE.

Let us do our duty in our shop and in our kitchen, the market, the street, the office, the school, the home, just as faithfully as if we stood in the front rank of some great war, and we knew that victory for mankind depended upon our bravery, strength, and skill. When we do that the humblest of us will be serving in that great army which achieves the welfare of the world.—Theodore Parker.

PRESERVATION OF TOMATOES IN WATER GLASS.

Mrs. M. H. Stevens of Mountain View addressed an inquiry to the editor of the Home Circle Department relative to the practicability of preserving tomatoes in water glass, inasmuch as this medium is so successful in the preservation of eggs. The inquiry was referred to Professor W. V. Cruess of the University, who sends us the following reply:

"I am very sorry to state that we have no definite information to give out on the preservation of tomatoes in water glass. We have now experiments under way to throw light on this problem. The data so far indicate that a 5 per cent solution of water glass is best. The tomatoes should be cut from the vines leaving a considerable piece of the stem attached. We must emphasize, however, that the use of water glass as yet upon tomatoes has not been thoroughly tested by us and we cannot make definite recommendations. We have found also that the tomatoes must be kept immersed in the water glass. A 5 per cent solution of water glass would be approximately a half a cup of water glass to 9½ cups of water."

EUCALYPTUS LEAVES FOR FLEAS.

Editor Home Circle: In our Pacific Rural Press of October 13, 1917, I note an inquiry, "A Bad Case of Fleas." Your formula for ridding the fleas is very good, but scrubbing with boiling soap suds would not be the best thing on woodwork in some homes. May I offer something a little easier in case this query should be put to you again in the future? If eucalyptus leaves are placed beneath the bed mattress and a few poked behind the mop boards and under the floor covering, all fleas and insects of any kind will leave. A few dry and green leaves burned in the room is very good also, after dry leaves have been placed in the bed and every place desired. Bedbugs and insects of any kind will not stay where these leaves are.—A Subscriber, Roseville.

Notes.

He who is too busy to care for his health may have to take time to cure disease.

Good health is the foundation of personal usefulness either in peace or in war.

Specialists in Specimen Stock for Landscape Work.
Hardy Rhododendrons, Azaleas, Boxwoods, Hollies and a complete line of Coniferous Evergreens.
WRITE FOR PRICES
COTTAGE GARDENS NURSERIES, INC.
EUREKA, CALIFORNIA

Good Health.

[By H. E. Pastor, M. D.]

The Fear of Fresh Air.

An auto ride the other afternoon took us down "the peninsula," through San Mateo county, and into Santa Clara. We were glad to leave for a few hours the clamorous, stuffy city, to be regaled and revivified with the great draughts of pure, fresh air and luxuriate in the golden sunshine of the countryside, as we find it in unmatchable California. The objective of the trip was an apricot orchard which an accompanying friend wished to inspect. On arrival we fell into conversation with a farmer neighbor, who courteously invited us into his house, with a view to more extended discussion of the merits and demerits of the orchard in question. On entering the house our preconceptions of life as lived in the country received a shock, at least as to its essential wholesomeness. The room into which we were ushered had a stale and fetid odor. Glancing about the room, we observed the two windows closed tight. The door by which we entered was shut close after us. The minimum air that found its way into the room through crevises and keyholes was foul and lifeless. The woman herself had a sallow, pasty-looking complexion and a worn, bedraggled appearance, as might be expected under the circumstances. No human being could spend a life in such an atmosphere without suffering the penalty. After sitting there a few minutes, we sensed an approaching headache and made excuse to withdraw. Some people seem obsessed with an actual fear of fresh air. As an old sea captain once said, they seem to think they can ventilate their rooms by opening their cupboard doors. They scan you with horror if you suggest opening a window and seem to think you have designs on their life if you invite them out for an evening walk or ride, as though at night time there is any other than night air. By spending their lives indoors in airless rooms they lose their zest for life, their spirits become peevish and they are prone to become pessimistic and carping. People should not live thus, especially in God's great open. Why go to the country to spend life within doors, shutting out the great ocean of fresh air around you, and the great flood of golden sunshine that carries life in every beam? Air and sunshine are not only life-promoting, they are life itself.

Health Conservation a Moral Duty.

The dissemination of hygienic information of late through Government bulletins and privately conducted periodicals is evidently having a salutary effect, if we can trust the publicly expressed opinions of men of standing who are presumed to have some scientific knowledge on the subject. A distinguished professor of Yale College recently stated that at least fifteen years may be added to the span of an ordinary life by the application of such scientific knowledge as is available to the man of average intelligence. Among the commoner causes that militate against the prolongation of human life are enumerated alcoholism, bad air, neglected teeth, incorrect posture, unwisely selected food, monotony in industrial life, and poverty. The majority of these causes can be easily avoided. The one or two that are less easily sidestepped may be and are materially modified by intelligently directed effort, in which the public press is an effective aid. Even in the case of poverty, ill health is not a necessary concomitant thereof.

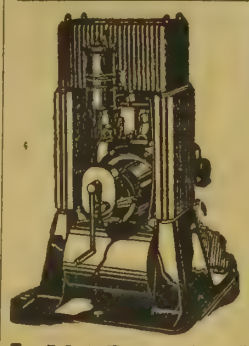
MAKE THE BEST OF IT.

My bonny man, the world, it's true,
Was made for neither me nor you;
It's just a place to warstle through,
As Job confessed o't;
And aye the maist that we'll can do
Is mak the best o't.

A feck o' folks frae first to last
Ha'e thru this queer experience passed;
Twa-three, I ken, just dam and blast
The hale transaction;
But twa-three ithers, east an' wast,
Fand satisfaction.

The evil wi' the guid they tak;
They ca' a gray thing gray, no black;
To a steigh brae, a stubborn back,
Addressin' daily;
And up the rude, unbieldy track
O' life, gang gaily.

—R. L. Stevenson.



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Uni-Lectric lighting plant generates standard 110-volt direct current; operates from one to fifty lights, electric motor, electric iron, vacuum cleaner, electric toaster, force pump, churn, washing machine, etc. No Batteries—No Switchboard—and a better machine for less money. High speed gasoline motor, generator and automatic governor, all complete in one small, compact unit. Uses standard lamps and fixtures. Simple, easily installed, dependable, economical. Costs less than other systems to buy and to operate.

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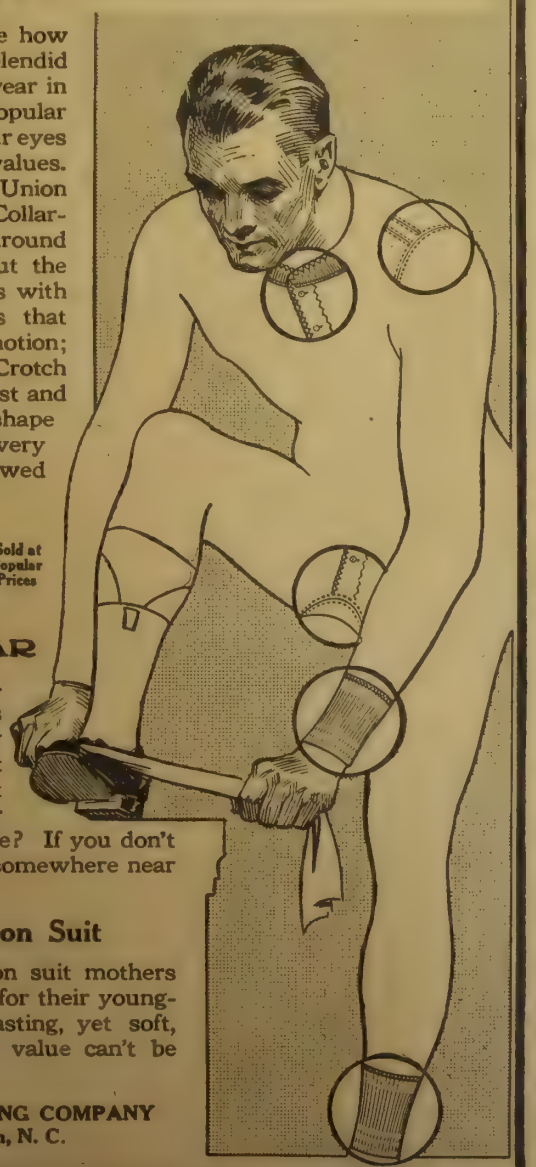
The Most Amazing Underwear Bargain in America

People don't just see how we can make this splendid winter-weight underwear in war times to sell at a popular price. It sure opens your eyes to see all the extra values. Just get this: Hanes Union Suits have a tailored Collarette which snuggles around the neck and keeps out the cold; Elastic Shoulders with Improved Lap Seams that "give" with every motion; Comfortable Closed Crotch that stays closed; Wrist and Ankle Cuffs that hold shape and keep out winds. Every button is good pearl, sewed on for keeps.



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ELASTIC KNIT UNDERWEAR

Is it any sort of wonder that all these suits are sold mighty early every year? And isn't that a mighty big hint for you to lay in your stock before it's too late? If you don't know a Hanes dealer somewhere near you, write us.

A Boy's Union Suit

Here it is—the union suit mothers have always wanted for their youngsters. Strong, long-lasting, yet soft, cozy and warm—its value can't be duplicated.

P. H. HANES KNITTING COMPANY
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Western Electric
Farm Light and Power Plant

makes farm work easier

It's the pesky little chores that waste your time and energy. But somebody has got to do them, and reliable help of every kind is scarce. What's the answer?

ELECTRICITY

For easier work and more butter fat, drive your separator by electricity.

Running water in house and barn is easily possible with electricity.

Don't be a slave to the tub. The Western Electric way is quick and easy.

An electric motor will turn your grindstone, feed cutter, fanning mill, churn and your separator; and will furnish your barn and your house with a supply of running water. An electric motor will clean the house, wash the clothes and keep the home cool during hot spells.

Electricity will do all this in addition to lighting your place with the safest, cleanest, brightest light that's made.

Intelligent farmers are buying Western Electric plants because they are backed by 40 years of electrical experience.

Make your whole outfit a Western Electric—the plant itself, the lamps, motors, pump, cream separator, washing machine, vacuum cleaner, electric iron—in fact, everything electrical for the farm and the home.

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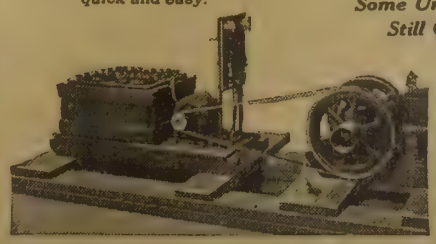
680 Folsom St., San Francisco, Cal.

Some Unassigned Territory Still Open to Agents



WESTERN ELECTRIC COMPANY:
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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, October 24, 1917.

WHEAT.

The base price fixed for wheat will continue in effect for a long time and thus there will be no changes in quotations which may be considered official. Most sales of seed wheat, however, at times vary from the Government price. In such sales Sonora wheat sold at $3.45@3.60 and Northern Bluestem, $4.00@4.25.

(Federal Grain Corporation quotations for bulk grain. Sacked grain 7 cents per hundred more.)

Sonora wheat	$3.43
Northern Club	3.43
California Club	3.43
Northern Bluestem	3.50
Northern Red	None offering
Russian Red	None offering

BARLEY.

Receipts of barley have been light the past week and demand correspondingly light. Brewers are buying only what they need for immediate consumption. Altogether conditions are against a strong market.

Shipping, per ctl	$2.55@2.60
Brewing	2.55@2.60
Choice feed, per ctl	2.45@2.50

OATS.

Receipts of oats have been light, and prices, except in the case of white feed, are unchanged. The advance in the case of white feed to from $2.75 to $2.80 is more the establishing of a firm price than an indication of increased demand, last week's figures having been largely nominal.

White feed, per ctl	$2.75@2.80
Red Feed, per ctl	2.65@2.90
Red Seed, per ctl	3.25@3.50
Black Oats	3.00@3.50

BEANS.

There has been little demand for beans during the last few days, which was heavy during the first days of October all over the United States. On account of the small quantity of the new crop available prices advanced. After the publishing of the new license law designed to prevent hoarding and speculation and effective after November 1st, there was a considerable dropping off in the demand.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl	$ 9.50@ 9.75
Blackeyes	9.25@ 9.50
Cranberry beans	12.50@12.75
Horse beans	5.75@ 6.00
Small whites (south)	12.75@13.00
Large whites	12.75@13.00
Limas (south, recleaned)	13.50@13.75
Pinks	10.00@10.25
Red kidneys	12.25@12.75
Mexican reds	9.50@ 9.75
Tepary beans	9.00@ 9.25
Garbanzos	7.25@ 7.50

CORN.

The market on corn has been materially affected by the scarcity of transportation. There has been a dropping off of the top price in Eastern yellow. Egyptian corn is now arriving more freely, and a price of $3 to $3.25 has been established.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	$4.00@4.10
California, sacked	None offering
Milo maize	None offering
Egyptian	$3.00@3.25

HAY.

Arrivals of hay for the past week were 1317 tons, as against 1750 tons the previous week. The fact that at least half of the arrivals were absorbed by Government requirements and the balance was sufficient to supply the rest of the city trade indicates how little is really required. The Government is taxing the capacity of the railroads and fear is expressed that they will not be able to take care of the rest of the trade. Country trade is active, but meeting the same difficulty as regards cars. The market is firm and quotations are higher. The demand for alfalfa is good with the supply light.

Wheat, No. 1	$22.00@23.00
No. 2	19.00@21.00
Tame oats	20.00@21.00
Wild oats	18.00@22.00
Barley	18.00@22.00
Alfalfa, new, first cut	19.00@22.00
Stock hay, new	16.00@18.50
Straw, per bale	50@90c

FEEDSTUFFS.

There is no material change in quotations, and the present prices are considered the reason for the lack of buyers. What little buying is being done is of the hand-to-mouth variety.

(Per ton, San Francisco.)

Beet pulp, per ton	None offering
Alfalfa meal, per ton	$28.00@31.00
Bran, per ton	41.00@42.00
Oilcake	None offering
Coconut cake or meal	None offering
Cracked corn	87.00@88.00
Middlings	52.00@55.00
Rolled barley	54.00@55.00
Tankage	None offered
Rolled oats	59.00@60.00
Rice middlings	None offered
Rice bran	32.00@35.00
Shorts	45.00@47.00

POTATOES, ONIONS, ETC.

There is a marked increase in peas and string and wax beans due to their scarcity. Sweet potatoes are strong and higher on Eastern demand. Celery is coming in entirely in bunches and selling freely at 40c a bunch. A few crates of asparagus were received and brought from 25c to 30c per pound.

Asparagus	None
Peas, per lb.	7@12c
String beans, per lb.	7@9c
Wax beans, per lb.	4@6c
Hubbard squash, per 100 lbs	$1.00
Summer squash, per box	75c@$1.25
Cucumbers, per box	50@85c
Celery, per lug	Nominal
Tomatoes, per lug box	50@75c
Potatoes, Salinas	$3.00@3.25
Idahos	2.25@2.75
Oregon	2.25@2.60
Rivers, per ctl	1.85@2.50
Sweets, per lb	2½@3½c
Onions, yellow, per sack	$2.75@3.00
Reds	None offering
Garlic, per lb	5½@6c

POULTRY.

The market on all poultry is strong and prices have advanced in nearly all cases. Best Belgian hares are easier on increased receipts. The inferior quality of most of the geese offered has lowered quotations.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb., young	28@30c
do, dressed, old	None offering
Broilers, 1½ to 2 lbs	30@34c
do, 1¼ lbs.	36@38c
do, under 1¼ lbs	40@42c
Fryers	25@28c
Hens, extra, per lb., colored	25@26c
Small leghorn	20@22c
Smooth young roosters, per lb. (3 lbs. and over)	25c
Old roosters, per lb	15@16c
Geese, per lb.	15@18c
Squabs, per lb.	38@43c
Ducks	18@20c
Old	16@18c
Belgian hares (live)	15@18c
do (dressed)	18@22c

BUTTER.

The market closed 2 cents below the opening a week ago, due to the falling off in shipments at the higher price. Accumulating receipts forced the price to 44c. It is now said that the expected arrival of butter from Australia will have little or no effect on the local market, as it is believed that all of this butter will go direct to Europe.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	46½	46½	44½	45	44½	44½
Prime 1sts	45	45	44	44	44	43

EGGS.

Eggs showed a steady increase in price for the week, reaching 57c on Wednesday's quotation for extras and a corresponding increase for other grades. The demand for storage eggs has not yet been perceptibly increased by rising quotations on fresh eggs.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	53½	53½	53½	55	56½	57
Extra 1sts	53	53	53	54½	54½	56
Extra pullets	44	43	42½	44	45½	47
Extra 1st pul.	43½	42½	42	43	43	46

CHEESE.

The market for cheese has been strong, but without increasing prices. If the price of butter continues to decline, it is expected to affect cheese prices, but this decline is not looked for by the produce men.

Y. A.'s	25c
Fancy California Flats, per lb	22½c
Monterey cheese	8@23c

FRESH FRUITS.

Peaches are practically off the market. Watermelons are also getting scarcer. Apples are plentiful and good stock is bringing the top prices. Seedless grapes are advancing in price, with smaller receipts and steady demand.

Apples, per box	$1.00@2.00
Pears, per box	75c@$2.50
Cantaloupes, per crate	75c@$1.25
Apricots, per box	None
Peaches, per box	None
Nectarines	None offering
Figs, per box	75c@$1.50
Plums, crates	75c@$1.25
Watermelons, per doz	$1.00@2.00
Grapes, Malaga, lug boxes	75c@$1.25
do, Seedless, lug boxes	$1.50@2.00
do, Muscats, lug boxes	1.00@1.25

CITRUS FRUITS.

Fancy lemons are strong and show an advance on the market. Other varieties show a tendency to go lower. The recession in price is considered seasonable. Fancy grapefruit is off the market. The market is well supplied with both oranges and lemons, and, considering the season, the demand is satisfactory.

Oranges:	
Valencias, fancy	$3.25@3.50
Valencias, choice	2.75@3.00
Lemons:	
Fancy, per box	6.00@6.50
Choice	5.00@5.50
Standard	2.50@3.50
Lemonettes	2.50@4.00
Grapefruit, fancy	None offering

DRIED FRUITS.

Except in the case of dried apples, which showed an advance, the market for dried fruits is unchanged. Shipments to packing houses have been light, as the packers cannot obtain cars to move the fruit already packed.

(Net to growers bulk basis, f. o. b. San Francisco.)

Apples, new crop	12 @12½c
Apricots, per lb	14 @16 c
Figs, black, 1917	5½@ 6 c
do, white, 1917	6½@ 7½c
Calimyrna, 1917	11 @12 c
Prunes, 4-size basis, 1917	6½@ 7 c
Pears	6@8c
Peaches, 1917	8@9c

BERRIES.

The receipts of berries have been unusually light and this is shown in the advance in prices. The goods received are good.

Strawberries, Banners, chest	$6.00@9.00
Longworths	None
Blackberries, per chest	$7.00@8.00
Raspberries, per chest	7.00@8.00
Gooseberries	None

HONEY.

The market for honey is strong and the receipts have been very light during the past week. Prices have remained unchanged for all grades.

Comb—	
Water white	14@16c
Light amber	12@14c
Amber	10@12c
Extracted—	
Water white	14@15c
Light amber	10@12c
Amber	9@10c

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., October 23, 1917.

The offerings of Tokays and Malagas during the past week have been light, owing to the limited car supply, and the demand has been very strong on well colored, good keeping stock. Quite a percentage of the Tokays, however, have been arriving in weak condition and were it not for the light supply, markets would have been more or less demoralized.

There are practically no Eastern grapes coming in competition with California stock, as a very heavy percentage of the Eastern crop has been contracted for both by wineries and grape juice factories.

The Spanish Almeria situation is very interesting. Recent reports advise that the crop has been very seriously affected by mildew, which developed early. This, together with unseasonable rains during the flowering period, has reduced the crop to such an extent that the shipments to this country, it is now estimated, will be less than 200,000 barrels as against 800,000 in a normal year. Furthermore, the embargo placed last year by England on importations of grapes has been lifted to the extent of 40 per cent, and encouragement is being offered the Spanish shippers to market a large percentage of their output in England. The first cargo, however, of Spanish grapes to be sent to England contained 34,000 barrels and was sunk by a German submarine.

On account of the continued and severe car shortage, thousands of tons of Tokays are being sold to the wineries, being unfit to ship East.

A large percentage of the Malaga crop has been successfully marketed, and if the weather remains favorable, we anticipate no losses in the Fresno district.

Following are the averages for the week:

New York: Winter Nellis pears, $2.58; Buerre Clairgeau, $2.51; Tokay grapes, $1.20; Cornichon, $1.28; Black Prince, $1.45; Muscat, $1.23; Malaga, $1.30.

Boston: Malaga grapes, $1.30; Tokay, $1.20; Cornichon, $1.39; Muscat, $1.26.

Chicago: Malaga grapes, $1.31; Cornichon, $1.16; Tokay, $1.00; Black Prince, $1.25.

Shipments for the week ending October 19th, as follows: 32 pears, 1225 grapes.

Total shipments to date, 1917, 19,898 cars.
Total shipments to date, 1916, 15,396 cars.

Special Citrus Market Report

Los Angeles, October 23, 1917.

Shipments of citrus fruits from Southern California from last November to October 21: Oranges, 39,964 cars, and lemons, 7664 cars. Same time last year: Oranges, 31,412 cars, and lemons, 6919 cars.

With less deciduous fruit now on the markets, oranges the past week showed little more life. Shipments East were a little heavier, yet the market absorbed them all at higher prices. The navel crop in Central California will probably be two to three weeks late. This gives the Valencia men a better chance to move their late Valencias, of which there is said to be over 2000 cars to go forward. Many of these oranges will go into the holiday market that has heretofore been supplied by early navels. While this brings new competition to the early navels, as the crop is very short it may not be felt, and good prices may be expected throughout the season.

Oranges sell locally well for the time of year, packers paying 2@2½c per pound loose, delivered. Grapefruit is firmer, selling at 2½@3c per pound bulk to packers, delivered. Lemons showed more life, the demand being the best for some weeks. Good stock was firm at 2½@3c per pound, loose to packers, delivered.

AUCTION SALES.

New York, October 22.—Fifteen cars Valencias sold. Market about 50c higher on best stock and slightly higher on poor stock. Weather fair. Valencias averaged $1.80@5.40. No lemons sold.

Boston, October 22.—Four cars Valencias and two cars of lemons sold. Market higher on both oranges and lemons. Valencias averaged $1.85@4.95. Lemons averaged $6.30@7.90.

Philadelphia, October 22.—Five cars sold. Market is higher on small sizes Valencias and demand good. No lemons sold. Valencias averaged $2.50@4.55.

LOS ANGELES.

Los Angeles, October 23, 1917.

BUTTER.

There was a little more butter in the past week and demand no better; hence a weaker feeling. Receipts for the week, 326,400 pounds, against 294,500 pounds the same week last year. Withdrawn from cold storage during the week, 1,871 pounds, against 18,752 pounds the same week last year, showing that the current receipts are taking care of the demand. Receipts were good and San Francisco was off ½c, but this had no influence on the market here.

We quote:

California extra creamery	46c
Prime first	45c
First	44c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	47	47	47	46	46	46
1916—						
Extra	33	33	33	33	33	33

EGGS.

Scarcity of fresh ranch eggs caused the market to hold steady and firm the past week. What few came in were readily placed at last week's closing prices. Receipts for the week by rail only 418 cases, against 944 cases same week last year. Hence a freer use of cold storage. The cold storage holdings have now been worked down to about last week's level. Chicago and New York declines had no influence upon the market here. Tuesday, with few eggs in and San Francisco up 1½c, extras on call were advanced 1c and pullets 1c and demand good.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	56	56	56	56	56	57
Case count	54	54	54	54	54	54
Pullets	44	44	44	44	44	45
1916—						
Case count	48	48	48	45	45	45

POULTRY.

Receipts light the past week and market firmer, with a fair demand for broilers, fryers and hens. Young stuff 1c higher. Ducks also selling very well and something doing in turkeys. Geese very dull.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs	31@32c
Fryers, 2½ to 3 lbs	28c
Hens over 4 lbs	25c
Hens under 4 lbs	22@24c
Ducks	20@21c
Geese	15c
Roosters, 3 lbs. up (soft bone)	25c
Turkeys, heavy, 12 lbs. and up	29@30c
Turkeys, light	24@25c
Squabs, live, per doz	$3.00@4.00
Dressed	3.50@4.50

VEGETABLES.

With lighter offerings the past week there was a firmer tone to the market. Potatoes sold a little higher, but demand only fair. Onions slow sale but steady. Tomatoes getting scarce and higher. Cabbage steady but dull. Tomatoes coming less freely and higher. Sweet potatoes steady but slow sale. Eggplant firmer but slow sale. Some little cauliflower coming in and market steady and demand fair. Celery steady and in fair demand. But little good lettuce coming in and market firm and demand good. Hubbard squash and pumpkins coming in more freely and lower, but demand fair at the prices.

We quote from growers:

Potatoes, Northern, per cwt	$2.25@2.50
do, local, per cwt	1.85@2.00
do, Idaho, per cwt	2.00@2.25
Onions, Yellow per cwt	2.00@2.25
do, White, per cwt	2.00@2.25
Garlic, per lb	3@4c
Tomatoes, per lug	35@75c
Cabbage, per 100 lbs	80@90c
Lima beans, per lb	5½@6c
Bell peppers, per lb	3@3½c
Chile peppers, per lb	3c
Celery, per crate	$2.25@2.65
Eggplant per lb	2@2½c
Sweet potatoes, per cwt	$2.25@2.50
Cauliflower, per crate	1.90@2.00
Hubbard squash, per lb	¾@1c
Pumpkins	¾@1c

FRUITS.

The falling off in receipts and the dropping out of the market of peaches and offerings of melons much reduced caused a firmer tone. Tokay and Cornichon grapes were in fair supply and met with good demand. No Muscat or Malagas except cold storage stock, hence we drop their quotations. A few figs are still coming in and they sell well. Quinces are in good demand. Apples steady and demand fair. Japanese persimmons are now coming in and the best of them are selling fairly. Casabas and Christmas melons are meeting with a fair demand, but market weaker. Watermelons and Honeydew melons about out.

We quote from growers:

Apples—	
Bellefleur, 4-tier	$1.00@1.05
Grapes—	
Tokay, per lb	4½@5c
Cornichon, per lb	4@4½c
Pears, per lb	4@4½c
Quinces, per lug	60@65c
Local apples, per lug	40@50c
Casabas, per 100 lbs	90c@$1.00
Christmas melons, per lb	1c

WALNUTS.

A firm market and good demand continues. The Association is now shipping about twenty-five cars per day.

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.90c
Jumbo	24c	17.50c
Culls	6@12c	....

BEANS.

The high prices quoted last week caused Eastern buyers to drop out of the market. This lowered bids during the week $1 per cwt. on limas and tepary.

PERISHABLE FRUITS LACK ADEQUATE TRANSPORTATION.

Grape growers and fruit packers generally stand to lose considerable money and the public much needed fruit this season by the shortage of freight cars with which to carry the output to consuming markets. The grape interests are especially hard hit. Pressure to produce great harvests should be coupled with foresight to take care of them when they arrive. Prompt relief should be afforded shippers in this matter. Curtailment in supply means enhancement in price.

We quote from growers:

Limas, per cwt	$12.50
Large white, per cwt	13.00
Small white, per cwt	13.00
Pinks, per cwt	10.50
Blackeyes, per cwt	8.00
Tepary	9.00

HAY.

Continued light receipts resulting from a shortage of cars and the local crop about exhausted, caused a continued firm market the past week and an advance of $1 per ton on alfalfa.

F. O. B. Los Angeles:

Barley hay, ton	$23.00@24.00
Oat hay, ton	24.00@25.00
Alfalfa, northern, per ton	22.00@23.00
Alfalfa, local, per ton	23.00@24.00
Straw, ton	9.00@10.00

HIDES AND PELTS.

HIDES—Market quiet. We quote f. o. b. Los Angeles:

Green Salted—

Heavy steers, per lb	16c
Light steers, per lb	16c
Kips and calf skins, per lb	22c

PELTS—

California full wooled, per lb	20c
California medium wooled, per lb	15c
California short wooled, per lb	10c

Special Livestock Market Report

San Francisco, October 24, 1917.

CATTLE—The market is strong, owing to unfavorable feed conditions, and prices show a slightly upward trend. Some fairly good stock is coming in from the Nevada and Arizona ranges. The arrival of veal calves is good and meets the demand.

Grass Steers—	
No. 1, weighing 800@1200 lbs	8¾@9¾c
No. 1, weighing 1000@1200 lbs	9@9½c
Second quality	8¾@9c
Thin undesirable	6@7½c
Grass Cows and Heifers—	
No. 1	7¼@7½c
Second quality	6½@7c
Common to thin	4@5½c
Hay-fed cattle ½ to ¾c higher.	
Bulls and Stags—	
Good	5¾@6c
Fair	5¼@5½c
Thin	4@5c
Calves—	
Lightweight	9¼@9½c
Medium	8½@8¾c
Heavy	7@7½c

SHEEP—There is little in the way of change in the sheep market. Stock is still difficult to obtain and outside quotations prevail.

Lambs—	
Milk	14½@15c
Sheep—	
Unshorn wethers	10½@11½c
Unshorn ewes	9½@10c
Yearlings	11½@12c

HOGS—The market weakened this past week, which was reflected in a decline of approximately one-half cent in quotations on heavier classes of stock. Receipts were good in both quantity and quality.

Hard, grain-fed, 100@150	14½c
do, do, 150@300	16c
do, do, 300@400	15½c

WOOL—The active season in the marketing of the California wool clip has not yet arrived, though some few transactions are noted in the Sacramento and San Joaquin Valleys. Prices actually obtained by growers vary little from these figures:

Mendocino and Humboldt	50@52c
Sacramento Valley	45@48c
San Joaquin Valley	38@44c

HIDES—The country hide market is strong owing to a betterment of conditions in the leather market. There is no material change from quotations last printed, though holders insist on outside figures.

Los Angeles, October 23, 1917.

CATTLE—While there is no change in this market from a week ago, its tone is hardly so firm. With Eastern markets easing up, buyers seem more willing to accept quotations. California, Arizona and Nevada all offering cattle during the week and some very good steers were in.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt	8.00@9.00

HOGS—With the new corn crop in the Central West now made and new and cheaper corn being fed to hogs, the markets of the Central West are working lower. This, with better receipts, caused killers here to reduce their bids during the past week 50c per cwt., but at this reduction made fair purchases. California continues to furnish the supply and is marketing some very good hogs.

Per cwt. f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs	$13.00@14.00
Mixed, 200@250 lbs	14.50@15.50
Light, 175@200 lbs	14.50@15.50

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—A firm market continues to be had. Killers still have difficulty in getting what they want and have to bid full quotations to induce feeders to sell. The high price of wool making owners reluctant to let go. Few sheep or lambs are wanted at present high prices.

Per cwt. f. o. b. Los Angeles:

Prime wethers	$ 9.50@11.00
Prime ewes	10.50@11.00
Yearlings	10.50@11.50
Lambs	14.00@15.00

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending		San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan.	9	26.65	34.91	28.16	36.90
"	16	27.83	35.83	28.10	37.00
"	23	28.85	36.91	28.50	35.00
"	30	36.33	38.48	36.66	38.87
Feb.	6	30.25	40.00	32.33	41.19
"	13	31.40	39.70	33.25	39.00
"	20	32.00	36.00	32.00	37.00
"	27	30.90	37.00	35.25	36.00
March	6	24.08	35.50	24.16	34.50
"	13	29.91	33.50	28.83	33.00
"	20	28.33	33.25	27.16	33.00
"	27	28.50	36.00	28.08	33.00
April	3	28.50	37.91	28.83	36.33
"	10	29.31	39.33	28.00	37.00
"	17	27.33	39.58	27.50	38.00
"	24	25.25	35.66	25.00	36.50
May	1	24.33	33.08	25.33	33.00
"	8	24.10	34.05	25.00	33.20
"	15	24.58	35.50	25.66	34.16
"	22	25.00	36.30	25.00	35.16
"	29	26.50	36.60	26.50	37.33
June	5	25.50	36.30	27.00	37.66
"	12	25.83	36.50	27.00	38.00
"	19	24.50	36.00	25.91	36.33
"	26	24.50	36.16	25.91	37.50
July	3	24.60	35.06	26.00	37.00
"	10	26.40	36.41	26.60	37.16
"	17	25.83	37.83	26.00	38.66
"	24	26.00	40.25	26.00	40.61
"	31	26.00	42.82	25.91	42.58
August	7	21.00	43.00	29.16	44.00
"	14	26.50	41.66	26.00	43.00
"	21	26.50	41.50	27.95	42.00
"	28	27.25	41.91	28.50	42.00
Sept.	4	30.00	42.10	30.50	41.33
"	11	30.20	42.00	32.00	41.00
"	18	30.41	45.00	31.09	43.00
"	25	30.41	45.00	30.50	45.50
October	2	31.66	44.90	32.16	45.91
"	9	32.91	44.90	32.83	46.33
"	16	33.50	46.25	33.50	47.00
"	23	32.75	45.41	33.00	46.50

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending		San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan.	9	31.41	37.91	32.00	38.16
"	16	30.33	41.83	30.75	40.83
"	23	34.83	32.50	34.33	33.12
"	30	36.33	32.08	36.66	33.01
Feb.	6	35.66	34.99	35.50	34.70
"	13	28.90	33.30	28.00	31.66
"	20	23.66	33.01	20.33	30.75
"	27	20.30	29.00	18.50	27.66
March	6	18.33	24.75	18.00	24.91
"	13	19.50	25.96	18.91	26.08
"	20	20.00	25.66	19.08	25.91
"	27	21.41	27.16	20.83	28.00
April	3	21.75	28.58	21.00	29.25
"	10	22.00	29.66	21.00	30.41
"	17	21.16	32.33	20.91	32.08
"	24	21.83	32.91	22.58	32.83
May	1	21.00	32.00	22.58	31.83
"	8	21.20	32.75	21.41	32.00
"	15	24.58	34.20	20.83	32.50
"	22	25.46	33.40	22.50	34.00
"	29	25.00	33.80	22.50	33.50
June	5	25.00	33.20	24.51	34.66
"	12	25.00	31.16	24.16	33.00
"	19	24.83	31.41	23.75	33.10
"	26	24.66	30.16	24.58	32.16
July	3	24.60	31.90	24.00	34.25
"	10	26.10	33.50	24.00	36.00
"	17	27.16	33.66	27.00	34.41
"	24	28.20	35.25	28.00	35.91
"	31	28.50	38.00	28.00	36.91
August	7	26.16	42.58	26.00	40.16
"	14	33.08	41.41	31.00	37.08
"	21	33.09	43.33	31.83	42.25
"	28	33.50	43.50	32.00	43.50
Sept.	4	36.13	43.80	32.00	43.58
"	11	37.90	45.08	36.00	44.91
"	18	38.83	47.83	37.00	47.83
"	25	39.75	47.58	38.66	49.50
October	2	39.75	47.00	40.50	50.83
"	9	42.25	47.10	43.16	51.50
"	16	48.50	52.59	49.32	54.50
"	23	47.01	54.83	46.50	56.16

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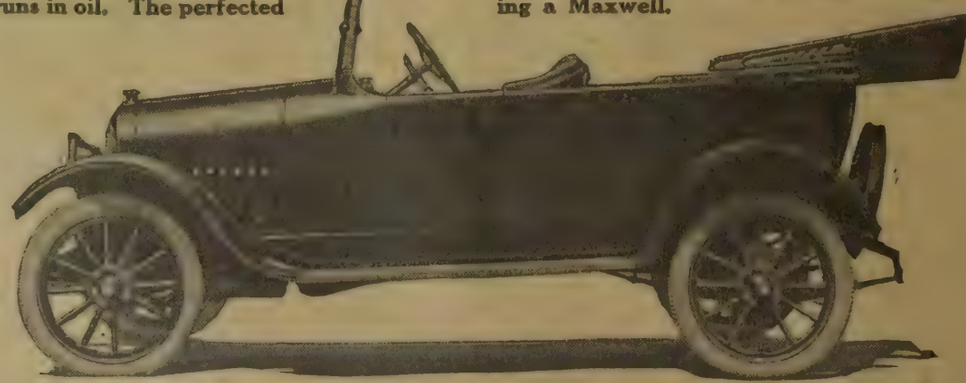

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SAN FRANCISCO NOVEMBER 3, 1917 LOS ANGELES

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Spraying Makes Bigger Fruit Crops--Do It Early

[Written for Pacific Rural Press.]

YOU CAN'T make some people believe that the cost of dormant spraying, where the trees have bugs, scale, or fungous diseases now in the spore form, will be repaid by increased crops; but a good many neighbors will spray now because they have seen A. W. Johnson of Santa Clara county get this season 100 tons of green prunes from about 40 acres of old trees which had been so badly run down that some 1500 of them had been taken out and replants set since Mr. Johnson took possession about three years ago. It seemed that plenty of props were on hand, but 1500 new ones had to be used. This was on gravelly soil, without irrigation, and at a considerable altitude above the floor of the valley. The prunes averaged the largest that came through the packing house to which they were sold. They dried about 1.86 to 1 and would have done better had not weather and the labor situation seemed to justify shaking the trees once instead of letting the prunes sugar up enough to fall. We took some of the average weights of the dried prunes from packing house receipts for various loads. They read as follows: 46.8, 46.2, 47, 49.6, 38.7, 44.6, 52.2, 37.8, 45.1, and 39.2. The estimated average of the whole crop from the 40 acres is about 48 per pound, due to the last ones being a little smaller. Neighbors whose orchards in a general way are better than Mr. Johnson's, but who did not spray last winter, found their prunes small and drying away as much as 2½ to 1. Well-known fruit growers of this district say that the recovery of the Johnson orchard, the heavy crop of fruit, its good size, and the fine drying percentage are very largely due to the past winter's spraying, which was the first this old orchard had ever experienced in its entire history.

A Bad Orchard Made Good.

Less than three years ago the trees were dying back in the tops, there were a good many big suckers, and moss had grown over the trees unhampered. Scales, especially brown apricot scales, were so thick that they encrusted many twigs completely. Leaves were covered in summer with "gooey black stickum," which also covered the sides of impoverished fruits. Not everything could be done at once, so the first year the tops were cut back severely at the suggestion of N. Perusina, the foreman, who had wide experience with prunes in Bosnia. Dead wood was taken out and suckers were thinned to balance the mutilated trees or taken out completely where they were not needed. Vetch was planted that year, but not since, until this fall. Good culture has been given along with regular annual pruning. And still the scale thrived until last winter.

The writer first visited the orchard in the summer of 1916 and found the fruit and leaves smutty, and the twigs infested with the troubles mentioned. Now they are clean, the leaves are bright, very few scale to be seen, the past crop was clean, and moss had disappeared from the trunks and limbs. The energy generated by the good culture had not been wasted by letting scale weaken the trees, which they are doing in many other orchards of our readers, both by robbing them of sap and by clogging their leaf pores with honeydew and soot fungus. The trees are in better condition than ever before, with lots of healthy, clean fruit buds. Lacking a spray rig of his own, Mr. Johnson hired the spraying done by a man whom he paid enough to do a good job, and who did it. Commercial crude oil emulsion was used according to the manufacturer's

(Continued on page 442.)

A run-down old prune orchard can be made to look like this, a splendid example in Solano county. To make the improvement will require sane pruning, perhaps fertilization, good culture, and, not the least important, efficient spraying to conserve advantages gained by the other operations.

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EDITORIALS

MULTIPLICATION OF COMMANDMENTS.

A STRANGE wonder flashes on our sight and intrudes upon our thought this week. It bewilders us because we cannot recall any previous visitation which is like unto it, though far be it from us to claim that we have really discovered anything or that our conception of the thing itself is original. It is this matter of official commandments to farmers. We have previously commented upon things of this sort, but chiefly with reference to that which seemed to us wrong in them. Now we are forced to wonder at the multitude of them and to wonder also whether, from the point of view of achieving great patriotic results, these commandments are not misdirected. There seems to be a great barrage-firing of commandments for patriotic purpose under cover of which our farmers are expected to march forward safely to greatly increased food production, but through miscalculation of the range or for some other reason these missiles are falling upon the backs of the farmers' necks and not in the faces of those who oppose their patriotic progress.

COMMANDMENTS ON FARM LABOR.

THIS IS THE line which now wonders us. Promptly with the declaration of war and exhortation to increased food production, the farmers of California tried to declare through public assemblies that they must have more and better farm labor or they could not discharge their patriotic duty as they desired. Then it was that the political patriots dropped their first barrage and this was the record of it: "You farmers are lying about the labor supply; there is plenty of it if you will pay good wages and treat men right. You shall have no other supply than that we will billet on you. Be still and know that we are gods"!

And what came of this irreverence? Events showed that there was so short a labor supply that millions of produce would have been destroyed had not Nature saved it, as we outlined last week. Farmers paid wages they had never dreamed of paying and were willing and cheerful in doing it. They paid out for plumbing, upholstery and culinary uplift an amount of money which would have bankrupted them in ordinary times, and they did that willingly and cheerfully. But neither wages, nor plumbing, nor swell grub, nor all of them together, produced any noticeable effect on the labor supply. It was the sky itself and not skyward things on earth which saved the crops. It was a clear demonstration that the self-constituted labor-prophets were talking through their political lids when they declared that a non-existent labor supply would materialize. All reasonable people now know what the farmers knew all the time, that the cities have only a negligible number of people who have the will, skill and force for farm work at any wage and on any treatment schedule. And so it comes about that we hear no more of that madness of last midsummer: "There will be plenty of farm labor, if—" but we have a barrage of commandments, many of which are falling in wrong places.

HOW COMMANDMENTS MULTIPLY.

FRANKLY, then, our wonder is how it is that the less the labor supply really is the more commandments we have. One might reasonably think that the more ridiculously wrong the official labor-supply prophets found themselves to be the less they might have to say about it. The fact shows that there is nothing reasonable about them and the worse their facts and logic the more abundant are their commandments. The number of them appalls us. Moses engraved ten commandments on tablets of stone competent to knock all the idolatry and personal vice and crime out of the ancient Israelites. Christ engraved two commandments on the tablets of the human heart competent to crush all evil for all time—including the Kaiser and his hell-born ambition and inhumanity. In spite, then, of this wonderful progress of the moral codes of all mankind toward simplicity and intelligibility, we have the development of commandments from so-called labor sources, constantly advancing toward multiplication and greater inaccuracy in all their bearings upon the essentials of food production. We have before us, for example, at this moment twenty-five commandments engraved on paper tablets, under the title "Twenty-five Ways to Conserve Labor," and they are addressed to farmers for this avowed purpose: "to emphasize the pressing need for careful attention to every possible way of using labor to better advantage during the continuance of the war." It is surely a presumptuous undertaking for officials drawing authority from labor representatives to issue commandments, even in the guise of suggestions, to practical farmers how they should direct the labor which they hire and pay for. In our boyhood such an upstart attitude of superior wisdom would have been met by the repressive proverb: "take care how you try to teach your grandmother the way to suck eggs." Evidently a proper retort on the part of the farmer to all such preachments would be: "you mind your own business and I will mind mine"—but of course the real farmer must say that for himself: it is not for us to say it for him.

THE WAY TO GET LABOR IS NOT TO USE IT.

BUT THOUGH it is strictly for the farmer to defend himself from prescriptions and commandments falling upon him from political or other class-interest motives, if he thinks any such defense is necessary, we may properly offer an opinion as to the nature of these commandments. In the first place, the whole collection of general orders to farmers is an affront to their citizenship and an impeachment of their judgment and veracity when they say that the labor they have is inadequate and inferior and if they are to do their patriotic duty in production they must have more and better labor. They are not asking for cheap labor: they simply say that the labor they need must be as good and sufficient as the money they pay for it—no matter how much that may be. It is clear enough to anyone who can look at the matter without politics or prejudice that there must be a reformation in the amount and quality of farm labor if this country is to proceed in agricultural development as its resources invite and the world requires.

This is "Luther Week" in all Protestant countries. Four hundred years ago Martin Luther took his first step in religious democracy which led him subsequently to declare: "There I take my stand: I can do no otherwise, so help me God!" The present situation should be taken seriously. It is time for those who have investment and livelihood in food production to declare for freedom from bureaucratic and autocratic dictation in their industry, just as Luther did for similar freedom in religious thought and action. And though such a fundamental issue is really pressing down upon the industry, what is the public attitude towards it? Let each one look into and think over that serious question for himself: we have no space to characterize it. Possibly, however, it may be sufficiently defined for the moment by reference to the "twenty-five commandments" which we have before us. Instead of throwing in the public eye and on the public conscience the indisputable needs of farming in its labor supply, they suggest twenty-five ways in which farmers can use less labor! It is camouflage in the public eye: it is anaesthetic in the public brain. The effects of it are to obscure the real issue in our agriculture at the present time and to dull public perception of the actual needs of the country to make food production ample and secure.

THE WAY TO GET IT IS TO GET IT.

IT WAS FUN to laugh at Horace Greeley nearly fifty years ago when he said of specie payments that "the way to resume is to resume." And the joke of it was, afterwards, that it was the way. All the theoretical nonsense of the financial crashes and what not which would ensue disappeared. Specie payments were resumed and nothing happened. Practically everybody said: "Specie payments resumed? Interesting isn't it? What do I want of it: I'd rather have a roll in my vest pocket than a metallurgical museum in my pants!" And so specie payments were resumed.

So far as providing enough farm labor the way to do it is much the same: the way to get it is to get it. Get it under proper limitations and restrictions, of course, but get it. Get it where it is to be had. Get it just as you would any other essential commodity as a war measure and for a definite period. The experience of the last forty years shows conclusively that it can be controlled in this country, can be admitted, can be excluded, etc., as passing needs require. And the experience of other countries covers a much longer period. Did Germany, before the war, allow her fields to go unharvested because she needed all her own men in factories? Not at all: she made greater anthropological collections for farm labor than any other nation ever made, probably, and when they had their pockets and she her granaries full, she fired them. We never realized there were so many kinds of people in the world until we saw them at farm labor in Germany in 1913. The way to get enough farm labor is to get it!

HOW SOME COMMANDMENTS GO WRONG.

IF ONE takes to making twenty-five commandments some of them are likely to go wrong. That may be the reason that Moses stopped with ten. Of course, in rolling out twenty-five commandments any mere man is liable to make a miscue, but it is rather bad to start off with such a mischance. And yet so we find it in the paper tablet to which we are referring, for this is the very first of the series:

Curtail or postpone all plantings, during the period of the war, of new orchards or other crops requiring labor without corresponding production of foodstuffs.

We count the issuance of such a suggestion an error in judgment for several reasons. First, it aims to interfere with the rational procedure of a man who has means for increasing the productiveness of his land as his experience and foresight indicate to be best and if he is dissuaded from this the land is more likely to remain idle or to be unprofitable than to pay its way in other production. This suggestion is, therefore, liable to reduce the planter's incentive or confidence, or both. Second, it obscures the fact that in California, fruit is a staple crop and not an adornment or a luxury. California's greatest contribution to the world's health and sustenance is her fruit product and the current demand from all belligerent countries shows that it is recognized as a food-munition of indispensable character. California can do nothing more forceful to win the war and to help reclaim the world after peace is declared than to increase her food production. Third, all nations are planning for post bellum recovery and re-establishment and are systematically preparing themselves for greater world service. California's distinctive future will be in fruit products, which will reach a value and width of world-distribution which can hardly be overestimated. The United States Government has now trade experts in all parts of the world searching out opportunities for American products in

coming years and private producers are pursuing similar investigations. California has each year vastly increased investments in enterprises to make California fruits fit and acceptable for dietetic staples all over the world. To justify these investments more fruit must be grown and a year's time must not be lost in planting to produce it. Fourth, the labor required in packing and preservation of fruits makes least demand upon the supply of heavy farm labor and is the kind of labor which our urban populations are most willing to perform. It is, therefore, to the advantage to the whole State that planting be not interrupted. Fifth, if the work is well and wisely done, the planting of fruit trees does not prevent the land from yielding an annual food crop, if the moisture supply is adequate, and the chance of counting a good season's growth on his young orchard as a part of his year's income is an added inducement to handle the inter-crop in the best possible way. Our advice is, therefore, do not abandon your idea of planting fruit trees this year. Thus we have given five commandments against obedience to the first of the twenty-five commandments to which we are referring—and we stop right there lest we should get as mad as Moses was when he broke up his whole collection, saving only the carbon copy thereof which mankind has kept on breaking ever since his day.

AN ERROR WHICH PERSISTS.

BUT THOUGH it is easy enough to break the twenty-five commandments to which we refer, it seems almost impossible to expurgate the fundamental error upon which all such commandments as to what farmers should do seem to be projected. That error lies in calling upon every kind of a man but a farmer to formulate things which a farmer should do. A conspicuous embodiment of that error comes first to our attention in the pages of our esteemed contemporary, the California Fruit News, of October 27, where much space is given to a proper exposition of the folly of it. It seems that more than a month ago the California Fruit Exchange adopted a set of resolutions calling the attention of the Government to the shortage of farm labor in California and calling for exemption of farmers from military service in the interest of greater food production. With this call for exemption of farmers as such we have nothing to do in this connection. We are not sure that we believe in or approve it. We are concerned rather with the proposition of the Fruit Exchange that there is not enough qualified farm labor in California to allow the State to reach its maximum food production and the way that indisputable proposition was treated in Washington. Instead of having this clearly agricultural question considered and passed upon by qualified farmers, it was referred to J. W. Sullivan, who is a sort of professional labor-doctor for the Food Administration, and he disposed of the matter out of hand in a communication which

First—declares "with an alleged shortage of labor there is little more than assertion" and proceeds to prove by reference to the California Commission of Labor and the California Commission on Housing and Immigration that "there is ample labor for farm purposes and that the fault lies with the growers"!

Second—declares "the produce handled by your organization is not essential war food and is not to be classed with wheat, corn and meats," showing complete ignorance of the fact that fresh and cured fruits are indissolubly associated.

Third—declares that "resolutions expressed in somewhat similar language to yours have attracted the attention of the Department of Justice" and suggests that "pacifism and pro-Germanism may be looked for as operating behind the scenes in unexpected quarters and misleading loyal victims of conspiracy"!

Such a response to formal action by the directors of the California Fruit Exchange needs no characterization by us, but it does need to be brought to the attention of California farmers to show how absolutely wrong any governmental outfit, state or national, is likely to be when it makes the mistake of taking technical facts and views of farming conditions from those who have no original knowledge of facts and whose views are normally antagonistic to the producing interests of those for whom they are invited to prescribe. It is very unfortunate indeed. Is there any help for it? We see only one possibility and that lies in organization of farmers to make the truth known and respected.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Dodder in Alfalfa.

To the Editor: I have a spot in my alfalfa which the former owner says is "love vine." In the spring it was one foot in diameter, now it is ten. It is a small, stringy vine, which attacks the alfalfa plant at the ground and kills it all as it spreads. It also has a small light bloom, which is rather fragrant. Would like to know how to kill it.—E. T., Chino.

It is some time since we expounded the nature of this common pest of alfalfa and the manner of warfare against it and newer readers may be edified by a review of the subject. Dodder is a parasitic plant which starts from a seed brought in, generally with the alfalfa seed. As soon as this little seedling starting from the ground gets high enough to grasp and entwine an alfalfa stem, it grows into this stem, sending root-like suckers into the tissue of the stem. As soon as it has done this the part near the ground dies and disappears. Dodder is an annual—that is, it has to start every year from the seeds which are freely dropped by the older plants which are attached to the alfalfa. Anything which will prevent its going to seed will kill it off in a year. The usual mowings for hay are too far apart, because the plant blooms and forms seed as it grows; and by the time the alfalfa is ready to cut some of the lower blooms may have formed seed which will be ripe enough to germinate when dried with the hay and dropped to the ground as the hay is gathered up. Dodder can be prevented from blooming and seeding by pasturing close all summer. Another way to kill it off is by burning before the seed ripens. This is sometimes done by spreading straw and burning, but it is easier on a small patch to go over it with a plumber's gasoline torch, burning all you can see of it. If blooming is prevented the dodder will disappear. It does not spread from field to field in any mysterious way, by wind, etc. Never allow animals to pasture clean alfalfa after grazing doddered fields.

Slowing Down Fig Trees.

To the Editor: I wish to plant figs on land now in wine grapes. I have enough Calimyrna cuttings cut from my own trees last spring now in nursery row on very rich, sub-irrigated land. They are 6 to 7 feet high now and are still growing. Shall I cut off the top to avoid freezing? If so, how much will I cut off and when shall I do it? Should I put barnyard manure around the trees on top of the ground after planting? When should I plant them out? I intended to plant them 20 feet apart in rows that are 40 feet apart, as the vines are 10x10. Is that about right? Would you advise me to divide the orchard and plant some "White Adriatic" and "Mission"?—F. M. W., Clovis.

We would furrow out between the rows deeply to dry the soil and remind the young things it is time to quit. We would not cut back in preparation for a frost which may not come until the trees are mature enough to stand it. If the frost does come, you can then cut below the frosted parts. As your trees will be late in reaching dormancy, we would not plant them out until the coldest weather is over—say in February, when the ground is in good condition. Your way of planting and mulching is all right. You must use your own judgment about hedging your bets with other varieties: we do not know. Of course, you will arrange for capri trees with your Calimyrnas.

Shall We Pasture the Vineyard?

To the Editor: Do you consider it advisable to pasture one's vineyard in the winter after the grapes are off? I contend that it does great injury by doing away with the green cover crop, but my husband thinks it a profitable thing to do. I do not believe that the amount saved in feed nearly pays the damage.—B. O. E., Lodi.

We are not aware that the old question of the desirability of pasturing a vineyard has ever been determined by careful comparative observation. We can only offer you a set of opinions in answer to your query. A limited number of sheep, after the crop is off and the leaves show by yellowing the end of their activity, may be desirable in cleaning up and their droppings considered a saving of organic matter which might otherwise be blown away and lost. But too many hungry sheep, or fewer sheep kept on too long, would be likely to injure the vines by tearing out canes, etc. Cattle also injure low headed vines by trampling.

As for pasturing the vineyard on the green stuff which comes after the rains, we would not do it. The tread of the animals on the moist ground plugs down the surface so tight that it is almost impossible to get good cultivation, if the land is inclined to be heavy, and the droppings of the animals are no adequate compensation for the lost value of the green stuff as a cover crop. With this cover crop plowed in, the soil will become each year more rich and mellow, while pasturing when moist makes the soil each year more hateful.

How About the Walnut?

To the Editor: How is the walnut outlook for the future? What kind of soil is best for them, and what variety is best?—Reader, Chino.

We consider the walnut one of the surest of our fruits to meet a profitable and increasing demand. It is the grandest commercial nut that grows and the demand arising from its recognition as a staple in culinary and confectionery supplies has no adequate supply in plantings so far undertaken. Walnuts should only be planted on deep, well-drained soils and with assurance of adequate moisture supply either by rainfall or irrigation. There is nothing satisfactory to be expected from starved or famished trees. Which variety is best to plant is somewhat of a local question, based upon local experience, which every planter should diligently look into—always, however, with regard to the production of a good commercial type in connection with the productivity of the trees. There is no more reason to expect that all California will have one universally accepted variety of walnut than all California will agree on a single peach.

Sunburned Walnuts.

To the Editor: On my black walnuts during the last two years the leaves turn brown, as if they were burnt and the trees have no nuts on them. If I top them, would it help them, or would they come out again in the same way?—K. C. L., Selma.

Both the Eastern and Northern California black walnut are subject to leaf-failure of the kind you describe in the hottest parts of the interior valley. Sometimes it is so little as to be negligible, sometimes it is serious. It is usually worse on shallow land over hardpan or over gravel and is attributable in both cases to lack of adequate and regular moisture for the best root-action. In the case of hardpan blasting in a proper way near the trees would be rational. In the case of a leachy subsoil irrigation would be indicated. It is also possible that alkali might throw the trees into distress. We apprehend that cutting back without changing soil conditions would be of no permanent benefit.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., October 30, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	.68	3.87	58	42
Red Bluff	...	.80	2.35	84	48
Sacramento	...	.51	1.41	86	42
San Francisco	...	.02	1.54	86	50
San Jose	...	.01	1.25	86	38
Fresno	...	...	.97	82	46
San Luis Obispo	...	.09	1.79	86	44
Los Angeles	...	...	.81	76	54
San Diego	...	.16	.50	68	48

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

SIZES OF WALNUT GRADES.

To the Editor: What sizes are the various grades of walnuts and do the graders have square or round holes?—F. T. P., Calistoga.

Budded walnuts are those of a distinct budded variety as distinguished from seedlings of the common "Soft Shell." Fancy Budded nuts pass over, but not through, a square-mesh screen 1 1/16 inches across. Standard Budded pass through this and may average slightly smaller than No. 1 Soft Shells. No. 1 Soft Shells pass over a square-mesh screen of 1 inch. No. 2 Soft Shells pass through a 1-inch square mesh, but not through ¾-inch. Jumbos are taken out of No. 1 Soft Shells by running them over a screen of 1¼-inch mesh. There is also a "cracking percentage" which last year was 87 per cent. This means that large samples cracked must show 87 per cent of good meats. The color of meats also has two or three grades.

APPLES WITH "BALDWIN SPOT."

To the Editor: I send some apples which are infested with ugly spots on the skin. What is the treatment?—J. F., Castroville.

These apples seem to have a trouble which we have called Bitter Pit, or Baldwin Spot, the characteristic feature of which is that there are brown, dry spots in the flesh of the apple, occurring usually towards the blossom end more than towards the stem end. Sometimes these dry spots are deep in the flesh, but more usually they are just below the skin. A very considerable amount of study has been given to this trouble of the apple, but as yet no very simple nor entirely satisfactory explanation has been given as to the cause and nature of this disease. About all that we can do usually is to recommend good care of the trees and hope that the trouble may improve.

University of California, Berkeley.

PRUNING TRELLISED BERRIES.

Winter pruning of Mammoth and Loganberries is to take out all the wood that has borne fruit and to cut off the late growth, which sometimes continues to mid-November. This is often slender and undeveloped, so it would not bear good fruit anyway. In the Sebastopol district the pruning and trellising usually begin about December 1. If done too soon after the vines quit growing, they are brittle and cannot be properly twisted around the wires.

BLACK SCALE ON OLIVES.

"The best time to kill black scale on olives is during the period just following hatching, usually in August and September, but fair results may be expected any time from the middle of August to the first of January," says Prof. E. O. Essig in a University of California bulletin recently issued. "A noticeable amount of smutting on the leaves and fruit is sufficient evidence to warrant spraying. Normally the dormant sprays for deciduous fruit trees are used, but it is advisable in most cases to reduce their strength one-fourth to one-third, especially if the fruit is well matured on the trees."

DECIDUOUS OUTSTRIPPING CITRUS PLANTING.

The annual report of Horticultural Commissioner Sharp makes the total acreage of deciduous fruits now in Riverside county 28,076 and citrus fruits 25,726 acres. Thus showing that the deciduous fruit interest has outgrown that of the citrus industry. The gain was made in the new planting this year. The deciduous acreage having increased 2,519 acres against citrus fruits 450. There were 1,188 acres of apricots planted the past year, making 9,270 acres in all. The acreage of other fruit is: Apples, 3,762; almonds, 1,723; cherries, 492; grapes, 2,645; olives, 2,338; peaches, 3,660; prunes, 666; pears, 1,001; and walnuts, 2,300.

IMPERIALS ON ELBERTAS.

Imperial prunes grafted three years ago on Elberta peach trees planted two years previously by Will Beresford and his father of Tehama county show fine unions with the stumps, many entirely covered over and around with the prune growth, and others just closing up the last little opening. The prune wood seems to be growing faster than the peach.

FUMIGATION IN TULARE.

Reports from Lindsay say that fumigation work against gray scale in the Lindsay district has been completed for the year 1917. A total of 4,000 acres bearing orchards have been treated against 3,000 acres last year. A large per cent of the scale has been killed. The cost of the fumigation is put at $100,000.

PEACH BORER LIKES MYROBALAN.

A note recently published saying that myrobalan roots are not attacked by peach borer is wrong, according to G. E. Merrill of Santa Clara county, who says they attack myrobalan freely, though perhaps not so much as peach and almond roots.

VIGOROUS SPROUTS ROB WEAKER.

Where a vigorous peach sprout comes out of a weak-growing one, it will make the weak one die back; and the sooner the latter is cut out the better, according to F. F. Ebert of San Diego county. The vigorous one takes the sap because it is nearer the root. If you want to save the original, cut off the new shoot early.

CALIFORNIA'S APPLE CROP SHOWS SLIGHT INCREASE OVER LAST YEAR.

J. C. Folger, Assistant Fruit Crop Specialist for the Western States, U. S. Bureau of Crop Estimates, says that the Watsonville district is estimated with nearly a full crop, or about [illegible],000 cars, the bulk of the California crop. The varieties are chiefly Bellflower and Newtown Pippin. Taken with the Sebastopol Gravenstein section in Sonoma county, the State figure shows a 1 per cent increase over last year. A large portion of the apple crop is being used for drying.

GOLDEN SEAL PLANTS
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TREE PROTECTORS
THAT REALLY PROTECT
Fitted with Galvanized Wire Ties that go all the way around the tree.
PRICES PER THOUSAND
Seven inches wide
10 inches long..$9.00 18 inches long..$12.50
12 inches long.. 9.50 20 inches long.. 15.00
14 inches long..10.50 24 inches long.. 17.50
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DEALERS—Write us today for our Sales Proposition.

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ONE NUSYSTEM GUN ONE LINE OF HOSE ONE MAN ONE DAY DOES THE WORK OF FOUR NOZZLES TWO RODS TWO LINES OF HOSE TWO MEN TWO DAYS
SAVES
LABOR ONE MAN WITH A NUSYSTEM GUN DOES THE WORK OF TWO MEN USING REGULAR NOZZLES.
TIME ONE MAN DOES FOUR MEN'S WORK. ALL THE SPRAYING IS DONE FROM THE GROUND HENCE NO LOST TIME, NO LOST LABOR, NO INCONVENIENCE FROM WORKING RODS AROUND AMONGST THE BRANCHES.
MATERIAL AS A RESULT OF THE RAPIDITY AND EASE IN DOING THE WORK LESS MATERIAL WILL BE USED.
100% MORE EFFICIENT THAN RODS AND NOZZLES
"FRIEND" NUSYSTEM SPRAY GUN PATENTED
SPRAY COARSE OR MIST
WRITE FOR CIRCULARS AND PRICES TO
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LINE OF HOSE FROM SPRAY PUMP

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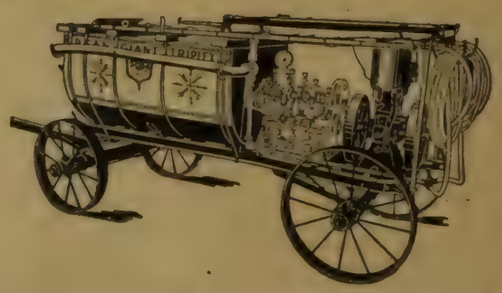

Begin to investigate NOW the sprayer you are going to use this winter. When you decide, be sure you are making an investment of permanent value—that you will get an outfit that will do what others cannot do and will save time and trouble, and make money for you for years to come. That is just what you get in the

Bean POWER SPRAYER
The 10-point sprayer

You should know about Bean Porcelain Lined Cylinders, the Bean Pressure Regulator, the Pump without a stuffing box, Bean Underneath Suction, the Bean Refiller, Bean Eccentrics, the Bean Rocking Bolster, Bean interchangeable parts and Bean threadless ball valves.

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Send me the Bean Sprayer Catalog. I have .....acres of..... I am interested in ☐ hand pumps ☐ power sprayers ☐ accessories.
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Frost Pots in Frostless Belt

[Written for Pacific Rural Press.]

Real estate men wanted to mob C. E. Needham for disgracing his "frostless" community in Los Angeles county by installing frost pots among 26 acres of lemon trees in 1911. But he had become acquainted with frost by its effects on tomatoes he had been growing there for six years. He had usually been able to ship tomatoes until Christmas; but they had once been killed in November and once in January. Mr. Needham figured that while the lemon leaves and fruit had not been killed, the repetition of cool nights had reduced their vitality. So a one-gallon Bolton heater was put in for every tree, figuring that if they did freeze, the smudge would permit slow thawing and less damage. During the first year the pots were not lighted, much to the delight of the real estate men. Next year, during the big freeze, he kept a wagon constantly busy refilling them, and, much to his delight, he got better returns from that crop than the average as figured later for the seven years ending in 1916. The crop in 1911-12 had been 7,800 boxes; in 1912-13 it was 8,800 boxes; in 1913-14 it was 9,000 boxes. Right after the big freeze, he installed a seven-gallon heater for every tree. Although he has not had over half of these lit at one time, they have saved enough fruit for summer markets to make Mr. Needham smile whenever he thinks of the investment.

Elastic Wax for Peach Grafting

[Written for Pacific Rural Press.]

To the Editor: If G. W. C., Santa Rosa, will use asphaltum, sold by the Standard Oil Co., for this purpose he will have very little trouble in grafting over old peaches. I have used it several years and seldom fail to make a solid connection, as the asphaltum keeps pliable all the first season. No binding strips are required.

MAKING THE WAX.

I take as much as I am likely to need for the season, and add to it one-third in bulk of resin, melt the two together over a small one-wick oil stove. This I carry in an oil can which has an opening on one side at the bottom to keep the lamp cool. Stir the above mixture while hot until the ingredients are thoroughly mixed, and after that simply keep it hot enough to run readily and smoothly over the graft and stock.

Last spring I cut down a German prune and put in 68 French prune grafts on branches about 1½ inches in diameter, in 2½ hours' time, and every one of them grew, as did also scores of others with the exception of about a dozen almonds that were caught by the frost that killed every almond in the orchard.

San Jose. SAMUEL HAIGH.

LENGTHENING THE PHILLIPS CLING SEASON.

To the Editor: The peaches I send you are from a three-year-old Phillips Cling seedling tree that is growing where it came up in the yard of Mr. John Quin in Corning. The tree has never been pruned, cultivated or irrigated. My opinion is that it could be used to prolong the Phillips Cling season. I know of another seedling that ripens a week or ten days earlier than the Phillips. I think it a cross between Phillips and Lovell freestone. It is a better peach than Phillips or those which I am sending you.—G. H. Flournoy, Corning.

[The peaches which Mr. Flournoy refers to were received September 30 and were then in prime condition. They have the good points of Phillips in form, texture, color-free at the pit, etc. Mr. Flournoy does not give the ripening date of the original Phillips at Corning, but evidently he finds this seedling considerably later. We have not seen the other peach to which Mr. Flournoy alludes, but his notice should attract the attention of propagators to it. Mr. Flournoy is a good judge of a peach.—Editor.]

REJUVENATED PLUM TREES.

Three rows of Burbank plums on a corner of Hughes Madeley's ranch in Placer county had not been making growth but had an over-abundance of small fruit, though foliage was sick and thin. The light soil wouldn't grow bur clover. Two years ago he applied a heavy coat of manure and about 25 pounds of air-slacked lime per tree. Last winter only manure was used, but bur clover grew so rank that Mr. Madeley believes it would have made two tons of hay per acre, "the cheapest manure there is." The trees bore a light crop on account of frost; but they had spurs for a heavy crop and practically all of them are now in good health, with plenty of dark, thrifty foliage.

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OLIVES AND GRAPE VINES

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Trees are in first-class condition—no better in the country. There is also on the place a new, modern cottage, well with tank, tank-house, engine and pump and tool shed.

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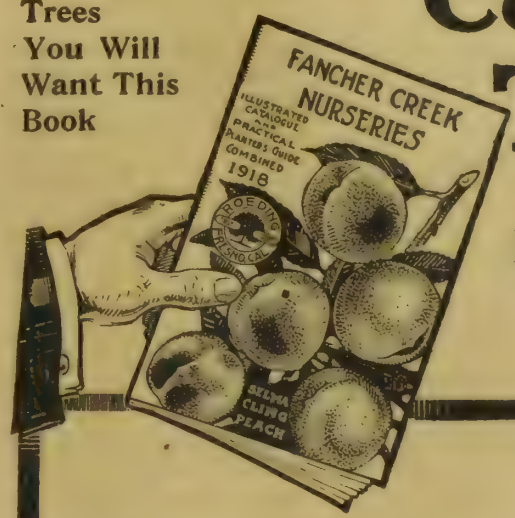

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THE personal experience of Mr. Geo. C. Roeding for nearly one-third of a century in fruit growing, together with the experience of many of the leading successful fruit growers in California and elsewhere, has been carefully compiled and reduced to as few words as possible, in plain understandable language, to tell the methods that are being used.

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BEGINNING RIGHT—In this chapter full information is given regarding the best methods of planting. Tells how to prepare the ground, to plant the trees, to irrigate and in every way get the right start.

NEW INFORMATION—All of the new information gained from experience in relation to handling of soils, cultivating, irrigating and pruning, which has taken much time and cost much to gather, is written and illustrated.

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Please send copy of your Catalog and Planter's Guide.

Name .....

P. O. .....County.....

Street or R. F. D. .....State.....

I expect to plant.....acres

to .....trees

Spraying Makes Bigger Fruit Crops

(Continued from first page.)

directions, beginning about the middle of November and finishing the last of December. (Over 70 acres were sprayed, using about 95 barrels of the commercial emulsion. The 70-odd acres included 3,000 trees planted within the past three years. A clearly defined section of the orchard on slightly lower ground and not plowed so deeply last spring, budded well, but the buds turned brown as if frosted in the cool weather when they were tender last spring. This section matured less than a ton green per acre and are not considered above.)

Mr. Johnson's delight with the results of spraying are repeated all over the land where there are insects or fungous diseases which injure fruit and trees.

SPRAY BEFORE DAMAGE BEGINS.

Practically all the fungous diseases must be sprayed before they appear. Every spring we are swamped with bugs, worms, diseased and malformed leaves, fruits, and twigs. We are glad our readers look to us for advice in their troubles, but if most of those who receive our answer, "We are sorry to advise that it is too late to remedy your injury this season," had watched Pacific Rural Press headlines regularly they would have seen a notice in time to spray and prevent the troubles that will inevitably reduce their crops and weaken their trees for future bearing. Already this fall we have printed two paragraphs saying that those who have almonds, prunes, plums, apricots, or peaches that have been touched by shothole fungus or peach blight should be sure to spray thoroughly with Bordeaux about 5-5-50 shortly before heavy rains commence and certainly not later than December 15.

SPRAY THESE IN EARLY SPRING.

Peach curl leaf is another disease of which we get a multitude of samples when it is too late to prevent. Watch for our note which will appear early next spring shortly before the time to spray for it. Other troubles not necessary to spray until shortly before the buds swell in the spring are pear and apple scab, apple mildew, peach worm, thrips, black peach aphis, warty spots on walnut leaves, grape mildew, potato bugs, spring canker worms, red spider, cutworms, blackened spots on pear leaves, grape leaf hoppers et al. Troubles to spray for from now on include most of the scales, brown mites, moss, and most kinds of aphis.

Spraying pear orchard in Mendocino county. Sprayers keeping two men busy at the nozzles, with adequate pressure kept up by gasoline power, should be used at the first opportunity after most of the leaves are off.

SPRAY THESE IN FALL OR WINTER.

For most scales the best winter spray is crude oil emulsion containing 12 to 15 per cent of oil or miscible oils diluted according to manufacturers' directions. Brown apricot scale are the most common, though Italian pear scale, hiding under moss, are more common than usually supposed. San Jose scale, the terror of the fruit industry a few years ago, are readily controlled by winter spraying with lime sulphur 8 to 1. They are known by their symmetrically nippled shape and ashy color en masse. Black scale do not infest deciduous trees so much, but crude oil is good for their control. On olives, distillate emulsion is necessary because crude oil clogs the pores of leaves. For moss on the trees, lime sulphur is probably the best, especially as it is effective on Italian pear scale under moss.

ORDER PUMPS AND MATERIALS EARLY.

Spray rigs are going to be hard to obtain this year, one manufacturer having told us that a 50 per cent rise took place in July, 1917; but that all outfits in stock at that time would go at the old prices. Cooperative buying and use of power machines is suggested, for that system has worked out well in some districts. Otherwise it will be wise to contract now for use of a rig.

The strength of a spray is less of a factor in injuring trees than their condition of internal moisture. The spray that kills insects and disease spores will kill the cells of cambium if it penetrates that far.

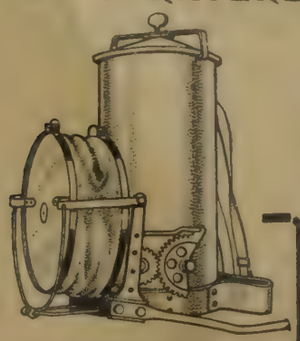
EARLY SPRAYING SUREST.

In a season of short labor supply the spraying will have to be done when it can, therefore the first opportunity after leaves have fallen is the best opportunity, even if we waste some spray on branches that will be pruned off later. There is good chance later for greater waste anyhow if the sprayers have to pull hose around through mud; and they will probably then miss enough to infest the orchard seriously next season. The longer crude oil emulsion remains on the tree if it has a day of good drying weather before a rain, the closer it will clean up the scale and aphis eggs. Delay of spraying until spring, when scale are loosening and eggs are hatching, sounds nice theoretically, but there is too short a period then when the work can be done effectively, and too much chance that weather or labor difficulties will prevent spraying entirely.

NECESSITIES IN SPRAYING.

Sustained pressure of 200 pounds, an angle nozzle that delivers a sheet of spray, special attention to twigs and crevices or hiding places for insects, and enough spray so it starts to run down all sides of the branches, agile feet that take the sprayer all around the tree, constant agitation of the spray, and emptying of the hose before any long stops, these are prime necessities in making spraying pay.

AMERICAN BEAUTY DUST SPRAYERS



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Crude Oil Emulsion

No matter what Universal Spray you order you can be sure that it is dependable—uniform in quality—and made under the direction of trained laboratory and field men.

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Contains 18 per cent Nitrogen—immediately available. No waiting for earth action. The nitrogen is taken up by the plants IMMEDIATELY.
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What the Farmers' Union is Aiming At

[Written for Pacific Rural Press by J. M. Cochrane of Modesto.]

Your editorials of October 6 and 13 were carefully read. Your ideas are conservative in these times of change. Conservatism on old lines of principle, honesty, and fair dealing is what we are seeking. If those qualities are lacking it is our duty to attempt to secure their return.

Every paper you read says we are lacking in food distribution. Destruction of food to boost prices proves that we are lacking. The difference of food (and other articles) prices to producers and prices paid by consumers bears out the contention.

National Food Administrator Hoover and Ralph Merritt, California representative, assert the lack and are seeking remedies. As a member of Farmers' Union committee, but not speaking with authority, it is my hope that our committees can further the return of above qualities and aid food administrators.

Our organizations are composed of producers. The Federation of Labor is also a great body of consumers. The co-operators of the two may devise plans that will work to our mutual benefit. We wish to swat the food hog. We do not wish to injure men who are living rightly. We accept price fixing of farmers' wheat and wish it extended to all necessities to aid war plans.

The Farmers' Union has local warehouses, also a warehouse commission firm that they work with in San Francisco. Cannot producer and consumer save excessive profits to middlemen by acting together?

In the May issue of Bryan's Commoner, page 9, I notice that Commissioner Thelen states the railways may have to be taken over by the Government.

As a member of the committee which you term the "tail," it is not my wish to "wag the dog." I believe in democracy everywhere. I wish to carry out only what is approved of by farmers represented in the Farmers' Union. We believe the U. S. must win the war and will do our bit.

You made an error in naming committee members. The permanent committees are the president and secretary of each organization, and for the Federation of Labor W. W. Harris, J. J. Matheson, H. J. Rogers; for Farmers' Union (subject to approval by State Farmers' Union), W. S. Breton, H. Kammerer, J. M. Cochrane; for Co-operators' League (subject to approval), C. E. Todd, T. E. Zant, R. P. Brubaker.

Farmer Gets Wheat Prices, Less Freight

[Written for Pacific Rural Press.]

"What price can I get for my wheat under the law?" is a question being asked by many these days. We have taken up the matter in detail with R. A. Lewin, who is the head of the Food Administration Grain Corporation for the Twelfth District, including California, Nevada, and Arizona.

The basic price of wheat is first determined by its grade, as announced in Pacific Rural Press October 20. Next, it is determined by the freight rate from San Francisco or Los Angeles to the mill you sell to. Mills can pay only the basic price, less the amount of the freight which they would have to pay if they got the grain from San Francisco bay points or Los Angeles. For example: If you live in the San Joaquin Valley or the Sacramento Valley and sell to a Stockton mill, the freight from San Francisco to Stockton being 5½c per cwt. in carloads of 30,000 pounds or over, the mill can pay you $3.50 per cwt., less 5½c, or $3.44½ net for hard white wheat, delivered in Stockton, but still deducting fixed amounts if it grades lower than the best. You must pay the freight to the mill from your ranch. If you live nearer San Francisco or Los Angeles, you can ship there as outlined October 20. You are allowed 6 2-3c for sacks, less tare for their weight. If a dealer sells to the mill, he has to make the same calculations.

DISTANCE REDUCES PRICE.

One situation which seems to be an inequality under the present system may be illustrated by mentioning the Nevada wheat grower, who has been selling to a Nevada mill. Under the rule, the Nevada mill can pay him on the basis of $3.50 for the best wheat, less the freight from San Francisco to the Nevada mill. Each mill is allowed only a certain profit, so the mill which buys for less cannot make selfish use of that advantage. Mills of less than 75 barrels capacity per day are not subject to the Grain Corporation rules and prices, though they may be cut off from supplies of wheat from the Corporation in case they do not patriotically fall in line and conform to the rules for larger mills.

WHEAT MILLED IN AMERICA.

It is the plan of the Food Administration to encourage milling all the wheat possible in this country to keep the profits here and reserve the by-products, such as bran, etc., to be used for stock feed to increase production of meat, fat, and milk. Practically all wheat raised in California is to be milled in California, according to the Administration plans, only a very little having been sent out to a northern cereal mill.

MESQUITE BEANS FOR MULES.

Mesquite beans litter the ground under trees about this time of year; and by the experience of Houghton & Simpson of Imperial county last fall they may greatly cheapen the cost of mule feed and perhaps improve it. The beans in their pods were piled up convenient to the kaffir corn pile. Each mule, while working, received three times per day all the kaffir heads a man could easily pick up in two hands, with the same amount of mesquite beans. Twenty-five pounds of hay per day completed the ration, which thus had a good proportion of protein, which is very desirable here. The beans replaced an equal amount of kaffir, and the mules were in good shape after several weeks of such feed.

IRRIGATES LETTUCE FREQUENTLY.

Imperial Valley lettuce will need irrigation every week if weather is hot, aiming to keep the ground moist by cultivation as soon as possible after every irrigation.

A movement is on foot to organize a County Farm Bureau in Los Angeles county, with the object of obtaining expert co-operation from a Government corps of 7,800 specialists in agriculture.

Old Style Grafting

Ruins Trees
Destroys Crops
Grafts often broken by wind
Limbs split and decay

Our Method of Side Grafting

Remedies all this. Saves wax. Saves labor. Grafts grow better and mature sooner than by any other method. It will work over your Grapes and Citrus Fruits with practically perfect results.

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When you think of Alfalfa Seed you say, well, I won't need any until spring, so I will wait until then and buy. Not so fast, Mr. Rancher; maybe you will and maybe you will not.

Times have changed. Seeds, like other staples, have advanced. And this very advance and demand means, with a small crop in 1917, that things will buzz later on. Note the big advances on Alfalfa Seed the past month. What will it be later on?

We handle this seed in great quantity, both retail and wholesale. Years of experience have made us the Alfalfa kings of the West. We know what you need, if you will tell us what your soil is. California grown seeds are our hobby as well as our business, while

ALFALFA SEED IS OUR SPECIALTY.

WRITE, WIRE or phone for samples, quotations, etc.

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Alfalfa Seed — Melilotus Seed
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LOS ANGELES, CAL.
"Fertilizer Dept."

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

STRAINS LARGELY BORNE BY BEARINGS.

[By J. B. Castino.]

What happens when a tractor strikes a rock or stump or drops into a furrow? Are undue strains then placed upon the vital part of the mechanism? These loads, strains, and vibrations are carried to a large extent by the bearings.

Bearings fall into three classifications—plain, roller, and ball-bearing. Each type, of course, has its field of usefulness, but the ball-bearing has now been recognized as the most satisfactory for use in the transmission and jack shaft (including gear and worm drive) of tractors. Exhaustive tests made under the auspices of the American Society of Mechanical Engineers show the friction of ball bearings to be but one-quarter as much as that of the type of bearing of next highest efficiency.

Ball-bearings in general consist of steel balls revolving between an inner and an outer race, the balls being held in position by a suitable retainer. The balls and races should be made of the best obtainable steel and must be accurately and finely finished. Swedish crucible steel is considered the best for this purpose. In one make of these, a double row of balls is used. The staggered relation of the balls in two rows permits the use of nearly twice as many balls and thus reduces the load per ball. The inner race contains two grooves in which the balls travel. These grooves are ground to a radius slightly larger than the radius of the balls. The inner surface of the outer race is spherically ground so that all points on this surface are equal distant from the center of rotation of the bearing. The ball retainer is made in one piece. This gives thorough retaining power, perfect spacing of the balls, ample strength and elasticity. The assembly of the retainer with the inner race forms small chambers in which the balls are placed and which keeps the balls in position without in any way interfering with their freedom to rotate.

A necessary feature for ball-bearings used in tractors is that they should be self-aligning—i. e., that deflections in the shaft or mechanism shall not bind the balls; and it will be noticed in the construction just described that the balls and inner races are free to rotate with a pure rolling motion, at any angle within the spherical outer race without subjecting the bearing to any strains. This alignment is entirely automatic and is very similar in theory to a ball and socket. The importance of this self-alignment cannot be over-estimated. Anyone who has ever attempted to turn a mis-aligned shaft in a rigid bearing will appreciate this point. Without this self-aligning feature the shafts would not "give" and each time the tractor ran on uneven ground strains would be placed upon the bearings which would cause rapid wear or complete destruction, resulting in costly replacements and time lost.

Unless proper bearings are used, it will be necessary to dismantle the transmission to replace the worn out bearings, and this may occur when plowing, harvesting and tilling, and the cost of the delay will exceed the original cost of the ball-bearings.

CHAIN TIRES LOOSELY.

[Written for Pacific Rural Press.]

In applying chains to tires, leave the cross chains loose enough so they do not touch the tire along the same line every time. That would and does wear weak spots quickly, while leaving chains loose distributes the wear.

ENGINE CHOPS POULTRY LITTER.

Litter was keeping chickens healthy for C. V. Hall in San Diego county last winter and a 2-horsepower engine made the litter from wheat straw. When greens were scarce, litter was made from alfalfa, and the poultry ate part of it.

PERFECTION OIL HEATER

DITCHES

Make the New and Clean the Old—irrigation or drain, grade roads, build dykes—in any kind of soil, sand, rocks or gumbo, wet or dry, on side hill or level ground with

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SOLD ON 10 DAYS TRIAL

All steel. Made in 2, 4 and 6 horse and tractor sizes. Economical from first cost on. Over fifteen thousand satisfied customers. No farm or ranch outfit complete without a "MARTIN." Use one a day and you'll agree.

Write for catalog and list of users near you. No charge, no obligation; postal will do.

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Red Crown's continuous chain of boiling points insures maximum power and mileage.

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The Gasoline of Quality

RED CROWN GASOLINE

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There's more time for the plowing after the harvest, before the rains come, than there is in the spring after the rainy season. Many very successful farmers plow when the ground is hard and dry. They plow deep, turn up eight to twelve inches of good soil for the air and rain to melt into a muddle.

It pays to use power enough to plow dry land deep—the Yuba way.

We'll be glad to send you the names of scores of farmers who plow dry land, and plow it deep. Send for catalog, Dept. A5.

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Watchful Sentinels that never sleep guard all O. A. & E. Ry. trains between San Francisco and Sacramento.

The electric automatic block signal system is operated with such a degree of accuracy and watchfulness as to seem almost superhuman. Out of an average of 300,000 indications each month, not a single false movement was registered.

"98% of all trains are on time"

Oakland, Antioch & Eastern Railway
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TRACK-TYPE FORD ATTACHMENT.

[Written for Pacific Rural Press.]

A track type tractor attachment for Ford cars attracted much attention by parading among the crowds at the State Fair. The two tracks were located under the rear axle, on each end of which was a pinion working inside of a wheel turning the tractor axle, which was separate. The tractor axle had fixed drive wheels which forced the track around and gave the outfit a speed varying from about two to five miles per hour.

TWO TRACTORS OR ONE?

[Written for Pacific Rural Press.]

Whether to tie up all of one's tractor investment in one large machine or in two smaller ones depends partly on whether there is help to keep the small ones going. It is pointed out by one user of a large machine that if anything breaks everything stops, while if he had two small ones one would keep on working. For smaller jobs also there is less wear on a small machine if not overloaded than on a bigger one than is needed.

POWER FOR PLOWING.

[Written for Pacific Rural Press.]

It requires seven to ten pounds of power per square inch of furrow cross-section to pull a plow through California stubble fields as soon as they are plowable in the spring, according to Prof. J. B. Davidson of University Farm. To do the same work in Iowa requires three and a half to five pounds. Grain soil seems to average heavier and tighter here.

CUT AUTO SEAT FOR BED.

[Written for Pacific Rural Press.]

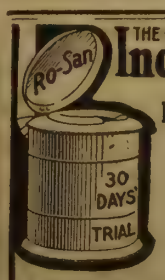
In cutting the back out of the front seat in an automobile for the purpose of laying it like a Pullman bed to camp in, be sure it is cut far enough down so there will be no bump for you to lie on, says W. D. Guthrie of Monterey county, who has had long experience with one.

REMOVABLE PIN AND BUSHING IN TRACTOR TRACK.

Both the pin and its bushing in the track of the Cleveland tractor are removable so they can be reversed and worn on both sides, then thrown away and new ones inserted. A new track is not needed until the shoes of the old one are worn out.

Sometimes a poor fellow imagines himself like an old wagon—needing constant soaking to make it firm.

"A tractor driver needs a good deal of mechanical judgment, but not too much mechanical egotism."



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Eliminates the out-house, open vault and cess-pool, which are breeding places for germs. Have a warm, sanitary, odorless toilet right in your house. No going out in cold weather. A boon to invalids. Endorsed by State Boards of Health.
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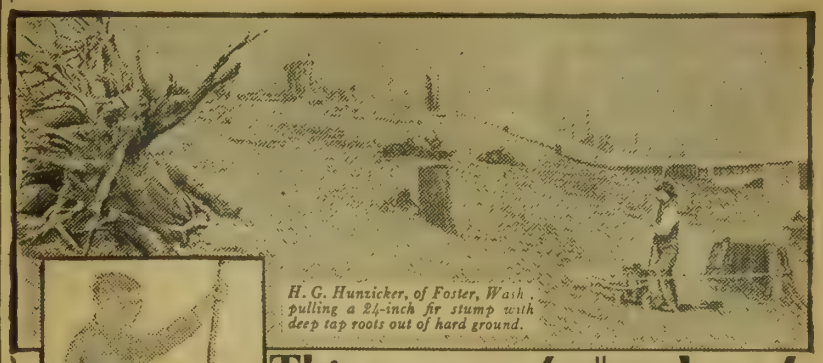
Ask about the Ro-San Washstand—Hot and Cold Running Water Without Plumbing

The General Motors Corporation, who now control the Samson Sieve Grip Tractor Co., have an order for 8,000 tractors going to France.


H. G. Hunzicker, of Foster, Wash., pulling a 24-inch fir stump with deep tap roots out of hard ground.

Showing easy lever operation

This man made $35 Land Worth $200 an acre Pulling Big stumps by hand

CLEAR your stump land cheaply—no digging, no expense for teams or powder. Your own right arm on the lever of the "K" Stump Puller can rip out any stump that can be pulled with the best inch steel cable. I guarantee it. I refer you to U. S. Government officials. I give highest banking references.

HAND POWER K Stump Puller

One man with a "K" can outpull 16 horses. Works by leverage—same principle as a jack. 100 lbs. pull on the lever gives a 48-ton pull on the stump. Made of best steel—guaranteed against breakage. Has two speeds—60 ft. per minute for hauling in cable or for small stumps—slow speed for heavy pulls. Works equally well on hillsides or marshes where horses cannot go.

Write me today for special offer and free booklet on Land Clearing.

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American Centrifugal Pump
With Combination Elbow and Check Valve
GIVE BEST RESULTS
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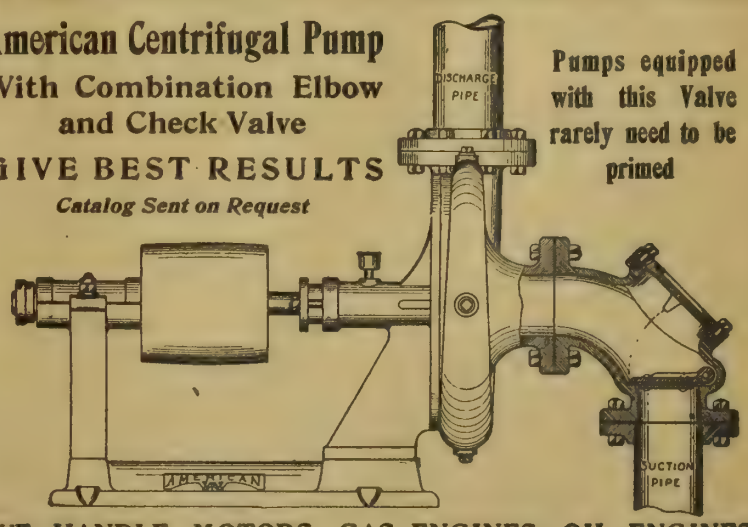
Pumps equipped with this Valve rarely need to be primed



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I Save You $15 to $200

General Agricultural Review

Field Crops.

The sale of lima beans at $14 per hundred is announced in Ventura county.

About 40,000 acres of peppers were grown this year around Garden Grove, Orange county.

The bean crop in San Luis Obispo and Santa Barbara counties is averaging about 1,000 pounds to the acre.

It is thought the bean crop from the Porterville district will be between 12,000 and 15,000 bags for the season.

The Oregon crop of seed potatoes is not over 40 to 50 per cent of normal, according to H. A. Hyde of Watsonville.

Results from the rice harvest on the Princeton Rice Company's land have set a high-water mark in the rice industry.

Despite the heavy shortage in the present hop crop some growers are selling hops at a price below that offered a few weeks ago.

According to the Pacific Coast Packer, the bean crop for this year in California is estimated at 6,480,000 bushels as against 4,175,000 bushels in 1916.

James Guitar of Colorado, Texas, and a couple of Calexico men are to build a cotton gin at Calexico to cost $50,000. Work on the plant will begin at once.

News comes from El Centro that truancy officer Swanson, on a tour of the cotton district of the valley, found 450 children of school age working in the cotton fields instead of being in school.

California railroads have been requested by the Food Administration to discontinue loading barley for the present to make available the car supply for handling important foodstuffs now delayed on account of the car shortage.

A branch of the Federal Land Bank of Berkeley has been opened temporarily in Los Angeles, with offices in the Citizens' National Bank Building. The branch will remain open for about thirty days.

The Inter-California Railway is giving a new daily service between Calexico and Bataques, a station thirty miles southeast of Calexico, for the special benefit of cotton growers in the Delta lands lying along the line of the railroad in lower California.

At Hynes a movement has been started looking to the draining of 50,000 acres of swamp land lying between Downey and the Pacific ocean and converting it into beet fields. The plan is to organize a drainage district for the tract, the expenses to be met by the assessments.

News comes from Calexico of a move to establish a large co-operative cotton gin and oil crusher there to meet the threats of a company controlling a number of gins in the Imperial Valley, who announce that they would gin no more cotton unless growers consented to sell them the cotton seed at $50 per ton.

It is announced from Santa Ana that members of the Beet Growers' Association of Southern California have refused to sign the new contract offered by the Southern California sugar factories. It is said that none of the owners and lessees of 65,000 acres belonging to the Association will sign the contracts which propose $7 per ton for beets testing 15 per cent if sugar sells for 7c. Growers are holding out for $7.50 per ton.

Deciduous Fruits and Nuts.

A car of peaches recently sent out of Oakdale weighed 87,000 pounds.

The biggest crop in the history of the almond industry in the Oakdale section will be sent out this year.

It is reported that the Government has fixed the price of peaches at 7½c. Large orders are reported from the Government for this fruit.

Upham Bros. expect to tank about 40,000 gallons of apple cider this year from their orchard in the Alhambra Valley, Contra Costa county.

The California Prune and Apricot Growers, Inc., have sent 15,000 sacks to Contra Costa county to receive the prunes that will be shipped from there to the company's warehouse at Niles.

The same influence, hot winds, that cut short the walnut crop worked against the almond crop in Los Angeles county, which is said by Horticultural Commissioner Wood to be much below the average. He estimates the yield in Los Angeles county at not over sixty tons.

The Government has fixed the price for prunes at 6¾c per pound for Government orders. It is explained that this is the net price on all orders shipped to the Government f. o. b. the Coast. The regulation price for boxing added to this would bring the commercial price to about 7½c with discount.

Citrus and Semi-Tropical.

Avocado fruit promises to be a new source of food supply.

Navel orange shipping this season in the Porterville district will be the latest in years. It will be toward the end of November before the first cars leave the district.

A recently developed variety of loquats, ripening about July 1, after other varieties are gone, and being very prolific, large and beautiful, was propagated by W. L. Thali of Orange county.

The olive crop about Lindsay is said to be fast maturing and first picking will be about two weeks earlier than usual. The crop in the immediate vicinity of Lindsay is estimated at 350 tons.

The Riverside and Arlington Heights citrus crop brought the largest returns this year of any year in the last five. During this year 1,400 acres were added to the citrus acreage of this section.

The cause of the "June drop" in citrus fruit orchards in many interior valleys in California and Arizona is traced to extreme low humidity, combined with a lack of rainfall and high summer temperature.

The Valencia orange season will be extended this year into the Thanksgiving trade. The Pomona Fruit Growers' Association is now picking its last Valencias and expects to have them in the East by Thanksgiving.

C. C. Hillis, manager of the A. C. G. Fruit Exchange of Azusa, in his last annual report, says the past year was the greatest in the history of the exchange. The returns to the growers through the exchange reached $3,000,000. It is the belief of the members of the exchange that local growers will not suffer as much from the navel loss as other sections for the reason that few have only navels planted. Most growers have both Valencias and navels.

Grapes and Raisins.

A heavy crop of raisins is being harvested in the San Joaquin Valley.

It is claimed that grape growers in the vicinity of Manteca expect this season's big profits in Tokays and Zinfandels to show the real value of Manteca soil for grape growing.

The final payment of about $2,000,000 from the California Associated Raisin Company to the raisin growers of Fresno, Kings, and Tulare counties makes the highest price ever paid for raisins in the history of the raisin industry in this State.

The California Associated Raisin Co. announces that it cannot confirm any further orders for 4-crown loose Muscatels after October 26. It will accept orders for 6-crown clusters for shipment in December, or later, only if available, and cannot confirm any more for shipment prior to December.

Miscellaneous.

New Mexico reports its bean crop this year at 70,000,000 pounds.

Meetings are being held in Orange county to get 600 farmer members to form a farm bureau that a county farm adviser may be secured.

LARGER AND BETTER CROPS

With a great world food shortage and with the great war depending on the ability of this country to supply the allies, every acre of land should be made to produce its utmost. This can only be done by feeding the soil, i. e., increasing the available supply of the elements required by your crops.

GOLD BEAR FERTILIZERS

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

Let our Fertilizer Department help you solve the problem of bigger and better crops.

WESTERN MEAT CO.

SAN FRANCISCO, CAL.

Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

Hauser Packing Company

9th and Mateo Sts. PHONES 10336 Bdw. 5600 Los Angeles, Cal.

Rats and mice won't gnaw harness oiled with Eureka Harness Oil. There's no animal oil in Eureka and rodents dislike it. Eureka keeps your harness strong, flexible and jet black.

Eureka Harness Oil

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PERMANENT PIPE FOR IRRIGATION DRAINAGE CULVERTS SEWERAGE

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CALIFORNIA'S LEADING PRODUCTS AT LAND SHOW.

[Written for Pacific Rural Press.]

Total attendance at the California Land Show is officially given at 450,000 people, far more than any other fair in California except the P. P. I. E. A large proportion of these 450,000 people came either to exhibit legitimate products of California agriculture and mining, or they came to see such legitimate exhibits. They saw them in splendid form, characteristic of the eighteen counties that installed exhibits and about twenty-eight breeders that showed dairy cattle, beef cattle, horses, hogs, and sheep, besides the poultry, pigeons, and rabbits. But the crying shame of this great show which was to represent California was the legion-headed monster "respectable gambling," whose indecent bawling hushed the legitimate part of the show into humiliated comparative desuetude. These parasites had paid for the privilege of being so sandwiched among the exhibits that no person could attend any part of the show without humiliation. There was a notable exception to this last statement. The parasites had clamored for admittance to the livestock show and found there a management whose self-respect was greater than their grasp for polluted money.

FEATURE EXHIBITS.

All counties had varied exhibits of fresh, processed, and dried fruits. Los Angeles county took first premium on features, having an elaborate model farm, including orchards, chickens, and melons on the vines. Great colored transparencies showed oranges growing at the foot of snow-crowned mountains, and other characteristic scenes. Santa Clara had an upright black prune bear politely doffing his prune hat. A great painted relief map of California decorated one side of their section. Big walnuts and late pears were prominent. Napa featured grains, nuts, and prunes. Yolo had a fine show of dried fruit, grapes, almonds, beans, rice, rice plants, and rice products. Mendocino's specialty was apples and mammoth pears. Sunflower heads 22 and 24 inches in diameter were shown by I. Holt. Sacramento knows the attractiveness of grapes and had a splendid exhibit. "Sacramento beans feed the nation" was spelled in colored beans on a white bean background. Santa Barbara's walnuts were their greatest feature. Tulare was running a motor-driven centrifugal pump with the legend, "125,000 acres irrigated by pumps in Tulare county." A lady dressed in alfalfa excited admiration. Sonoma showed Gravensteins more appetizing than many at the Sebastopol show. Prunes, especially Imperials, were prominent. A most striking corner was devoted to E. C. Frazee's new silage corn. Four stalks had 5, 6, 7, and 8 ears respectively (not nubbins). Orange county seemed the home of tropical fruits. A quantity of avocadoes (several costing $1 each), jujubes, feijoas, loquats, and chayotes tempted the visitor who chanced to be attracted by the brilliant string of red peppers across the booth. Merced built a battleship of grain, called it "California," and set it sailing on a billowy sea of rice plants. San Benito labeled a bale of fine grain hay, "36,000 tons of the finest hay shipped annually from this county." The location of C. C. Morse Co. seed farms in San Benito county was emphasized. Santa Cruz featured apples and cider, having a clever mirror arrangement by which a vista of apples stretched as far as you could see from either side. San Joaquin built a Statue of Liberty under a semi-circle of colored grape leaves; and emphasized beans, corn, potatoes, and onions. San Mateo had a wonderful display of dahlias and pictures of her manufactures. San Francisco specialized on a striking Board of Health exhibit along with the State and Federal Health authorities. Colusa featured rice, almonds, and sorghum grains. Contra Costa showed fruit, long-wooled rabbits, lead products, and a great stack of Hercules dynamite with instructions. Remco redwood pipe wire-wound by machinery showed how to solve the pipe question.

BEEF COW AWARDS AT THE LAND SHOW.

[Abridged from report by E. A. Morphy.]

Hereford aged cows: 1, D. O. Lively. Two-year-old cows: 1, W. J. Bemmerly on Goldie Donald, grand champion. Junior yearling heifers: 1, Bemmerly on Patrica Splawn, junior champion; 2, Lively; 3, John A. Bunting. Senior heifer calves: 1, Bunting. Junior heifer calves: 1, Lively; 2, Bunting.

Shorthorn aged cows: 1, T. T. Miller on Imp. Brandsby's Jinny 18th, grand champion; 2, Ormondale Co. Two-year-cows: 1, Pacheco Cattle Co.; 2, Ormondale; 3, Miller. Senior yearling heifers: 1, W. M. Carruthers; 2, Thos. T. Miller. Junior yearling heifers: 1, W. M. Carruthers; 2, Ormondale Co.; 3, Jack London Ranch; 4, Ormondale Co. Senior heifer calves: 1, Miller on White Mayflower; 2, Jack London Ranch; 3, Ormondale Co.; 4, Ormondale Co.; 5, Carruthers. Junior heifer calves: 1, Pacheco Cattle Co.; 2, Jack London Ranch, 3, Ormondale Co.

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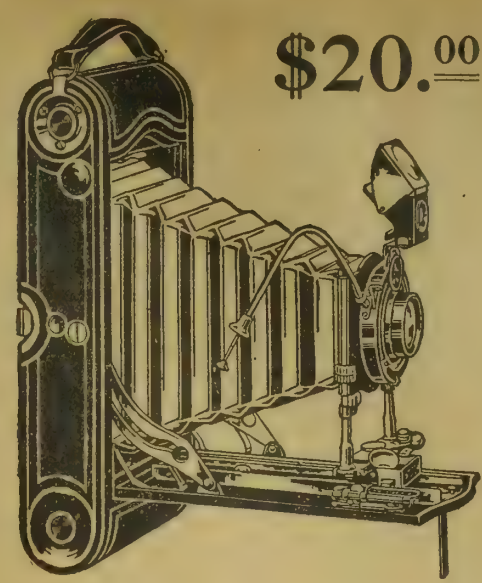

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KODAK

Here is the camera that introduced pictures of the postcard (3¼ x 5½) size, and made them popular. Not just the same camera either, because things don't stand still in the Kodak factories, but go on getting better and better every year.

A third of a century of reputation for doing things right in photography stands behind the Kodak line, and for over a dozen years the "Three A" has stood for common sense efficiency in hand cameras.

It makes pictures of the largest size that are practical for a pocket camera. The instrument itself is constructed mainly of aluminum, with fine, seal grain leather covering. It is fitted with Kodak Ball Bearing Shutter with instantaneous speeds of $\frac{1}{25}$, $\frac{1}{50}$ and $\frac{1}{100}$ of a second, and, of course, the "time and bulb" actions; has brilliant, reversible finder, two tripod sockets, and rising and sliding front. The regular equipment includes a Rapid Rectilinear lens of 6¾ inches focus, having the greatest speed and finest quality obtainable, outside of the highly corrected anastigmats. The present 3A has the exclusive Kodak autographic feature, which means that you can, in a few seconds, write the date and title on the negative *at the time you make it*—before you forget—as you are likely to do if you wait until your films are developed.

The owner of a No. 3A Kodak is prepared for the making of good pictures, conveniently, has the knowledge that his equipment is right; that it is simple to operate, yet has the scope and quality for making photographs of the highest class. It's a common sense camera, neither too complicated for the beginner nor lacking in anything required for high grade work.

Kodak catalog free at your dealer's or by mail.

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No hot boxes—no lost time—even with big loads, when you use Mica Axle Grease. The powdered mica forms a slippery, wear-resisting film, twice as effective as ordinary grease.

STANDARD OIL COMPANY (California)

MICA AXLE GREASE

Reason for Milk Shortage and Rising Prices

[Written for Pacific Rural Press by Frank Rohner, Palo Alto.]

Pacific Rural Press does not undertake to settle the question of tuberculin testing; but we feel it incumbent on us to present the dairymen's point of view.

Much is said and written in these days of the high prices of milk and the reasons therefor; feed has doubled or trebled in price; milkers are scarce and their wages high; bottles, caps—in fact, everything needed in the production and distribution of this food has soared; and therefore milk was bound to rise in price. All these reasons we know are true and regrettable, but more or less beyond control. However, there is another reason which affects the smaller dairies not depending on outside help to do their work and which cannot afford a pasteurizing plant. This is the use of the so-called intradermal tuberculin test, a test that, in the opinion of the writer, has done as much or perhaps more to cause the shortage of milk than all the other reasons combined. As a dairyman of Palo Alto, my attention was first called to this test in 1916 by the local Board of Health in its formal notice that thereafter all cows would have to be tested by it.

THE INTRADERMAL TUBERCULIN TEST.

We did not then know anything about the intradermal tuberculin test; our herds had been tested for years by the subcutaneous method and we had no tubercular animals in our herds. Our surprise, therefore, can be imagined when, on the first application of this new test on a herd of 45, twelve cows reacted and were condemned. When these cows were later retested by the old method and all passed, we began an investigation that resulted in a protest against the use of this new test. As the predictions made in that protest have now in a measure come true, I append the following letters:

To the Palo Alto Board of Public Safety: Ever mindful that the health of the community is at all times the first and only consideration, we, the undersigned, all dairymen of this city, nevertheless feel justified in entering our most earnest protest against the use of the intradermal as the officially recognized tuberculin test for this city. In support of this protest we respectfully submit the following reasons:

(1) The United States Department of Agriculture, Bureau of Animal Industry, does not recognize the intradermal tuberculin test as reliable. Witness the following letter, dated August 4, 1916:

"The subcutaneous tuberculin test is considered to be the most reliable method known to science for the diagnosis of tuberculosis among cattle, and when properly applied by a qualified veterinarian or other person especially trained in the technique of the test and the physical diagnosis of the various diseases of cattle, the reactions to the test are confirmed by post-mortem examinations in approximately 98 per cent of all cases.

"The intradermal tuberculin test has not been recognized by this Bureau as an official method for the diagnosis of tuberculosis in cattle. Experiments which have been conducted by the Bureau do not indicate that the intradermal tuberculin test is of equal accuracy when compared with the subcutaneous method.—R. W. Hickman, Chief, Quarantine Division."

(2) The State Veterinarian places no complete reliance upon the intradermal test. He states in his rules: "This test will be supported when required by the ophthalmo-subcutaneous and intrapalpebral tests."

(3) Circular 155, entitled "Bovine Tuberculosis," issued by the University of California, states: "The intradermal is preferred to the subcutaneous method under all conditions which are liable to modify the tuberculin temperature curve. It can be satisfactorily applied to calves and wild range cattle and is especially useful in testing cattle during the hot seasons in the interior valleys of this State." These conditions do not obtain among the dairy herds on this peninsula.

(4) In the same circular, on page 11, appears the following: "The subcutaneous method is the only officially recognized by all the States and the United States Department of Agriculture. Its proper application requires less practice, and the results can be more readily interpreted by the inexperienced."

(5) On page 9 we find the following: "Small indurations at the point of inoculation about the size of the head of a parlor match frequently occur in normal non-reacting cattle. In judging a local swelling, the observer should depend more upon the shape, appearance, tenseness, sensitiveness, and location with respect to the exact point of injection than upon actual measurements. Only experience can teach an operator how to be certain of a positive reaction when the local swelling is small. This is especially true when tuberculin containing glycerine has been used." In the foregoing, the chances of mistake and possibilities of fraud will be readily apparent.

(6) On page 10 we find what seems to be the one redeeming feature of the intradermal tuberculin test: "It excels these methods

The Higher the Price of Butter the Greater Your Loss without the Best Cream Separator

BUTTER prices are going higher every week.

Even at present butter prices no cream producer can afford to be without a cream separator or to continue the use of an inferior or half-worn-out machine another day.

And the higher the price goes the greater your loss.

Even if you have only two or three cows a De Laval would pay for itself in a few months.

If you have a larger herd your need of the best cream separator you can buy is just so much more urgent.

A De Laval Separator bought now will more than save its cost by spring. It can be bought for cash, or if preferred, on such liberal terms that it will easily pay for itself in its actual savings over any other separator or creaming system.

See the nearest De Laval agent right away and let him show you what the De Laval will save for you. If you do not know the De Laval agent, write direct for any desired information.

De Laval Dairy Supply Co.
61 Beale Street, San Francisco, Cal.

60 Million Dollars to be Saved in Wages by the American Dairy Farmer in the first year of our Great War.

Military authorities agree with U. S. Senator McCumber that the war will put five million Americans into the trenches. Dairymen are asking themselves what they are to do for labor. Selling the milk cow for beef doesn't appeal to the dairyman. He is not in the habit of dodging a problem.

In Canada, labor-saving machinery is solving the problem. Tractors, milking machines, gasoline engines are at work by the thousands.

What Canada buys is also significant. Take the matter of milking machines. Much attention is given to labor-saving and time-saving, economy of upkeep and long wearing ability, but the important consideration is the welfare of the cow and her continuous milk production. This is what has made the Empire Milking Machine predominate throughout Canada as throughout the U. S. In less than two years, sales in Canada alone have trebled. With the Empire Teat Cup, sore teats do not not cannot result—between each two spurts of milk the teat is completely relaxed and massaged from tip to udder, precisely as when the calf milks, a fact which accounts for the usual increase in flow when Empire Milkers are installed.

EMPIRE MILKING MACHINES

And now the new Empire Pulsator without a piston—simple as A. B. C.—improves even the well-known benefits and economies of all former Empire Milking Machines.

With this practical Milker many a 12-year-old boy or girl is replacing two hand milkers, at a saving per man of $600 a year—as the account books on hundreds of dairies are showing. So rapidly are Empire Milker Outfits being installed that before January 1st they will have replaced over 100,000 hand milkers—a saving to dairymen of the United States of over $60,000,000 a year. What the figures will total at 1918 wages, with further calls to the colors, cannot even be conjectured.

With the Empire factory crowded to capacity, shrewd dairymen are getting their orders in for Empire Outfits while their dealers can take care of them. Do this without delay and write immediately for the Empire Profit and Prize Book, and Catalogue No. 45.

EMPIRE CREAM SEPARATOR COMPANY

Also Manufacturers of Empire Cream Separators, Gasoline Engines and Farm Electric Plants

Bloomfield, New Jersey

Chicago, Ill. Montreal, Can. Denver, Col. Toronto, Can.

SAVE YOUR CALVES

Raise Them Without Milk

Why throw away money by knocking them in the head or selling them for a dollar or two at birth when they can be raised or veaied WITHOUT MILK at a fraction of the cost of feeding milk. You profit both ways selling the milk and still have the calves.

The Best Milk Substitute to Use is

Ryde's Cream Calf Meal

the most successful milk substitute on the market—the standard of perfection. Thousands of farmers are using it and cannot say enough for it. It is NOT a stock food—it's a complete food that long experience has proved to be right for rearing calves. It contains all the nutrition of milk prepared in the most digestible form and is sold on a money back guarantee to give results.

BOOKLET "MILKLESS CALVES" FREE

100 lbs. equal to 100 gallons milk—Try it on your calves.

Wyeetown, Wis., June 12th, 1914
Ryde & Co., Chicago, Ill.
Gentlemen:—Above is a picture of my 2 months old calf, which I fed on Ryde's Cream Calf Meal I followed your instructions closely. The result can't be best. (Signed) Alex Buck

GREAT WESTERN MILLS, LOS ANGELES

CALIFORNIA BREEDERS' SALES AND PEDIGREE COMPANY — PUBLIC SALES — REGISTERED LIVESTOCK

SERVICE TO THE BUYER TO THE SELLER

Economy of time, effort, and money is only one of the many services our organization is delivering to both sellers and buyers of registered livestock in public auctions.

If you want to consign cattle for public sale, or dispose your herd to best advantage, write us about it.

California Breeders' Sales and Pedigree Co.
C. L. HUGHES, Sales Mgr., SACRAMENTO, CAL.

(ophthalmo-subcutaneous) in economy of time, labor, and material."

HEAVY LOSSES SUSTAINED BY DAIRYMEN.

To the dairyman whose 24-hour day is all too short to accomplish his necessary work this saving of time is a very important consideration; however, the little actual experience we have had with the intradermal test satisfies us that the price we must pay is out of all proportion to the time saved. For instance: Mr. Maraux of the Jersey Dairy has had his herd tested for six years, with the following results:

1st year; subcutaneous method; Veterinarian Dr. Olsson Seffer, reacting animals 1.
2nd year; subcutaneous method; Veterinarian Dr. E. E. Zickendrath, reacting animals 2.
3rd year; subcutaneous method; Veterinarian Dr. E. E. Zickendrath, reacting animals 1.
4th year; subcutaneous method; Veterinarian Dr. E. E. Zickendrath, reacting animals 2.
5th year; subcutaneous method; Veterinarian Dr. E. E. Zickendrath, reacting animals 0.
6th year; intradermal method; Veterinarian Dr. E. E. Zickendrath, reacting animals 12.

Mr. Maraux was given ten days in which to dispose of these reacting animals; was therefore compelled to sell at a big sacrifice—$35 a head, a loss of $65 a head, or grand total of $780. These cows were subsequently retested by the subcutaneous method and none found to react.

The I. X. L. Dairy, about November 1, 1916, purchased, subject to test, 13 cows. These were tested by the intradermal method and 9 animals condemned. If we consider that the purchaser is required to pay for testing, we can readily understand that he exercises great care in the selection of cows. It seems hardly possible, therefore, that they should have had so many reactors. Results such as these must inevitably lead to the bankruptcy of the dairyman and such a raise in the price of milk that this essential necessity would disappear from the table of the poor and be a restricted luxury to those of moderate means. With such prospects, may we not well pause to ask if our zealous endeavor to stamp out tuberculosis can possibly lead to the exact opposite of the result desired? Is it not possible that we may contribute to the farther spread of this disease by taking from the children and babes their most essential necessity?

(Signed by nearly all the local dairymen.)

HIGHLY SKILLED VETERINARIANS REQUIRED

It will be noted in the letter from the Agricultural Department at Washington that particular stress is laid on the qualifications of the veterinarians doing the testing—only those who are thoroughly competent can hope to attain the high per cent of effectiveness indicated. What, then, must be the per cent of healthy animals condemned by veterinarians who believe that none but tubercular animals will show a reaction under any test? And this school of veterinarians is large. Unfortunately this class, because of their incompetence and consequent greater losses of healthy animals, may be looked upon by an inspection department as more efficient and receive the appointment of official veterinarian. It has been contended that this letter from the Agricultural Department at Washington is now a year old and that since then that department has conducted extensive experiments that prove the intradermal tuberculin test to be the most reliable. To satisfy myself I have written for information and received the following reply, dated October 3, 1917:

Relative to the merits of the intradermal and subcutaneous tuberculin tests, you are advised that the Bureau recognizes only the latter test. Experiments are now being carried on with the various tuberculin tests, comparing them for accuracy with the subcutaneous test, which has proved to be extremely accurate. If the results of the experiments now being conducted prove that any of the other tests are as reliable as the one now approved, in all probability it will be recognized by the Bureau.—J. A. Kierman, Chief, Tuberculosis Eradication Division, U. S. Dept. of Agriculture.

THE CASE SUMMED UP.

With this evidence before us, can there be any more question why milk is scarce and butter high? why the babes of the poor must go without their proper nourishment? why tuberculosis is not checked despite our drastic efforts to combat it? The State of California is conducting and paying for experiments along these lines at the station at Davis. The question therefore arises: Is the State of California big enough that it can annex to this station the dairy herds of this entire State, particularly at this time, when the saving of every ounce of food becomes one of every citizen's most important duties?

SUDAN IS FINE FEED.

To the Editor: Is there any market for Sudan grass hay? Why is it not quoted in your market reports? Is it good cow feed and horse feed? — R. S. R., Walnut Creek.

We have not quoted Sudan hay, as there is practically no market for it in San Francisco or Los Angeles because no one has introduced it and buyers prefer known varieties. It makes as good cow and horse feed as alfalfa, but of the other kind, being about 50 per cent carbohydrates. For horses it should be cut more mature than for cows.

One of the features of the National Dairy Show at Columbus, Ohio, is a herd of purebred Holsteins from the Carnation Milk Stock Farm at Oconomowoc, Wisconsin.

Jerseys for Net Profits

You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your tank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull. Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 388 West 23rd Street, New York City

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,
GERTIE OF GLYNLLYN.
Visitors welcome. Correspondence solicited.
A. A. JENKINS, R.D. 1, Tulare, Cal.

VENADERA HERD
REGISTERED JERSEYS
Young bulls from dams and grandames in Register of Merit.
GUY H. MILLER, Modesto, Cal.

YOUNG BULL CALVES
Fine individuals, with Register of Merit backing.
T. B. PURVINE, Petaluma.

PEDIGREED BULL CALVES
With or without registration papers. Service Bulls from cows with yearly records. Jersey females. Prices right. Tuberculin tested.
N. H. LOCKE CO., Lockeford, Cal.

ACME HERD JERSEYS
Quality counts.
Stock for sale.
CHAS. M. McLOUTH, Orland, Cal.

LEONARD FARM JERSEYS
Bulls for sale from Register of Merit cows. Write for information.
W. J. HACKETT, Ceres, Cal.

The Cow's Health - First *of* All

To think of the milk yield first and the cow's health afterward is putting the cart before the horse. Many "poor milkers" only need to have their systems working properly to become good producers.

KOW-KURE, the great cow medicine, makes cows healthy and *keeps* them healthy. Working on the digestive and genital organs, it is a prompt, sure remedy for Abortion, Barrenness, Retained Afterbirth, Scouring, Lost Appetite and Bunches. Try KOW-KURE; druggists and feed dealers sell it—55c and $1.10 packages.

Write for "The Home Cow Doctor," free.

DAIRY ASSOCIATION CO.,
Lyndonville, Vt.

80 INDIVIDUALS
EVERY ONE A STAR

SIX 30-POUND COWS
FOURTEEN DAUGHTERS OF 30-POUND COWS
ONE 29-POUND FOUR-YEAR-OLD
TWO DAUGHTERS OF 29-POUND COWS
TWO 28-POUND COWS
SIX DAUGHTERS OF 28-POUND COWS
TWO 27-POUND COWS
FOUR DAUGHTERS OF 27-POUND COWS
FOUR DAUGHTERS OF 26-POUND COWS

TWELVE COWS AND HEIFERS WITH RECORDS FROM 20 TO 25 LBS.

Yearly Record Females

A 1000-POUND COW
A DAUGHTER OF A 1000-POUND COW
TWO 800-POUND COWS
FOUR DAUGHTERS OF 800-POUND COWS
SIX DAUGHTERS OF 700-POUND COWS
THREE 600-POUND COWS

BULLS

A son of the 36-pound junior three-year-old daughter of Prince Gelsche Walker.
A son of King Valdessa out of the 35-pound first calf world's record heifer.
A son of King Mead of Riverside out of a 33-pound dam that made over 1000 pounds butter in one year.
A son of Spring Farm King out of a 31-pound dam.
A grandson of King Korndyke Sadie Vale out of a 29-pound cow that has a 34-pound three-year-old daughter.
A son of a 32-pound cow that will make around 1200 pounds butter this year.
A grandson of Prince Gelsche Walker out of a 25-pound three-year-old daughter of a 34-pound cow.
A son of Prince Gelsche Walker out of a 27-pound three-year-old.
A son of King Morco Alcartra out of a 23-pound two-year-old daughter of Prince Gelsche Walker.
The splendid individuals enumerated above comprise the highest average group of registered Holsteins ever offered in one public sale in America.
Every animal in the offering passed inspection by a committee of three for physical perfection, breeding and indications of the highest degree of future usefulness as breeding animals.

Committee of Selection—
Frank L. Morris, Woodland, Cal.
James W. McAlister Jr., Chino, Cal.
C. L. Hughes, Sacramento, Cal.

EVERY ANIMAL SOLD GUARANTEED AGAINST TUBERCULOSIS FOR 60 DAYS.
EVERY ANIMAL GUARANTEED TO BE A BREEDER

Auctioneers—
Col. Ben A. Rhoades, Los Angeles
Col. J. E. Mack, Fort Atkinson, Wis.

UNDER MANAGEMENT OF
California Breeders Sales and Pedigree Company
Catalogs mailed to all who request it. **Sacramento, California**
J. M. Henderson Jr., President
C. L. Hughes, Sales Manager

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

A Stanislaus county Holstein cow recently brought $720 at public auction at the sale at Santa Ana.

Over 90 per cent of the dairymen in the Fresno district have joined the San Joaquin Valley Milk Producers' Association.

The Co-operative Creamery Men of San Joaquin Valley recently met to discuss joining forces with the San Joaquin Valley Milk Producers' Association.

The T. B. Gibson Estate will consign four head of choice heifers and two young bulls to the Shorthorn sale at the Portland Union Stockyards next month.

The J. S. Gibson Co. of Williams advise that our note, October 20, about their having sold a son of Winnie Cornucopia Korndyke De Kol to J. H. Ellis was an error, as no sons of this cow will be sold to head grade herds.

R. F. Gore, manager of the Leon I. Douglass Ranch at Geyserville, says that they will raise purebred milking Shorthorns exclusively from now on, having found that they are more profitable and do better under their conditions than grades.

The California Creameries' new milk plant at Arcata is to be a model plant. Every provision for maintaining cleanliness has been worked into the plans. The cost of the buildings is expected to approximate $75,000, and machinery and equipment will be extra.

Butter making is to be taught by the University of California in a special two-weeks course at the University Farm at Davis, beginning November 5. The course is for practical buttermakers, so at least six months of practical experience is a requirement for admission.

Announcement has been made of a change in the date of the Pacific National Dairy Show at Portland from November 16-23 to November 7-15. This change will permit breeders to appear at both the dairy show and the Pacific International Livestock Show, which will be held the week of November 19-24.

The De Laval Dairy Supply Co. report sales of dry-feed cutters outrunning sales of silage cutters. As C. A. Crate says: "It costs much less than half to chop alfalfa hay into fine meal than it does to bale the same hay. It eliminates all waste in feeding and saves handling as well as storage room."

Jas. M. Henderson Jr., president of the California Milk Producers' Association, in an address to Riverdale dairymen on October 26, adduced figures to convince his audience that they were losing money on every cow milked with butterfat at 50c a pound. He urged the dairymen to sign up with the San Joaquin Milk Producers' Association at once.

E. E. Freeman of Modesto has sold to Luther & Mertyle Thompson four Holstein heifers and a four-year cow for $2,325, including $800 for the cow. All are bred to Mr. Freeman's herd sire, Segis Pontiac De Kol Dutch, whose three nearest dams have records of 30 pounds butter in seven days and 1,000 pounds in a year. Messrs. Thompson intend to start testing when they freshen.

San Francisco bay cities use 52,000 to 56,000 gallons of milk daily, drawing mainly from a radius of 100 miles and averaging a radius over 60 miles, according to Prof. Elwood Mead of the University of California. The Associated Milk Producers' Association provides about 70 per cent of the total, selling most of their product to the distributors' associations on a butterfat basis, the price being subject to revision every three months.

Beef Cattle.

All of the Ormondale Shorthorn bulls sold in the past fifteen months were bought in dam and were sold at an average of $500 each.

Alexander & Kellogg sold to Harvey Little of Janesville, Wis., the yearling Shorthorn bull, "Golden West," that was made grand champion at the San Francisco Land Show.

Bertram Fairfax, the Hereford grand champion bull at the California Land Show, owned by D. O. Lively of Mayfield, was dropped April 2, 1916, sired by King Fairfax and he by Perfection Fairfax.

Range cattle are all right without water for twenty-four hours, though if it is only a mile away they will usually wander that way once per day, according to W. M. Rigdon, who handles T. S. Glide's range Shorthorns.

Modoc county is to have thirty Shorthorn bulls soon to come from the East. R. M. Dunlap is there with orders from California range men for nearly 100 registered bulls. About thirty of them are for the Clark Estate range in Modoc county.

High-record prices for purebred Shorthorns in four States—Minnesota, South Dakota, Montana, and North Dakota—were broken on October 25, when nine bulls and 31 heifers sold for $15,000 at a sale on the B. W. Aylor farm, near Fargo, N. D.

Swine and Swinemen.

A boar is good until he is ten years old if he has not overworked, according to J. M. De Vilbiss, winner of Duroc boar grand championship at the 1917 State Fair.

The Jersey Queen Farm of San Jose bought two gilts and a boar from J. M. De Vilbiss of Patterson at the State Fair. All three are by the grand champion Duroc boar.

Seven fat farrows shipped to the Omaha International topped the Eastern market. They averaged 330 pounds each and were bought by Armour & Co. at $19.50 per hundred.

W. P. Andrews of Modesto writes that perhaps the mention of the sire of his pigs, Daggs' Good E Nuff, as being California's grand champion may be misleading, as it was in 1916 that this boar won grand championship at the State Fair. He was not shown there this year, but became grand champion at the Stanislaus Fair.

Many California breeders are disappointed in buying stock from the East, but that is partly because the Eastern breeders do not know what we want or that we ourselves know what we want, according to J. J. McLain of the Duroc-Jersey Association. We all ought to get better acquainted with each other, partly by attending the big Eastern shows but surely by meeting Eastern breeders when they come West.

February and March are the best months to have pigs farrowed in Antelope Valley, Los Angeles county, thinks D. H. Graham, who finds it too cold there in December and January to wean pigs or have them farrowed then. He plans to have his fourteen registered Duroc gilts mostly bred to Super Dreadnaut to farrow in the spring months mentioned. The old sows will begin farrowing about January 20.

Horses, Sheep, Etc.

C. H. Keller of Cloyton recently sold fifty ewes to J. Wilson of Tassajara.

The highest price offered at the semi-annual wool sale at Cloverdale, October 17, was 60c.

The Denver National Western Stock Show next January is to be very strong on dairy stock as well as meat breeds. Hogs and sheep will be prominent also, according to Jos. E. Painter of Denver, who managed the livestock end of the California Land Show.

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Shorthorn Breeders' Association

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AT
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November 22, 1917

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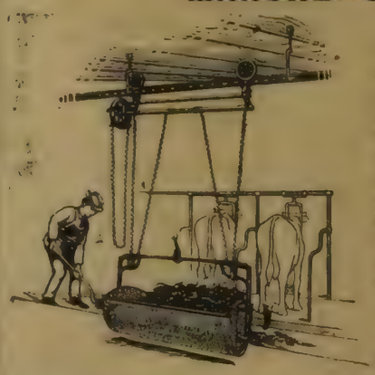

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SHORTHORNS AND HEREFORDS AT LAND SHOW.

[Written for Pacific Rural Press.]

For a cattle exhibition brought together within five weeks from the time its director, Jos. E. Painter, arrived from Denver to take charge, the dairy cattle show the first week and the beef show the last week were splendid forerunners of a bigger and better show next year. As Mr. Painter said, "The Livestock Show is a department of the Land Show this year, but the Land Show will be a department of the Livestock Show next year."

Quite a little stir was caused by a sudden outburst of anthrax in Contra Costa county last week. Vigorous measures were taken by the officials to prevent the spread of the disease and the latest report is that it is practically stamped out. Vaccination, when done in time, seems to be effective.

The Wool Knit Mills in Eureka, formerly the Humboldt Bay Woolen Mills, are working night and day turning out an order of 12,000 blankets placed by Levi Strauss & Co. of San Francisco, intended for use in France by the allies.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

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MAKE BIG MONEY with our famous Whitten Ranch Poland-Chinas—the mammoth, prolific, fast-growing, easy-feeding, money-making kind. Weaned pigs, service boars and bred gilts, many bred to our great $1,000 Jumbo Model. Prices reasonable; satisfaction guaranteed; everything immune. Send for free illustrated book, "Hogs for Profit." Packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, 519A Marsh-Strong Bldg., Los Angeles.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

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LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

LARGE TYPE POLAND-CHINA GILTS, bred to Alexander; prices reasonable. G. E. Shelford, Healdsburg.

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REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

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REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

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ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Giah, Lawe, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

FOR WELL-BRED BERKSHIRES, write Glenwood Acres Stock Farm, Paso Robles, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

DUROC-JERSEY SPRING BOAR — Sire, dam, dam's dam and three litter mates of dam were 1916 Riverside winners; a high-class boar priced to sell. H. C. Witherow, Palo Cedro, Cal.

REGISTERED DUROC-JERSEYS — Good stock shipped in from the East; bred sows, pigs of all ages, both sexes; some fine young boars; prices right. Nicholas G. Jesch, Northam, Nev.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

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MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

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BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

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EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

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CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

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FOR SALE—Five hundred ewes and ewe lambs. J. A. Youngreen, Orland, Cal.

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REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

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BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

DUROC-JERSEYS—Four months old; fat and thrifty; $100 for five; also one Berkshire sow, bred for second litter, $50; exceptional bargains. Jersey Queen Farm, San Jose.

FOR SALE—Some registered A. R. O. cows; write for pedigrees or call at ranch. J. W. Benoit, Route C, Modesto, Cal., three miles out Maze Highway, one mile south.

FOR SALE—Thirty-nine head of stockers and feeders; 22 steers, balance cows and heifers. Chas. Lampley, Waterford, Stanislaus county, Cal.

DEVONS FOR SALE—35 heifer calves, 11 months old, at $50 per head on the ranch. W. E. Gird, Bonsall, San Diego county, Cal.

Hogs Decreasing---Purebreds Increasing

[Written for Pacific Rural Press.]

Following are some replies to our questions as to the increase or decrease of hogs in various communities of California, the interest in purebreds, and why. But first we quote from Herbert Hoover's pamphlet on the world situation:

HOG SUPPLY IN THE UNITED STATES DECREASED.

Item—	Three-year pre-war average	Fiscal year 1917-18
Hog population January 1	61,600,000	67,450,000
No. of hogs slaughtered	53,204,000	64,798,000
Per cent of hogs slaughtered	86.3	[illegible]
Lbs. average live weight	219.21	211.26
Lbs. pork products exported	992,885,000	1,501,271,000
Domestic consumption, lbs. per capita	72.08	75.77

We are slaughtering, consuming at home, and exporting more pork products than we are producing. We must reduce our consumption or increase our production. If we discontinue exports, we will move the German line from France to the Atlantic seaboard.

MORE FEED THAN ANIMALS TO EAT IT.

Due to the blessings of the Almighty and the energy of our farmers, we have secured one of the largest corn crops in our history. We also have abundant crops of other feeds. If we aggregate all of the feeding stuffs and subtract the amount of fodder grains we can export in view of the present shipping outlook, we will find one astounding fact which will give American farmers pause: We have today somewhere near the equivalent of 1,000,000,000 bushels of feeds more than last year, which must be used in America. This is an increase of nearly 25 per cent—for which we have no corresponding number of animals to feed unless we begin to increase them at once. As our animals have not kept pace with our increase in concentrates, we have much more feed this year than we have animals to eat it. Therefore, if farmers are to find markets for feed, it must be to a great extent through increase in animals.

The monetary interpretation of this situation must be that we will have a low range of prices for feeding stuffs and, in view of the European situation, and our own shortage in hogs, we will have a high average price for pork products. Therefore, it must be to the vital advantage of farmers to raise hogs.

DEMAND FOR REGISTERED BOARS.

Elmer Lamb, Ceres, Stanislaus county: Swine in this locality are greatly decreased in the last year. This is largely due to the condensaries and casein factories bidding up for the milk. The high price of grain has also had its influence. Dairies that a year ago kept 20 to 50 hogs are now selling their milk and have not a hog on the ranch. Among those who are still in the business, I think the fall litters are not up to the average. This may be accounted for in part by the excessively hot summer, which might have had a debilitating effect on the sow and in part to the high price of feed, which got many a breeder's nerve and tempted him to let the old sow make out on a diet of alfalfa alone. If you try that stunt you will be troubled with abortion, weak litters, undeveloped dead pigs, and a large percentage of runts.

Those who continue to keep hogs are going in largely for purebreds. Many have sold their old grade sows to the butcher for enough to buy a registered bred gilt and got a nice start in the purebreds without extra cost. This is the first year that I have not been able to supply the demand for registered boars. I see no indication for an increase of pork production for another year. The high price of grain and beans will tempt many a good hog man to sell his produce rather than feed it.

FEW FARMERS GO BACK TO THE GRADE HOG.

C. B. Cunningham, Mills, Sacramento county: There has been a decided decrease in the number of breeding herds and also in the number of individuals that are retained in the present existing herds. Very few farmers are raising any hogs whatsoever, claiming that at the high prices of grain it is impossible to break even. The local market is invariably two to three cents under the San Francisco market, and no distinction is made between a slop or grass hog and the grain-finished product; in fact, many butchers prefer the thin hog, as it carries no fat, and while the meat is stringy and watery, they can sell it over the block when it is almost impossible to sell a fat piece of pork. The high prices offered for pork last spring and the high prices of feed of all kinds simply forced everything on the market, from young shoats to good old brood sows. According to what data I can get, there are about 45 per cent of hogs in the State as compared with 100 per cent the same date last year. This may not be absolutely correct, but I believe will be somewhere near. There are more purebreds being used every year. Hardly anyone will use other than a full-blood boar; and very many when they do stock up again will buy nothing but purebreds, as they find that they not only are easier feeders, but have more quality and are ready for the market in considerably less time. Whenever you get a farmer started with a good full-blood, he will very rarely go back to a grade or a cross breed.

HOG RAISING ON HEALTHY, SLOW INCLINE.

Donald H. Graham, Lancaster, northern Los Angeles county: The largest herds locally have not been materially decreased. I understand that one herd has disposed of a number of their sows. Smaller breeders have sold the most of their herds on account of the great cost of feed—grain and tankage. These people have had to rely upon country buyers for their sales. The margin just now is very small; these country buyers want one to almost give one's hogs to them. The natural result has been the stopping of breeding. Some sort of a local pooling, as in Wisconsin, would help here. Alfalfa hay is selling for $20 per ton and more, on the ranches locally. It is hard to resist this fine money; even dairy herds are being cut—the cutting may be the result of close culling, however.

The general tendency is for the new breeders to buy purebred boars—as is correct. I expect to see the older breeders buying better boars from now on. The Antelope Valley Fair brought out some fine hogs, which opened the eyes of the farmers. I have sold some pigs from grade sows but sired by purebred boars; the way they have grown

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Cows won First in both classes in the 3 days' butterfat contest of all breeds.
In the Show Ring, won 4 First prizes, 8 Seconds, and 3 Thirds.
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Box 97 Williams, California
The name GIBSON insures quality

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THORNTON S. GLIDE, Prop. DAVIS, CALIFORNIA
BREEDER OF
SHORTHORN CATTLE
AND
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Shropshires sired by rams imported by me from England
The Famous Glide Merinos
Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
First Prize Breeders Young Shorthorn Herd at Sacramento

10 2-year Bulls SHORTHORNS 10 Bull Calves
We have just received a shipment of yearlings and 2-year-old heifers, bred to a son of Cumberlands Type, the bull that won 36 Grand Championships at 36 Fairs. This is the best lot of females we have ever offered for sale.
Better look them over soon, as they will sell quick.
H. L. & E. H. MURPHY, Perkins, Cal.

SCOTCH SHORTHORNS
We have just purchased the entire herd of Shorthorn cattle from the Rancho Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.
FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.
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ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

SHORTHORNS
Herd combines some of the strongest blood lines of this country and Great Britain.
THOMAS T. MILLER 314 So. Normandie Avenue LOS ANGELES, CALIFORNIA

off has been surprising to the purchasers. The growth of these grades will stimulate the sale of purebreds. I have placed a number of young boars locally this fall. I look for more later; you can't keep a good, purebred boar from doing good if he is fed correctly and given a fair show. I started with scrub sows, and I know what a purebred can do in raising the number of pigs farrowed and the finishing of them.

The hog raising business is nothing tremendous here, but it is on a healthy, slow incline. When the people learn to raise grain for themselves, livestock production here will increase. Irrigated grain, followed by tepary beans or blackeyes, should replace some considerable alfalfa acreage. Then livestock can be successfully raised and the farmers will make more money. Every farmer here must learn to rotate. The probable appointment of a farm adviser for this county ought to mean more to Antelope Valley than any other part of the county. What we need here is more get-together spirit. A pig contest for next spring and summer, to culminate at the Antelope Valley Fair, has been suggested by local business men. Such a thing would be great for all the valley.

PACIFIC RURAL PRESS WORK APPRECIATED.

W. W. Everett, River Bend Farm, St. Helena: The breeding herds in Napa county have been materially decreased during this year. Many hog raisers, regardless of the advanced price of market hogs, have unwisely disposed of their sows and young stock. The excellent work done by your paper has helped to open their eyes and it will not be long before breeding will commence for numerous litters of spring pigs. Napa county is rapidly realizing the value of purebred hogs and the county's farmers are our best customers.

DEPLORES SCRUBS.

H. C. Witherow, Redding, Shasta county: There is very little to say regarding breeding herds of hogs in this district, as the pork of Shasta county has in the past been produced for the most part from the scrubbiest of scrubs, raised on wild grass and brush and fattened on acorns. However, the years 1917 and 1918 will witness the application of water to about 50,000 acres of good valley land, with several other projects planning, so that the day of more and better hogs is not far distant. There are a few herds containing purebreds, but practically no effort at constructive breeding is being made.

Last winter I brought in some choice Durocs, which I had bred in Southern California, and which were 1916 prize winners at Riverside. Another herd was established at Redding from some of my spring pigs. Inquiries seem to indicate a rising interest in purebred sires, and prospects are good for the establishment of more purebred herds. There will probably be a slight increase in the number of both market hogs and breeding stock raised next year.

PUREBREDS AND MONGRELS COMPARED.

Jersey Queen Farm, San Jose: There is increased interest in hogs, as there is a lively increase in the number of inquiries and buyers. There is also renewed interest in purebred stuff, as people are finding that "blood tells," as a purebred Duroc-Jersey fed beside a mongrel for six months will outweigh the mongrel by about 100 pounds. Length of body, good bone, and adaptability to take on growth and fat with a minimum amount of feed, is rapidly winning friends. I cannot say how many others are increasing their stock, but judge by the talk there is increased interest everywhere in our section.

BELIEVES IN THE BEST.

J. M. De Vilbiss, Patterson, western Stanislaus county: The business is very slow here, as there are too many farmers who do not appreciate the relative value of purebreds. I believe in the best and expect to have it, and plenty of it, when that time is ripe.

MERCED COUNTY WAKING UP.

A. G. Lane, Amsterdam, Merced county: There are very few purebred hogs in this district. Charles Gamble has just purchased two sows and a boar from the Billiken herd (Chester Whites). Mr. Silva has four or five sows and a boar—Poland-Chinas. At present I have about 22 Tamworths, but intend to sell off all except five sows and a boar because of the high price bacon hogs are bringing.

This district is beginning to show an interest in purebred hogs and no doubt there will be an increase in breeding.

PROPHESIED SWINE SHOW WINNINGS.

[Written for Pacific Rural Press.]

If you Californians take some hogs to the National Swine Show at Omaha this year you will return with some of the best prizes, said Berkshire Judge E. J. Barker of Indiana at the California State Fair meeting of the California Swine Breeders' Association. Thus a California Berkshire boar and sow belonging to F. A. Brush of Santa Rosa went and saw and returned with two grand championships.

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FOR WOOD PIPE AND TANKS

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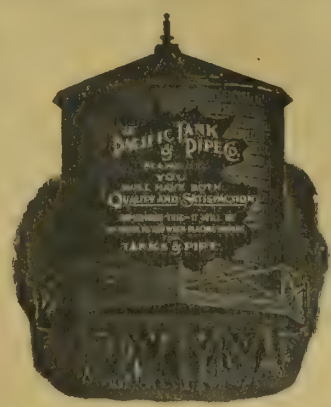

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SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
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One of the leading Shire Stallions of the West
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Three Imported Shire Mares all in foal.
Two Stallion Foals and one Filly Foal.
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GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
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YOUR HOGS
To get fat hogs you've got to feed right. One of the best hog foods available today is
CANN'S
Oriental Beans
Imported by us direct from China, where its merits have been appreciated for many years. These beans are bug-proof and thrive almost anywhere. Not affected by frost.
Invaluable also as a cover crop. Can be planted for their forage and later turned under for green-manuring.
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(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

Bassett's Poland Chinas

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.
Grand Champion Sow, P. P. I. E., 1915; Sacramento, 1916. $30 UP.
FAIR DEALING, UNIFORM EXCELLENCE, SATISFIED CUSTOMERS, BEST PORK PRODUCERS, RESULT FROM YEARS OF SELECTIVE BREEDING.
M. BASSETT Hanford, Cal.

CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

Fellow Feeling Makes Us Wondrous Kind!

To the Editor: I am a reader of your paper and like it very much. I sure like your spicy editorials. Also I like to read letters from real, old common-scrub farmers who have the same troubles as I have.—S. F. D., Chino.

Wisdom in Diversification.

To the Editor: On the front page of the Pacific Rural Press of September 22 is an article dealing with Elwood Mead and State colonies. If any subscriber missed it or just skipped through it, I recommend him to try it again. It says:

"It is planned to have thoroughbred cattle, sheep, hogs, etc. In addition a system of crop rotation and diversification will be insisted upon, in order to keep the settler busy the year round and minimize the demand for transient labor."

Of course, no hard and fast rule could be laid down, as no two owners would be situated alike, but anyway they will have to carry a variety of stock and crops. Many of our stock and poultry men are lamenting because they did not plant a few acres of fruit to tide them over the lean years.—Chas. Blom, Napa.

The Milking Machines He Will Get.

To the Editor: Our dairy furnishes our bread and butter, therefore everything concerning our work is of interest to us. We see your report on a convention of California Creamery Operators. As we do our work within our own family, several statements in that report seem to us to need a puncture. One speaker wants to cut out the small dairy concerns. To do anything like that here in Fresno county would be to wipe out 75 per cent of the dairy business. Another speaker warns the dairymen to increase their output or something may happen to them. All such talk will not go. No man is or can be compelled to milk cows. We used to handle 100 cows with help: now we milk from 20 to 25 without outside help and a good beef bull with our grade Holsteins another season will give us calves to do the milking, then what will city people do for milk? Our turn was a long time coming, but it is here now. If eight hours' time and $5 a day is good and all right for the other fellow, it is also fair for me. If I am milking cows I will positively not allow any Tom, Dick or Harry to drop in and give me any too free advice about my work.—N. C., Fresno.

A Reasonable Hooverism.

To the Editor: I have read so much in the daily papers about "Hooverizing," eating less meat, bread, etc., that I think it's only a woman's right to have something to say on the matter, too. How is the day's work on a half-full stomach? hardworking man going to do a How are the children going to get strong and robust if the food that is necessary to them is denied them? What kind of soldiers will we get for our future generation? Not to mention how the mother will fare who has to work around the house and yard all day and bring up a family of children and perhaps feed a young baby besides! I think this Hooverizing business should appeal more to the "luckier" class, who have nothing to do but ride about in automobiles for pleasure and eat just what they fancy. They are the people who would benefit in health by a little restriction on the "inner man." True, there are many other "eatables" to take the place of the "limited" ones, but one has to get one's stomach adapted to them before one derives any liking for them. In other words, one has to cultivate an appetite for them. We all like to be patriotic and try our best in our small way to help the country along, but please let the workingman and the growing child have as nearly as possible their necessary diet, so that our future and present can and will be looked after, as Uncle Sam expects, and be made a country always to be proud of.—Not-a-Slacker, Redwood City.

The Sonoma County Fanciers' and Breeders' Club will hold a big combination show at Santa Rosa, December 12 to 15, 1917. Poultry, pigeons, goats, rabbits, and pet stock of all kinds will be exhibited.

Percheron and Belgian Stallions Imported and American Bred

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First Prize 2-year-old and Reserve Champion, California State Fair, Sacramento, 1917.

Offering a few 2-year-olds and upwards, with heavy bone and high quality, that weigh a ton or more. If you are looking for the best come and see them or write for particulars.

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Prices and Terms Reasonable

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FISH BRAND POMMEL, the best Saddle Coat in the world.

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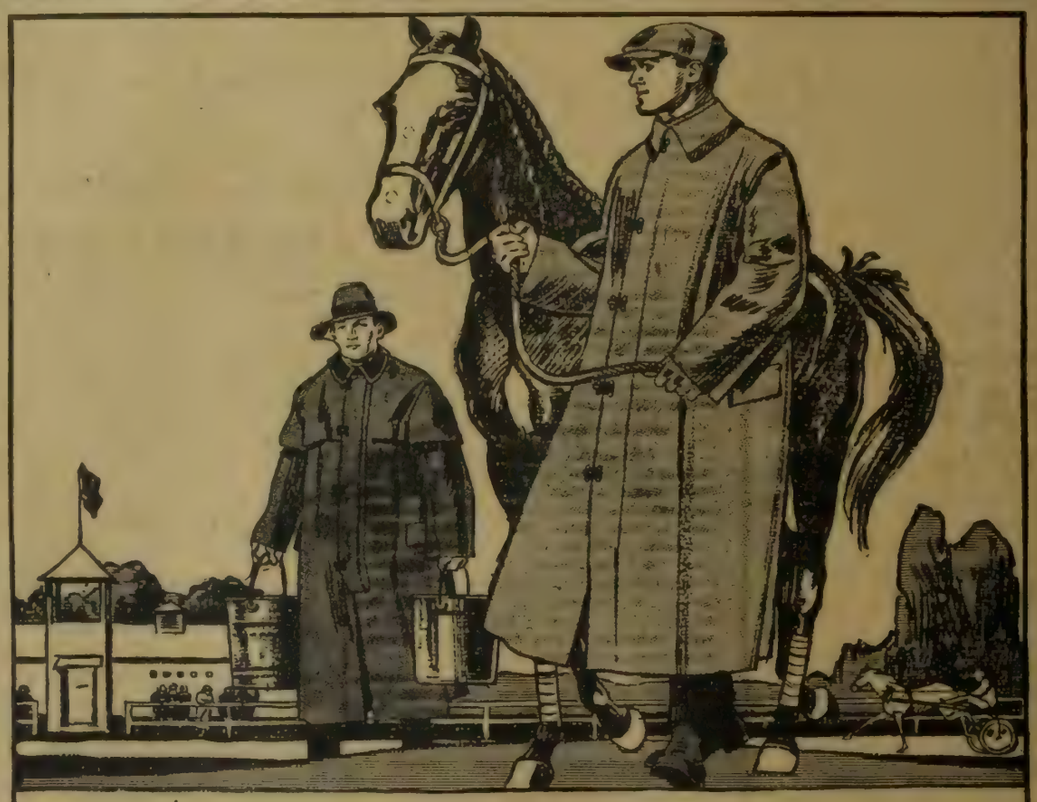

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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

GET DUCKS TO LAY EARLY.

Getting the early ducks to laying will just be that much to help the feed bill pay for itself. The first thing to remember in feeding ducks is that soft feed is the only natural feed; grain is not good except just as a late feed at night. Cracked corn, barley or oats can be fed in small quantities at night, but it will be more profitable to soak it, even though it is fed whole.

Another thing in feeding ducks is that they must have some form of animal food; and the more greens and vegetables they are fed the lighter will be your feed bill, and the healthier your ducks.

A good mash to get ducks into laying condition is: One part bran, one part shorts or middlings, one part ground alfalfa meal, two parts cornmeal, 5 per cent fine ground bone meal and 5 per cent beef scrap, with a little salt. After they commence to lay well, increase the beef scrap to 10 per cent and double the quantity of cornmeal. Always keep plenty of sand or fine ground oyster shell handy, and grit, and have water pails that they can dip their heads in over the eyes.

Put water in the houses at night and shut ducks up until they have laid, at any rate.

SMUTTY GRAIN.

To the Editor: Does wheat or barley soaked make a good feed for chickens and when are they best fed and how much? Our grain is slightly smutty. Does that hurt chickens, and if so how can it be cleaned? I wrote some time ago about ticks and where I could get Silver Campines for laying, and I have procured the same and would like to get either Columbia Plymouth Rocks or Columbia Wyandottes for a dual purpose fowl, though I prefer the former. Do you know where I could secure a good stock of them?—Mrs. E. M. R., Parkfield.

Good wheat should be fed dry, but if there is smut on it I would soak it. Bluestone in the water will kill smut, but as bluestone itself is a poison you would have to go easy on it. For barley soak the grain four or five hours, then pour in a box that will let the water run away and cover over with sack. Next day stir the grain up well to keep it from heating, sprinkle with water and cover up till next morning, when it will make splendid feed.

Columbia Wyandottes were exhibited at the State Fair, 1917, by Mrs. P. H. Chanssee, 4105 Howard avenue, Sacramento.

CANKER.

To the Editor: The combs and wattles of my chickens are very red, the eyes are bright and sometimes watery. Most of the lesions are quite noticeable. Their breathing is difficult. In their throats are small white lumps about the size of a small pea. Have used permanganate, iodine, and tincture of iron without effect.—Mrs. W. J. H., Hayward.

Get a bottle of Loeffler's solution, dip a swab in it and press over the little lumps. Give internal treatment as follows: Tablets of mercury protoiodide, 1-100 grain each, and give to each hen three or four times a day one of these tablets. Persistence is the thing which wins out in this trouble.

CATARRHAL COLD.

To the Editor: What is the matter with my turkeys? They swell on one side of the head below the eyes, some on one side, some on both. They eat all right. I have used Benetol, and am now using coal oil. They range in alfalfa and milo maize corn. I feed milk twice a day, and barley and corn once a day.—Mrs. A. M., Merced.

The trouble is catarrhal cold, which will develop into roup soon if you don't get it stopped. Look well to their sleeping quarters. That is likely where they are taking cold—some bad drafts around the head. Give them a purgative, say a dose of Epsom salts in a mash at night, allowing a tablespoonful of Epsom salts to every turkey, and also put in a teaspoonful of good cayenne pepper. Clean up your feeding ground and be sure to find out what is causing the colds. Keep eyes washed off with strong solution of Benetol.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

POULTRY HOUSES—II.

TRAP NESTS.

Trap nests are utilized to determine accurately how individual hens lay. The California trap nests invented by the University Farm at Davis are probably among the best, being economical and effective. These nests are placed two feet above the ground. When placed in tiers, the bottom tier should be about 18 inches from the floor. No. 2 (plans of these nests may be obtained from your farm adviser or from the University Farm), requiring no projecting lighting platform, may be used as a bottom tier, but above that No. 1, with the platforms, must be used. One nest must be provided for every three hens or they will lay on the ground. A good plan is not to trap nest the common layers during the months of heavy production and use the trap nests as common nests and trap nest in the fall and winter, when the production is low. Otherwise a larger number of nests will be necessary in the spring months.

MASH PLATFORM.

It is best to have a mash platform in front of the mash hoppers, otherwise there will be a lot of waste.

Hoppers may be placed along the outside of the house where the hens may reach through to them.

WATER SUPPLY.

Fresh water is necessary. A piping system, while giving greater first cost, is labor saving. A drip system running into a cup set in a three-inch galvanized pipe leading into a box open at the bottom placed about eighteen inches beneath the surface of the ground to receive the waste water, is the most economical. This method of disposal has proven better than stone or similar drains.

WINDOWS.

On stormy days, when the hens are shut in, windows are necessary to furnish light and keep out rain. Where the rainy season is short, windows are hardly necessary and the open front is frequently used in rather rainy sections. Windows for chicken houses should have small panes, 9x10 or 12x14, as they are frequently broken, no matter how great a care is taken. A long window, twice as long as wide, hangs better if swinging from the top, as the pull is downward. A sliding sash window is commendable. Cut groove in studding with head in center.

INCREASE POULTRY PRODUCTION.

An appeal to poultry raisers to increase their production of poultry, meat, and eggs has been issued by the American Association of Instructors and Investigators in Poultry Husbandry, which met recently at Amherst, Mass. These poultry experts, in a resolution, state that there will be an unprecedented demand for breeding stock and poultry products, which can be met most effectively by the introduction of approved methods and better stock and management in each flock.

The Association urges particularly owners of flocks not to sacrifice valuable chickens simply because feed has become abnormally high in price. They point out that such a practice will tend to reduce the supply of breeding stock and lead to serious reduction in output. The members of the Association, who are experts in poultry husbandry from the several State Agricultural Colleges and the United States Department of Agriculture, stand ready to help all poultry producers to get maximum results.

THE MAN WHO FAILED TO SUBSCRIBE TO THE LIBERTY LOAN.

This is how the man who failed to respond to the Government's appeal for a subscription to the second Liberty Loan looks to George Ade:

A ship was sinking. The captain ordered all hands to the pumps. "Keep the pumps going and I will land you safely," was the captain's assurance. All of the sailors except one sprang to the pumps. This one sat on a coil of rope and smoked his pipe. "Do you want to drown?" asked a shipmate. "I won't drown," was the cool reply. "Not while you boys are doing my share of the work. I know you've got to keep the pumps going whether I help or not." Don't sit on a coil of rope when the ship is sinking.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

OUR GEESE AND BRONZE TURKEYS win again; champion sweepstakes special for the best pair of birds in show; for size, vigor and quick maturity, ours are best East or West; stock and eggs in season; also Collie Pups; correspondence solicited. John G. Mee, St. Helena, Cal.

SPRING CHICKS—We are booking orders now; we start our run in January: Rhode Island Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. Remember, order early. Campbell Poultry Ranch, Campbell, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

BARRED PLYMOUTH ROCKS, Black Minorcas and Blue Andalusians; cockerels, pairs and trios at reasonable prices. Write Geo. I. Wright, R. F. D., Mokelumne Hill, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal.

MAMMOTH BRONZE TURKEY HENS—Two years old, $5 each. Toulouse geese, $3 to $5 each. Mrs. Coghlan, Walnut Creek, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; choice cockerels. Fairmead Poultry Farm, Fairmead, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.

Try COULSON'S EGG FOOD FOR GREATER EGG PRODUCTION FULL PARTICULARS IN FREE BOOK "CHICKENS FROM SHELL TO MARKET" Coulson Co. PETALUMA, CAL

"Here's Service For You"

We wish to announce that we have instituted an entirely new branch of service to STOCK and POULTRY raisers. We maintain a crew of experts whose sole duty is to correctly advise you on any question or problem that may trouble you regarding the correct feeding, housing or care of ANY KIND of STOCK or FOWL. Won't you let us shoulder some of your burdens on this department?

We are issuing very valuable monthly bulletins containing information on any subject which you may be in doubt upon. Let us put you on our list for these bulletins.

THIS SERVICE IS FREE.

Great Western Mills

Dept. of Animal Industry Los Angeles, Cal.

Produce Eggs at 17¢ a Doz.

The U. S. Dept. of Agriculture at the Experimental Farm, Beltsville, Md., during the past year has proven conclusively that if you make your hens LAY instead of allowing them to LOAF you should be able to produce eggs at a food cost of about 16¾c per dozen, even at present feed prices—AND YOU CAN MAKE THEM LAY.

You may not do quite as well as the Government's experts but you can come mighty close to it by mixing

Pratts Poultry Regulator

daily with a good egg-making ration, at a cost of one cent a month per hen. Do this and we guarantee your flock will produce the extra eggs that bring the big profits.

Pratts Poultry Regulator is a *concentrated tonic and conditioner*—not a food. It makes the ration *more effective, therefore cheaper.* It strengthens and tones up the entire system in a natural way—sharpens the appetite and improves digestion—enriches the blood—regulates the bowels—insures perfect health—makes the egg-producing organs do full duty—brings a profitable egg-yield.

Our dealer in your town has instructions to supply you with Pratts Preparations under our square-deal guarantee—*"Your money back if YOU are not satisfied"*—the guarantee that has stood for nearly 50 years.

266 *Write for 48 page book—Pratts Practical Pointers on the Care of Poultry.*

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THE HOME CIRCLE

Mrs. Best's Letter.

CALIFORNIA'S POSSIBILITIES OF BEAUTIFICATION.

My Dear Friends: As I drive over our great State, which I am privileged to do occasionally, I cannot but observe how different communities take advantage of their opportunities in a floral and landscape way. The State as a whole is exceptionally fortunate climatically, and many of the fine effects shown in yard and on highways are due to this natural advantage. But that is only an added reason why each community should see to it that the passing stranger within its gates should have an agreeable and lasting impression of its charm.

SOME MAGNIFICENT DRIVES.

How could anyone who has driven over the Kearney Boulevard, out of Fresno, for instance, ever forget that beautiful road—a well-kept roadbed, both sides lined with palms, eucalyptus trees, oleanders in full bloom, and pampas grass with white plumes, extending for nearly ten miles out to Kearney Park?

Another drive that people go miles to take is Magnolia Drive, leading from Riverside to Arlington. This drive has a center row of trees in addition to the border of palms, eucalyptus, and peppers. This road runs through well-kept citrus orchards, beautified with good homes.

The small town of Ontario has a superb drive ornamented with center parkways and trees, that extends from the town almost to the mountains. This drive was planned and completed long before there was a town, and in the old days a horse car ran the length of the road. The car was pulled up the grade by horses or mules, then the motive power was loaded on the platform behind, and the down trip was made by gravity.

A BOULEVARD BUILDER'S WORK APPRECIATED.

I heard a man say the other day that while M. Theo Kearney had made a wonderful gift to the State in giving Kearney Park to the State University, he had done more in planting and building such a wonderful boulevard to connect Kearney Park with Fresno. It is not possible for most men to do what Kearney did, but it is possible for communities to do it. Heretofore there has been no unity of effort toward the achievement of these desirable ends, but now, with the local centers of the County Farm Bureau to work through, communities can decide upon a definite plan of beautification that may easily be carried out.

ADAPT PLANT ORNAMENTATION TO LOCALITY.

Each district should investigate the plants, trees, and shrubs best suited to its locality and have a definite plan for planting. In some parts of the State the pepper tree is a delight to the eye, with its graceful, fronded foliage and bright red berries, but in other localities it does not thrive.

The black acacia, an evergreen tree, clean and shapely, does well in nearly all parts of the State, and has the added advantage of producing wood of good quality.

In all parts of the State where the palm will flourish, it should be used freely, for it has a charm for our Eastern visitors that other trees lack.

The eucalyptus trees, of which there are many varieties, adapt themselves readily to nearly all parts of the State, and may be used to border roadsides or in groups to break a barren landscape.

UNIFORMITY OF DESIGN MOST EFFECTIVE.

It really matters little what your selections may be, if there is uniformity the effect will be good and you will have added to the pleasure of the passerby as well as to your own community. The time for the planting of trees and shrubs is at hand, so that the rainy season may give them the proper start.

A DEPRESSING CONTRAST.

As one moves from place to place over the State, passing through beautiful tree-planted sections showing painstaking thought and unremitting care, then on into the wide, barren-looking wastes, the wonder grows that people will live for a whole lifetime in these dry, burned-looking stretches that might so easily be transformed with green, eye-resting, valuable trees into a countryside really home-like and altogether a better place to live in.

ROSABELLA BEST.

EAT COTTAGE CHEESE.

There is skim milk on every farm where cows are kept.

Skim milk is easily made into cottage cheese. A gallon makes one and a half pounds.

Cottage cheese is one of the best substitutes for meat, not only because of its food value but also because from it dishes can be made which fit into our meals as meat does.

There are more than 5,000,000 farms which keep dairy cows. A pound of cottage cheese each week made on each of these farms and used in place of meat would mean a quarter of a billion pounds more meat available each year for emergency uses.

A thin paste of cold starch is very good to take stains out of a mattress. Apply the starch to the stains, dry and rub off with a stiff brush. Repeat the process until the stains disappear.

THE HARVEST.

Gather the tears of the women and plant them
  Deep in the breast of our nation, like seeds.
Through the slow, growing days, tend them, and grant them
  Power of purpose and power of deeds.

Gather the tears of their love and their pity;
  Plant for a harvest of courage, each one;
Reap from the ranches, and reap from the city:
  "Here is my husband!" and "Here is my son!"

—Ruth Wright Kauffman.

THAT "SIMPLE BREAKFAST."

With this simple breakfast a boy of twelve will eat six rolls and all of the bacon you will allow, and then not be satisfied.

Rolls, bacon and coffee—too much wheat, too much meat—a waste of the most precious products when we consider the world's needs; a waste of highly concentrated foods when we consider the limited shipping space available for sending food to our fighting men and allies.

How can the housekeeper get that simple breakfast in line with Americanism and simple humanity? Here is the answer. Replace the rolls with cornmeal muffins, cut the bacon to two rashers apiece, and add a generous dish of one of these locally produced perishables—apples, potatoes, or hominy grits. This is a cheaper meal, a better balanced meal and a less wasteful meal than that "simple breakfast."

HELPFUL HINTS.

Furniture can be saved from the usual medicine stains if scarfs made of white table oilcloth are used. They may be edged with a cheap lace and can be wiped off daily.

To prevent brooms from becoming one-sided and to make them last longer, dip in boiling soap suds. Shake well and while wet press into shape. This keeps the brooms clean and in shape.

Home-made cuff links for shirt waists may be made by joining fancy buttons with loops of soutache and for a small boy pearl buttons with a flange can be sewed together with a strong thread for that use.

"Somewhere in France."

"Somewhere in France." I used to wonder where.
  I knew his smile was bright, his eye was clear.
I knew his Leader trusted him, and there
  His work was good. But oft I wished him near.
I longed to touch him and to hear his voice,
  Yet, knowing well the Cause he served, I knew
That in his absence I must still rejoice,
  If to the Cause we loved I would be true.

There came a letter in a stranger's hand,
  A letter full of sympathy for me.
Strange he should pity, could not understand
  The truth that now so vividly I see!

Somewhere in God's Great Universe, my boy
  Obeys his Captain, does his duty well.
His work, his loyalty still gives me joy.
  No letter now is needed, news to tell.
I know his Leader, know the loving care
  With which his work is watched in that new place.
I love to think of his promotion there.
  I can be happy, even though his face
Shines only in my memory, and his voice
  Comes in my dreams to bid me still rejoice.

—MARY L. FRENCH.

Good Health.

[By H. E. Pastor, M. D.]

The Child's Appetite.

Don't encourage the creation of a perverted appetite in your children by allowing free indulgence in such foods as pastries, candies, jellies, etc. Where children are permitted this pernicious habit they lose their appetite for simple, wholesome food, which would otherwise be taken with a relish. Children should be compelled to take such articles of diet as milk, cereals, vegetables, meat, etc. To help the growing teeth, wheat bread with hard crusts which call for thorough chewing, meat still adherent to the bones, and similar foods which exercise the teeth and jaws should be supplied. Teeth which are thus used induce a good supply of blood, the muscles of the jaws are better developed, and nature makes adequate provision for stronger and larger teeth. Under no circumstances allow children to become victims of candy and pastry intemperance.

Another Anthrax Victim.

About two weeks ago we sounded a warning in this column to readers living in the anthrax-infected districts to take every precaution to avoid contamination when skinning animals dying from anthrax. It was also stated in the item referred to that anthrax infection may be communicated to human beings through the bites of insects. The latest human victim of anthrax, a case reported from Butte county, is believed by the local physicians to have become infected through a small wound caused by a fly bite. It is perhaps not possible to annihilate the fly scourge altogether, but every effort should be made to reduce this menace to a minimum—and the reader of this item should consider himself a committee of one to carry out this beneficent work.

More Startling Than True.

In the October number of the Monthly Bulletin of the California State Board of Health we read the following well-pointed editorial: "In a certain part of the San Joaquin Valley, where the summer temperature rises to a considerable height during the summer months, a local newspaper publishes an article stating that the hot weather instead of 'predisposing people to fever and threatening health has done a great service by destroying billions of germs; scarlet fever, measles and diphtheria germs near the surface were annihilated.' This information is rather startling since in the Imperial Valley, where the temperature soars to higher altitudes, typhoid fever is more prevalent than in most counties of the State, and its occurrence is more frequent during the summer months when the temperature is highest. While bacteria must have a favorable temperature for growth, it cannot be said that the high temperatures of the interior valleys of California have anything to do with the prevalence or non-prevalence of communicable diseases."

Old Victrola needles when shaken up with luke warm soapy water are excellent for cleaning the inside of water bottles, vinegar cruets or vases.

MAKE LIBERTY LOAN WORTH WHILE.

Three billion dollars would not buy a bushel of wheat in a country in which there was not a bushel of wheat to buy. Without food, money cannot talk. It cannot even stand up and walk.

Herbert Hoover has said, and rightly said: "Food will win this war." Food is the fundamental problem.

Our allies are dependent upon the United States for their food reserve. If we fail them they are lost. If we fail them when their vital need is for food, no contribution of funds, no gathering together of wealth will sustain them.

There is now in progress in this country a great experiment in applied democracy. An endeavor is being made to ascertain whether or not it is possible to unite the people as an organized force back of a food control program and unite them as a result of a popular appeal.

At the present time food administration in this country is in the hands of the people. The Food Pledge Household Enrollment Campaign, October 28 to November 4, represents an endeavor to bring about a popular, voluntary agreement regarding the steps the people as a whole should take in maintaining the food reserves, the vital necessity for the success of the allied cause in the world war.

The Food Pledge Week Campaign and the campaign being made on behalf of the Liberty Loan are not rival endeavors, they are each part of a program, every feature of which is vital at this time. If we conserve our food supplies, then all the other needs of our allies can be met. If we fail to conserve our food supplies, then all our financial endeavors in behalf of our allies may prove in vain.

WAR WORK FOR WOMEN.

Official reports of the work of women in England that have just reached the United States show how much a matter of course these war time activities of women have become. One report tells of the establishment of rest rooms for women who work in the fields in various parts of England. The rooms are being supplied with newspapers, magazines and writing material, and are places where women can bring their food and obtain a cup of tea at cost. Stockings, shoes and skirts are kept in stock, so that women workers drenched by the rain in the fields can dry their clothes in comfort.

One report says that most of the women workers are giving satisfaction. "It would be absurd to pretend that every woman who has volunteered to take up the work on the farm has proved satisfactory," reads the official statement, "but most of them are giving satisfaction, even though they may not be quite as efficient as the men whose places they are doing their best to fill." It is reported that the women who are working as hay balers are especially efficient.

To some reformers versatility is the same old song to a new tune.

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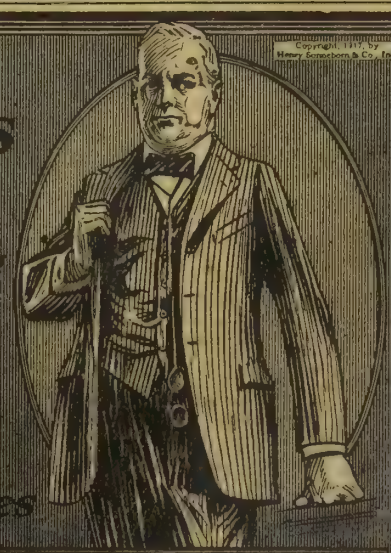

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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, October 31, 1917.

WHEAT.

There is no activity in the wheat market and the demand for seed wheat is below the level for this season of the year. Evidently the farmers are waiting for rain before investing extensively in seed.

(Federal Grain Corporation quotations for bulk grain. Sacked grain 7 cents per hundred more.)

Sonora wheat	$3.43
Northern Club	3.43
California Club	3.43
Northern Bluestem	3.50
Northern Red	None offering
Russian Red	None offering

BARLEY.

The market is without life and prices are unchanged. If anything, the tendency is to lower prices.

Shipping, per ctl	$2.55@2.60
Brewing	2.55@2.60
Choice feed, per ctl	2.45@2.50

OATS.

The oat market is dull and unchanged. Few sales are being made, and no change is looked for in the near future.

White feed, per ctl	$2.75@2.80
Red Feed, per ctl	2.65@2.90
Red Seed, per ctl	3.25@3.50
Black Oats	3.00@3.50

BEANS.

There was a sagging in the prices of Bayos, Small Whites, Large Whites, and Limas; otherwise the market was unchanged, though the general tendency was downward. The effect of the Government licensing of bean dealers is not yet known. Buyers are cautious. California's crop of beans is worth about $50,000,000. Foreign beans from South America and the Orient will soon begin to arrive, and this fact complicates the situation.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl	$ 9.00@ 9.25
Blackeyes	9.25@ 9.50
Cranberry beans	12.50@12.75
Horse beans	5.75@ 6.00
Small whites (south)	12.50@12.75
Large whites	12.00@12.25
Limas (south, recleaned)	12.75@13.00
Pinks	8.75@ 9.00
Red kidneys	12.25@12.75
Mexican reds	9.50@ 9.75
Tepary beans	9.00@ 9.25
Garbanzos	7.25@ 7.50

CORN.

Corn is stagnant, and quotations, which are nominal, are reported unchanged.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	$4.00@4.10
California, sacked	None offering
Milo maize	None offering
Egyptian	$3.00@3.25

HAY.

The arrivals of hay for the past week, 1740 tons, while considerably more than the previous week, are very light for this season of the year. The greater part of these receipts are for Government use only and the general market is extremely short. The railroads are actually swamped with business and hold out no hope of a better car situation for hay shipments. By strict economy consumers are getting along.

Wheat, No. 1	$23.00@25.00
No. 2	20.00@22.00
Tame oats	25.00@26.00
Wild oats	20.00@23.00
Barley	20.00@23.00
Alfalfa, new, first cut	20.00@24.00
Stock hay, new	17.00@19.00
Straw, per bale	60@90c

FEEDSTUFFS.

There was no movement in prices of feedstuffs this week. A few sales were recorded at last week's quotations.

(Per ton, San Francisco.)

Beet pulp, per ton	None offering
Alfalfa meal, per ton	$28.00@31.00
Bran, per ton	41.00@42.00
Oilcake	None offering
Coconut cake or meal	None offering
Cracked corn	85.00@86.00
Middlings	52.00@55.00
Rolled barley	54.00@56.00
Tankage	None offered
Rolled oats	59.00@60.00
Rice middlings	None offered
Rice bran	32.00@35.00
Shorts	45.00@47.00

POTATOES, ONIONS, ETC.

The potato market is a little easier with prices tending downward. The onion market is firm at unchanged prices and good demand. Tomatoes have advanced to 75c to $1.25. Peas and string beans are more plentiful and lower, while wax beans show a slight advance. Celery is coming in more freely and quoted at lower prices. Alameda county celery brings 40c a bunch, and from other sections down to 25c. Garlic is advanced half a cent on the best.

Asparagus	None
Peas, per lb.	5@6c
String beans, per lb	6@8c
Wax beans, per lb.	6@7c
Hubbard squash, per 100 lbs	75c@$1.00
Summer squash, per box	$1.25@1.75
Cucumbers, per box	60c@$1.00
Celery, per lug	Nominal
Tomatoes, per lug box	75c@$1.25
Potatoes, Salinas	$3.00@3.15
Idahos	2.25@2.75
Oregon	2.25@2.60
Rivers, per ctl	1.85@2.50
Sweets, per lb	2½@2¾c
Onions, yellow, per sack	$2.75@3.00
Reds	None offering
Garlic, per lb.	5½@6½c

POULTRY.

The market for poultry remains firm with increasing receipts. Turkeys are quoted a cent higher and geese, which are of better quality than last week, are two cents higher.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb., young	29@31c
do, dressed, old	None offering
Broilers, 1½ to 2 lbs	30@34c
do, 1¼ lbs.	36@38c
do, under 1¼ lbs	40@42c
Fryers	25@26c
Hens, extra, per lb., colored	25@26c
Small leghorn	20@22c
Smooth young roosters, per lb. (3 lbs. and over)	24@25c
Old roosters, per lb	13@14c
Geese, per lb.	18@20c
Squabs, per lb.	38@43c
Ducks	18@20c
Old	16@18c
Belgian hares (live)	15@17c

BUTTER.

Butter showed a decline of a cent for Extras on the close of last Wednesday, and during the past six days has shown no fluctuations whatever. The State has contracted, according to report, for 900,000 pounds of butter to be delivered during the next three months for various State institutions, at a price of 46½c.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43½	43½	43½	43½	43½	43½
Prime 1sts	43	43	43	43	43	43

EGGS.

For the most part eggs showed a decline over the high price of last week.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	56½	55½	56	57	56½	55½
Extra 1sts	56	55	55	56½	56	55
Extra pullets	46½	46	47	47½	47	46
Extra 1st pul.	46	45½	45½	46½	46½	45½

CHEESE.

The market for cheese continued strong with a half cent increase in the market quotation for Fancy California Flats. Monterey cheese was steady and some sales on the street at 25c were reported.

Y. A.'s	25c
Fancy California Flats, per lb	23c
Monterey cheese	18@25c

FRESH FRUITS.

Pears were stronger on account of the market being well cleaned up. Watermelons and cantaloupes advanced.

Apples, per box	$1.00@2.00
Pears, per box	75c@$3.00
Cantaloupes, per crate	$1.00@2.00
Apricots, per box	None
Peaches, per box	None
Nectarines	None offering
Figs, per box	65c@$1.15
Plums, crates	75c@$1.25
Watermelons, per dos	$1.50@2.50
Grapes, Malaga, lug boxes	75c@$1.25
do, Seedless, lug boxes	$1.50@1.75
do, Muscats, lug boxes	.75@1.75

CITRUS FRUITS.

There was some grapefruit on the market this week, and much more is expected during the coming week. The price, $4.00@$4.50, is hardly standard as the quantity on the market is not yet sufficient to establish a market. Oranges were higher and lemonettes somewhat lower.

Oranges:	
Valencias, fancy	$3.50@3.75
Valencias, choice	3.00@3.25
Lemons:	
Fancy, per box	6.00@6.50
Choice	5.00@5.50
Standard	2.50@3.50
Lemonettes	2.50@4.00
Grapefruit, fancy	4.00@4.50

DRIED FRUITS.

Except in the case of apricots, the entire market showed a decided advance. Apples increased in price 2c, peaches nearly as much, while figs of all varieties were quoted at advanced figures.

(Net to growers bulk basis, f. o. b. San Francisco.)

Apples, new crop	13½@14½c
Apricots, per lb	14 @16 c
Figs, black, 1917	6½@ 7½c
do, white, 1917	8½@10½c
Calimyrna, 1917	15½@16½c
Prunes, 4-size basis, 1917	6¾@ 7½c
Pears	6@8c
Peaches, 1917	9½@10¾c

BERRIES.

The receipts in berries were light and the prices were advanced $1 a crate on all offerings.

Strawberries, Banners, chest	$7.00@10.00
Longworths	None
Blackberries, per chest	$8.00@9.00
Raspberries, per chest	$7.00@8.00
Gooseberries	None

HONEY.

Honey, which was strong last week, showed a decided advance all along the line of from 1c to 2½c for each variety.

Comb—	
Water white	15@18c
Light amber	13@16c
Amber	12@15c
Extracted—	
Water white	13@16c
Light amber	13@14c
Amber	10½@12½c

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, October 30, 1917.

There has been a noticeable advance in prices this week over the week previous, due principally to light offerings, which resulted in a brisk demand.

There is a heavy tonnage of Tokays, Malagas and Emperors yet to be shipped, but on account of the car situation it is doubtful if better than 60 per cent of the balance of the crop will be in condition to move. Indications are that conditions will not improve, at least for thirty days.

There is a stiff demand for keg and drum Emperors, and although what few have sold at auction have not brought equal to the private sale prices, this may be due to the fact that the auction buyers do not care to store too early. We look for the market on Emperors to advance as soon as Tokays and Malagas clean up. Weather conditions remaining favorable, the grape harvest should last for at least thirty days yet. Following are the averages for the week:

New York: Buerre Clairgeau pears, $2.55; Winter Nellis, $2.56; Tokay grapes, $1.33; Cornichon, $1.33; Muscat, $1.25; Malaga, $1.40; Prince, $1.42; Emperor, $2.93.

Boston: Malaga grapes, $1.43; Tokay, $1.29; Cornichon, $1.40; Muscat, $1.17.

Chicago: Malaga grapes, $1.37; Cornichon, $1.30; Emperor (crates), $1.33; Tokay, $1.15.

Total shipments for the week ending October 26: 1,054 grapes, 46 pears. Total shipments to date, 1917: 21,053. Total shipments to date, 1916: 16,230.

Special Citrus Market Report

Los Angeles, October 30, 1917.

Shipments of citrus fruits from Southern California from last November to October 28, 40,517 cars, and lemons 7,729 cars. Same time last season, oranges 31,695 cars, and lemons 6,910 cars. Receipts continue light and less deciduous fruit on sale helped the market. Oranges were generally higher and all popular sizes were in very good demand. Lemons, however, were slow sale and weak, the cooler weather working against the sale of them. Buyers are declining to bid prices up, as the local demand continues light. Local packers bidding 2@2½c per pound for Valencias loose, delivered. Grapefruit, 3@3½c per pound, delivered. Some nice stock now coming in. Lemons are selling at 2½@3c per pound loose, delivered, for the best, the weather being too cool. Lower grades as draggy as ever.

AUCTION SALES.

New York, October 29.—Fourteen cars Valencias and one car of lemons sold. Market stronger and higher on oranges, but easier on lemons. Weather partly cloudy. Valencias averaged $2.10@5.85. Lemons averaged $4.60@4.75.

Boston, October 29.—Six cars sold. Market is doing better. Valencias averaged $2.50@4.90. Lemons no sales.

Philadelphia, October 29.—Five cars sold. Market unchanged. Valencias averaged $2.30@5.90. Lemons no sales.

WHEAT WILL DROP IF PEACE COMES BEFORE 1918 HARVEST.

To the Editor: I see by an Eastern paper that, due to the foreign supplies of wheat, the price of our 1917 crop may go down if ships become available to carry wheat from Australia. Is the 1917 price guaranteed?—W. N. B., Thalheim.

[Answer by Herbert Hoover.]

The Congressional guarantee of $2 per bushel does not apply to the 1917 harvest. The United States Food Administration has developed a method by which, so long as the Food Administration lasts, the farmer may receive an assurance of $2.20 on the basis of the Chicago terminal market for his 1917 wheat. I would like to have it clear to every farmer in the United States that the Food Administration by law comes to an end thirty days after peace is declared. So if peace should come between now and the 1918 harvest, there will be a period in which no guarantees exist, and in which the price of wheat may fall much below present prices, due to competition from the more distant countries. Even if carried over, the 1917 wheat will not come within the 1918 guarantee; so the farmer has absolutely nothing to gain by holding his 1917 wheat, and all to lose should peace arrive.

LOS ANGELES.

Los Angeles, October 30, 1917.

BUTTER.

This market followed San Francisco in its downward course the past week. There was a falling off in the receipts, being only 276,100 pounds against 326,400 pounds the week previous, and 320,000 pounds the same week last year. The high prices of late have resulted in a falling off in consumption and the turning of many people to butter substitutes. There was taken into cold storage during the week 10,046 pounds, while the same week last year 15,997 pounds were withdrawn. Under these conditions extras declined 2c up to Monday, and more willingness was shown to meet the downward trend of the market.

We quote:

California extra creamery	44c
Prime first	43c
First	42c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	46	45	45	45	44	44
1916—						
Extra	33	33	33	33	33	33

EGGS.

There was a further advance in this market the past week under scarcity. Receipts for the week by rail only 441 cases, against 658 cases the same week last year, and receipts by truck were also lighter than a year ago. The withdrawals from cold storage for the week were 3,008 cases, against 3,993 cases the same week last year. Extras advanced 1c up to Monday, case count 4c, and pullets 2½c. The market is now 14c higher than this time last year and firm.

Daily Quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	57	59	58	58	58	58
Case count	54	57	57	57	58	58
Pullets	45	45½	46½	48	48	49
1916—						
Case count	44	43	43	43	43	44

POULTRY.

While local receipts continue light, the high prices have turned some Eastern shipments this way and a lower market has resulted.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs	32@33c
Fryers, 2½ to 3 lbs	27c
Hens over 4 lbs	24c
Hens under 4 lbs	20@22c
Ducks	20@21c
Geese	13c
Roosters, 3 lbs. up (soft bone)	24c
Turkeys, heavy, 12 lbs. and up	27@28c
Turkeys, light	24@25c
Squabs, live, per doz	$3.00@4.00
Dressed	3.50@4.50

VEGETABLES.

There was quite a falling off in the receipts of all fresh stuff the past week and the market was generally higher. Onions were in better demand. Potatoes coming in quite freely and the market was dull and weak at last week's prices. Tomatoes were in very good demand and a little higher. Cabbage slow sale but steady and firm. Lima beans and string beans both higher and in very good demand. Celery higher and in very good request. Sweet potatoes coming in more freely, slow sale and weak. Cauliflower firm and in fair request. Hubbard squash and pumpkins steady but slow sale.

We quote from growers:

Potatoes, Northern, per cwt	$2.25@2.50
do, local, per cwt	1.75@2.00
do, Idaho, per cwt	1.75@2.40
Onions, Yellow, per cwt	2.50@2.75
do, White, per cwt	2.25@2.50
Garlic, per lb	3@4c
Tomatoes, per lug	40@80c
Cabbage, per 100 lbs	80@90c
Lima beans, per lb	8@8½c
Bell peppers, per lb	4½@5c
Chile peppers, per lb	3½@4c
Celery, per crate	$2.50@2.75
Eggplant, per lb	2@2½c
Sweet potatoes, per cwt	$2.25@2.50
Cauliflower, per crate	1.90@2.00
Hubbard squash, per lb	⅝@1c
String beans, per lb	7@9c

FRUITS.

Offerings were not heavy and the best met with a fair demand. Grapes were in only fair demand and Tokay and Cornichon lower. Melons pretty much out of season.

We quote from growers:

Apples—	
Bellefleur, 4-tier	$1.05@1.10
Jonathan, 4-tier	1.75@1.90
Grapes—	
Tokay, per lb	3@3½c
Cornichon, per lb	3@3½c
Pears, per lb	3@5c
Quinces, per lug	80@90c
Local apples, per lug	40@50c
Casabas, per 100 lbs	75c@$1.00
Christmas melons, per lb	1c
Honeydew melons, per crate	$2.25@2.50
Japanese persimmons, per lb	4@6c

WALNUTS.

The market continues firm and no good walnuts are to be had from growers. Quite a number of culls, however, are to be had at quotations. The Association is now delivering about 25 cars a day.

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.00c
Jumbo	24c	17.50c
Culls	6@12c	.....

BEANS.

Eastern buyers are holding back. Uncertainty as to what action the Government may take in regard to prices keeps buyers "on the fence." Tepary are 50c per cwt. lower.

We quote from growers:

Limas, per cwt	$12.50
Large white, per cwt	13.00
Small white, per cwt	13.00
Pinks, per cwt	10.50
Blackeyes, per cwt	8.00
Tepary	8.50

HAY.

Not much coming in and last week's advance is maintained. Shortage of cars causes local buyers to take what little is coming in at quotations. The Government is out of the market.

F. O. B. Los Angeles:

Barley hay, ton	$23.00@24.00
Oat hay, ton	24.00@25.00
Alfalfa, northern, per ton	22.00@23.00
Alfalfa, local, per ton	23.00@24.00
Straw, ton	9.00@10.00

HONEY AND BEESWAX.

With a steady reduction in stocks and the cooler weather the market has assumed a stronger tone. A slight advance all around.

We quote from growers:

Comb, per case	$3.25@3.50
Orange, water white, per lb	13c
White sage, per lb	13c
Light amber sage, per lb	11½c
Light amber alfalfa, per lb	11c
Beeswax, per lb	34c

HIDES AND PELTS.

A little more moving, though prices unchanged.

HIDES—Green Salted:

Heavy steers, per lb	16c
Light steers, per lb	16c
Kips and calf skins, per lb	22c
Bulls and stags, per lb	14c

PELTS:

California full wooled, per lb	20c
California medium wooled, per lb	15c
California short wooled, per lb	10c

Special Livestock Market Report

San Francisco, October 31, 1917.

CATTLE.—Shipments of cattle from Northern California and Southern Oregon are about finished for this season, and packers are now looking to Nevada for supplies. Several shipments from Nevada have already arrived. They show good quality, but are not as heavy as usual. Quotations are unchanged.

Grass Steers—	
No. 1, weighing 800@1200 lbs	8¾@9¾c
No. 1, weighing 1000@1200 lbs	9 @9½c
Second quality	8¾@9 c
Thin undesirable	6 @7½c
Grass Cows and Heifers—	
No. 1	7¼@7½c
Second quality	6½@7 c
Common to thin	4 @5½c
Hay-fed cattle ½ to ¾c higher.	
Bulls and Stags—	
Good	5¾@6 c
Fair	5¼@5½c
Thin	4 @5 c
Calves—	
Lightweight	9¼@9½c
Medium	8½@8¾c
Heavy	7 @7½c

SHEEP.—Quotations remain on the usual level, though it is difficult to find mutton stock for the block at any reasonable figure. Owing to prevailing high prices, however, retail consumption is not great.

Lambs—	
Milk	14½@15c
Sheep—	
Unshorn wethers	10½@11½c
Unshorn ewes	9½@10c
Yearlings	11½@12c

HOGS.—Hogs are not arriving in the market as freely as usual on account of the sharp decline in prices during the last ten days. Furthermore, the quality of the offerings is not all that buyers desire.

Hard, grain-fed, 100@150	14½c
do, do, 150@300	16c
do, do, 300@400	15½c

WOOL.—The market for the fall clip cannot be said to be fairly opened yet, though some business is being done, and prices are strong.

Mendocino and Humboldt	55@67c
Sacramento Valley	50@52½c
San Joaquin Valley	40@45c

HIDES.—The hide market is in a somewhat unsettled state, tanners holding that leather prices do not warrant the prices asked by sellers. However, the market is firm, and it is doubtful if a higher level of prices will be reached than now prevails.

Wet Salted—	
Heavy steers	26@25c
Medium steers	23@22c
Heavy cows	23@22c
Light hides	23@22c
Horse Hides—	
Large prime, each	$6.00@6.25
Medium prime, each	5.25@5.50
Small prime, each	3.50@4.00
Colts, each	.75@1.00

Los Angeles, October 30, 1917.

CATTLE—There were more cattle being offered the past week than for some time. Prices, while not quotably lower, were weak at quotations. California, Arizona and Nevada all had cattle in, and some very good grass steers.

Beef steers, 1000 to 1100 lbs	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt	8.00@9.00

HOGS—There were very good offerings the past week, the recent declines in the Central West shutting off California shipments East and forcing the selling at home. Hence better receipts and a weaker market. Killers were in the market, but were not urgent buyers.

Per cwt., f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs	$13.00@14.00
Mixed, 200@250 lbs	14.50@15.50
Light, 175@200 lbs	14.50@15.50

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—This market continues steady and firm. Sheep and lambs are as hard to get as ever and the market has not quotably changed.

Per cwt., f. o. b. Los Angeles:

Prime wethers	$ 9.50@11.00
Prime ewes	10.50@11.00
Yearlings	10.50@11.50
Lambs	14.00@15.00

Portland, October 29, 1917.

Conditions in general are not discouraging, yet the market is not as brisk at this writing as it has been in recent weeks. In connection with the tendency to slow up, which appeared in the cattle market this week, it might be interesting to stock producers to know that this month's volume of business in the Portland Union Stockyards sums up to a greater volume by about 150 cars than any month in the history of the yards, and since there is a general shortage in the supply of hogs and sheep, this necessarily means a very heavy increase in the cattle shipment for the month.

CATTLE—The cattle department, with 1,700 head, a great portion of which arrived late for the opening market, was sluggish on account of a lack of the usual number of buyers. Orders were filled at about steady prices in the steer department. Cows were 25c off at the top end and about 50c off at the lower end of the string. Bulls continue steady and stockers and feeders are a big element in the trading.

Best steers, $9.75@10.00; good steers, $7.75@9.00; good cows, $7.00@7.50; ordinary, $4.00@6.00; heifers, $7.00@7.75; calves, $7.00@9.50; bulls, $4.00@6.75; stockers and feeders, $4.00@7.25.

HOGS—The hog alleys were well filled for the week's opening, with a quality superior to that which has been offered during the past ten days. Southern Oregon offered the best string of hogs on the market and the general tone of the market was about 25c higher right down the line. Sales in the hog department were brisker than in the cattle department. The following range of prices prevails:

Prime light, $15.75@15.85; prime heavy, $15.65@15.75; bulk, $15.75@15.85; pigs, $13.50@14.00.

SHEEP—The sheep market continues steady to strong at the following prices, with a bigger supply than has been offered through the early weeks of the month:

Yearlings, $12.50@13.00; wethers, $12.00@13.00; ewes, $8.50@10.50; western lambs, $14.00@14.50; valley lambs, $13.50@14.00.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
August 7	27.00	43.00	29.16	44.00
" 14	26.50	41.66	26.00	43.00
" 21	26.50	41.50	27.95	42.00
" 28	27.25	41.91	28.50	42.00
Sept. 4	30.00	42.10	30.50	41.33
" 11	30.20	42.00	32.00	41.00
" 18	30.41	45.00	31.09	43.00
" 25	30.41	45.00	30.50	45.50
October 2	31.66	44.90	32.16	45.91
" 9	32.91	44.90	32.83	46.33
" 16	33.50	46.25	33.50	47.00
" 23	32.75	45.41	33.00	46.50
" 30	32.58	43.50	33.00	44.83

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
August 7	26.16	42.58	26.00	40.16
" 14	33.08	41.41	31.00	37.08
" 21	33.09	43.33	31.83	42.25
" 28	33.50	43.50	32.00	43.50
Sept. 4	36.13	43.80	32.00	43.58
" 11	37.90	45.08	36.00	44.91
" 18	38.83	47.33	37.00	47.83
" 25	39.75	47.58	38.66	49.50
October 2	39.75	47.00	40.50	50.83
" 9	42.25	47.10	43.16	51.50
" 16	48.50	52.59	49.32	54.50
" 23	47.01	54.83	46.50	56.16
" 30	47.09	56.16	43.33	58.00

Publisher's Department.

From Australia a New South Wales subscriber writes: "Find $2 (foreign subscription price) for continued subscription to your valuable paper, which I must say is the best paper for the man on the land that I have yet seen, and I look forward to getting it every mail that arrives."

The new edition of "California Vegetables in Garden and Field," by Prof. Wickson, is now ready for distribution and the books will be mailed out the same day the order is received. If you have not already done so, send for a copy. As the San Francisco Chronicle says regarding this work: "It is much cheaper to learn vegetable growing from this book than from mistakes." Price, $2 postpaid.

We Deliver the Goods.—Geo. L. Horine of Winton, Cal., writes: "In my opinion you give the farmer the biggest dollar's worth of real knowledge it is possible for him to buy. The breezy, analytical editorials, the various departments filled with practical, up-to-the-minute information, the market reports, answers to queries, etc., are all of the greatest help to the amateur and veteran alike. You have friends wherever you go, and because you deliver the goods.

Classified Advertisements

MISCELLANEOUS.

FOR SALE—15-h. p. White & Middleton gas engine, with sparker, and 100-gallon distillate drum; also No. 6 horizontal centrifugal pump, with check valve and suction elbow; all in first-class shape; price complete, $325. A. M. Sanborn, R 2, box 10, Porterville, Cal.

DON'T WASH YOUR CLOTHES the old way; use Cedarwax Easy-Wash (25 washings 25c); a modern miracle; washday without work; washes anything washable; satisfaction or money back; write for free sample and special introductory offer. Cedarwax Co., 1123 Story Bldg., Los Angeles.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero St., San Francisco.

APPLES DIRECT FROM PRODUCER—Fancy Bellfleurs, $1 per box; No. 2 grade, 80c; Newton Pippins at same prices; bulk pack. Edward A. Hall, R. F. D. 1, Watsonville, Cal.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

FOR SALE—Hendy Invincible Tractor and three-bottom Deere Pony Tractor Plow with power lift; both practically new. P. O. Box 215, Menlo Park.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

ALL SIZES OF PIPE and screw casing, both new and second hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

FOR SALE—Samson stationary gas engine, 15 h. p., guaranteed to be in fine condition; used only about one season. Price $350. P. V. Felts, Maxwell, Cal.

SECOND-HAND PIPE—Absolutely first class. Write for prices. San Francisco Iron & Metal Co., 256 North Point St., San Francisco, Cal

FOR SALE—Jackson 3½-inch centrifugal pump; good condition. Address W. A. Scott, Dixon, Cal.

WANTED.

WANTED—Married man to work on my ranch in Stanislaus county, California; salary, $60 per month with house; young orchards, alfalfa, sheep and hogs; permanent position, with opportunity for advancement for right man; in your application give particulars as to experience, former employment, age, and personal habits. Address G. V., care Pacific Rural Press, San Francisco, Cal.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A." Western Normal, 524 E. Market St., Stockton, Cal.

WANTED—Herdsman to care for a small herd of pure blood Ayrshire cows; must understand balanced rations, calf raising and general scientific care of cattle; state wages desired; references required. Address P. O. Box 34, Menlo Park.

EXPERIENCED HORTICULTURIST and general farmer desires position on large ranch; understands electrical and gasoline machinery, irrigation, etc. Box 830, Pacific Rural Press.

COUNTRY LANDS.

160 ACRES FOOTHILL RANCH—In Tehama county, nine miles from Cottonwood; 40 acres cleared; house, barn, outbuildings, good water, fruit and vineyard; good place to raise hogs; price $3,000, half cash. Chas. Kloose, Cottonwood, Cal.

HUMBOLDT STOCK RANCHES—1700 acres $8 with stock cattle. Long lease; additional land. C. E. Robertson, 105 Montgomery St., San Francisco, or J. E. Wilson, Carlotta, Cal.

VINEYARD AND RANCH for sale in Lower California—The ranch consists of 450 acres, 90,000 full-bearing grape vines in perfect condition, Zinfandel, Burgundy and Mission varieties; rest of land for farming; winery with all the necessary apparatus, fermenting and storage tanks, the latter with capacities of from 1,000 to 5,000 gallons each; the whole Pacific coast of Mexico for a market, being only winery on said coast and the protection of very heavy import duties on all foreign wines; retiring from business on account of age; will sell at reasonable price for cash or part cash and rest in good income property. Address F. Andonaegui, Ensenada, Lower California, or to M. Ormart, Bellevue Hotel, San Francisco.

FOR SALE—Good ranch in Round Valley, Mendocino county, in heart of dairying section, close to creamery and town; about 100 acres good farm land and 80 acres good grazing and hog pasture; good buildings, fenced and cross-fenced; price right and easy terms. Owner, Chet Leavitt, Covelo, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

WANTED—To hear from owner of good ranch for sale; state cash price, full particulars. D. F. Bush, Minneapolis, Minn.

SEEDS, PLANTS AND TREES.

ALFALFA PLANTERS, fill your fall requirements now with Green-Gold seed; high quality because of personal field selection; low price because of direct dealing; send for samples and prices. Bomberger Seed Company, Desk A, Modesto, Cal.

STRICTLY FANCY SEEDS—Alfalfa, all clovers and grasses, Washington Hybrid No. 143 Seed Wheat ($2.50 per bushel, recleaned). Free Sweet Clover bulletins: Nitro-Cultures for Legumes. Ralph Waldo Elden, Central Point, Oregon.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

SOUR CLOVER AND MUSTARD SEED WANTED—Cash paid for any quantity; mail sample, on which we will quote. Mercantile & Warehouse Co., Fifth and Poplar Sts., Oakland, Cal.

STRAWBERRY PLANTS—Ettersburg No. 80; also Mammoth blackberry one-year plants; now ready. Write M. J. Moniz, Berry Specialist, Sebastopol, Cal.

OLIVE TREES—Mission, Manzanillo, Ascolano. Propagated by me from trees of known bearing qualities. Guaranteed. L. T. Schwacofer, Hemet, Cal.

DOGS.

AIREDALES AND GREYHOUNDS—Best blood in America; Airedales by International champion, Abbey King Nobbler, ex Bilmer Mayflower, she a litter sister of champion Bilmer Birgo; satisfaction guaranteed, otherwise money refunded. Lloyd & Hendry, Davis, Cal.

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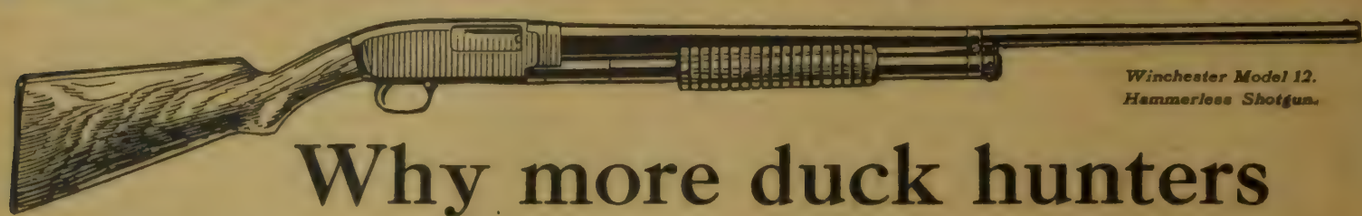

Winchester Model 12.
Hammerless Shotgun.

Why more duck hunters choose this model than any other

If there's ever a place where you need a gun that's a hundred per cent reliable, it's when you're down in the damp salt marshes after duck.

Whatever gun you may start with, if you keep on long enough, you will come around to the Winchester No. 12 Repeater. It is the favorite in the long run with old duck shooters.

In the damp salt air of the seashore and swamps this gun never "gums." Under the most severe conditions it is a sure-fire, sure-to-work Repeater. It will not jam, catch, or fail to extract the empty shell. It "feels" right, "comes up" right, and *is* right. It works smoothly in whatever position it is held.

At the distance at which you get most chances at ducks, this gun shoots an effective uniform pattern of great game-getting penetration.

The pattern that brings down the game

The remarkable game-getting pattern of the Winchester Model 12 (or the Model 97 for those who prefer a hammer gun) shooting its own standard ammunition, is the result of infinite care taken in boring the barrel.

The right amount of choke for different loads has been worked out after exhaustive experiment. Result: a pattern that spreads out evenly — neither too scattered nor too bunched—and lands with lots of steam behind it.

Quick feeder, sure ejector. Throws empty shell to the side, out of your way.

Even spread, maximum penetration. Winchester shot pattern brings down the game.

The barrel *is* the gun

Men who know guns realize that the accuracy and durability of a gun lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard of quality of the barrel on the highest and lowest priced Winchester guns. With Winchester the barrel *is* the gun and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel.

The Winchester barrel

The barrel of the Winchester Model 12 has been bored to micrometer measurements for the pattern it is meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until its pattern proves up to Winchester standard, the gun cannot leave the factory. The Nickel Steel construction preserves the original accuracy forever. The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that, with proper care, will last a lifetime.

For those who prefer a hammer action shotgun, we have made the Model 97. It is built on similar lines to the Model 12, but with hammer action.

What (W) means

This mark on the barrel means *Viewed and Proved Winchester.* This stamp stands for Winchester's guarantee of quality, with fifty years of the best gun-making reputation behind it.

Every gun that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times for smooth action and accuracy, and has been fired with excess loads for strength.

At every stage of Winchester manufacture, machine production is supplemented by human craftsmanship. It is a *test and adjustment process.*

It is this care in manufacturing that has produced in the Model 12 and Model 97 guns of unsurpassed game-getting qualities that have won the name of "The Perfect Repeaters" among duck hunters.

Write for details of Winchester shotguns, rifles and ammunition

The Winchester catalog is an encyclopedia on shotguns, rifles and ammunition. Every hunter should have one. It gives detailed specifications of the Model 12 and Model 97, and describes at length the principles on which every one of the world famous Winchester shotguns and rifles is built. Write today. We will mail you a copy free, postpaid.

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HOME DEFENSE LEAGUES!

We have a Winchester for Country and Home Defense Leagues which is meeting with universal approval. Many Home Defense Leagues throughout the United States have already been equipped with this gun.

Winchester Model 97 Hammer Shotgun

Take-down Repeating Shotgun. Made in 12 gauge, weight about 7¼ lbs.; in 16 gauge, weight about 7¼ lbs. The favorite with shooters who prefer a side forearm repeating shotgun with a hammer.

WINCHESTER

World Standard Guns and Ammunition

Vol. XCIV—No. 19 THE PACIFIC RURAL PRESS Forty-second Year

SAN FRANCISCO NOVEMBER 10, 1917 LOS ANGELES

Farm Loan Bank Doing Big Business

[Written for Pacific Rural Press from data obtained in conference at the Federal Land Bank at Berkeley with President W. H. Joyce, Secretary A. W. Hendrick, Registrar-Attorney Lysander Cassidy, and Assistant Secretary L. B. Williams, who has charge of borrowers' applications from the time they are received at the bank until they are O. K. and go to the appraisers.]

APPLICATIONS for Federal Farm Loans will all have been acted upon before New Year's if overtime night work of the Executive Committee can accomplish this. Every night the committee works until a late hour over the applications. The actual handing over of the money would come much sooner if all the questions on the blanks were filled out fully. Seven thousand one hundred and seventy-three applicants had asked for $18,918,239 up to October 24, besides five or six hundred which are in suspense because the papers furnished are incomplete. Deduct from this total $2,212,835 which have been cancelled or rejected, and you have a balance of $16,705,404 applied for. Of this, $3,562,460 have been approved, and $1,087,700 have been handed over to 344 borrowers. Nearly two and a half million dollars of approved applications are awaiting the abstracts or certificates of title and other papers which the borrowers must fill out, including first mortgages, mortgage clauses in their insurance policies, and endorsement of water stock over to the bank as additional security. When these papers have been sent to the bank correct, the money is forthcoming in about ten days.

Money Is Being Delivered.

A few thousand dollars was sent out about May 5, 1916; but not until August, 1917, did large amounts begin to go; and it is going faster every day now. Applications are generally considered in the order received, but final appraisements by the bank's representatives are made with the idea of caring for all applications in any one locality up to the date of the appraiser's visit, in order to keep down expenses. So it may be that a recent applicant gets his appraisal at the same time as one in the same community who applied months ago.

This land bank handles all of the Federal Farm Loans made in California, Nevada, Arizona, and Utah. All of the original officers were replaced by new ones in August, 1917. The Executive Committee, consisting of the President, Secretary, and Treasurer, manage the bank's business subject to the Board of Directors, and passes on the correctness of all applications and land valuations. The Treasurer, W. E. Ellis, is a well-known banker. The Chief Appraiser is Prof. G. W. Shaw, formerly of the University of California. Directors besides the Executive Committee are W. F. Kuhn, who has an orchard in Santa Clara Valley, and J. H. Guill, Jr., a prominent dairyman of Butte county. Mr. Hendrick, President of the University of Nevada, is now devoting all of his time to the Federal Land Bank, as are the rest of the Executive Committee.

Life of Bank Depends on Confidence in Its Loans.

Because the bank operates entirely on borrowed capital which must be repaid and revolved regularly, there is the utmost need of conservatism in appraisement of security for its loans. The U. S. Government advanced $700,000 with which to keep the several District Land Banks of the United States going until they should become self-supporting, when this must be repaid. Meanwhile, every borrower buys with five per cent of his loan that much stock in the bank. This stock must be redeemed at par by the bank when the loan has been repaid. The more loans, the more capital the bank has, and the more business it can do. On the security held by the bank for loans made by it to farmers, it may also issue bonds to supply more capital. The interest on these bonds may be one per cent less than farmers pay the bank. This gives the bank one per cent of its business to pay its expenses. The Berkeley bank is paying its expenses with one-half of one per cent; for borrowers are paying it 5 per cent interest; and the $1,000,000 bonds already issued bear 4½ per cent. As the bonds will ultimately furnish 95 per cent of the working capital of the bank, it behooves the directors to do business safely enough so they can sell the bonds. If any important person in any community lets it be known that in his opinion the loans are being made on a basis of overrated land values, that makes investors hesitate about buying bonds. Then the only way to sell them then would be to raise the interest rate on them. If that should be done, the interest paid by farmer borrowers must be increased to their sorrow. But such increase cannot go over 6 per cent to the farmer; and if the bonds won't sell at 5 per cent there will be trouble brewing. The best way to get outside capital to invest in these bonds is to be able to show that a considerable proportion of them have been sold in the communities where loans have been made. Then the investor says to himself, "If the people who are personally acquainted with the security invest, it must be safe," and it is. For this reason it is the aim of the bank to sell a large proportion of the bonds to local investors. The fact that they can, proves that their appraisements are considered conservative by those who know most about the properties.

THE ENTIRE MANAGEMENT of the Federal Land Bank at Berkeley was newly installed last August with over 7,000 applications to consider for loans aggregating nearly $20,000,000. New applications are coming in at the rate of about thirty per day, asking for about $150,000 per day. The management is working every day and night in the hope of cleaning up all of this business by New Year's. They are sending out to farm borrowers thousands of dollars per day. It is hoped that not a mortgage will ever have to be foreclosed for these loans. To accomplish this and to inspire faith in prospective bondholders who will eventually have to furnish 95 per cent of the capital which is to be loaned, appraisements of land and improvements must be conservative enough so there will never be any loss. If any influential person should be known to believe that appraisements in his community are too high, bond buyers would lose confidence, the bank would find it hard to get capital to loan, and interest rates would go up. It is expected that people with capital to invest who live in communities where loans are made will inspire confidence in distant investors by putting some of their own local money into Federal Land Bank bonds. It has been found most advisable for local associations of borrowers to include as much territory as possible in order to keep a paid secretary full time at a total expense not exceeding one-eighth of one per cent of the loans made. In filling out blanks be sure to answer every question fully, thus avoiding confusion and delay.

Bank Wants Borrowers to Succeed.

The bank does not want to ever have to foreclose a mortgage. Its whole excuse for existence is to enable actual farmers to make the most from the soil by permanent systems of agriculture. For a farmer to make the most from his land he must have adequate equipment; and he must not be a renter. The Federal Land Bank supplies the capital to those who actually farm their own land by their own or by directly hired labor. It also supplies money for half the purchase price of land if a first mortgage can be supplied, and if the land is good enough and extensive enough so that the average man could make a living from it and pay his installments. The future value of the land during the period of the loan must be considered in the appraisement and must be kept up to its appraised value until the loan is repaid. This is why no loans will be made to either a lessor or a lessee who is to continue as such after the loan is made. However, aside from seeing that the security does not decrease in value, the bank does not propose any control over the future bona fide acts of borrowers.

(Continued on page 484.)

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EDITORIALS

WHAT WILL THE COMING SEASON BE?

IT WILL be from good to very good, of course. Why? Because that is the usual way with California seasons. A season which is bad to very bad is a rare exception to a rule which is almost universally true. A croaker who wishes to bet on a "very dry year" has about one chance in seventeen to win—which is rather poor betting, if we know anything about the game. Take it the other way around: a man who wants a better chance than seventeen to one must surely be a "dead sure thing" operator—if we understand that picturesque term: he must be looking for a chance to "shoot salmon in the can." Of course, a croaker who goes caw-ing around when he has only one chance in seventeen of being right is no credit to himself nor to the community, and a man who is depressed or distracted from his productive purpose by croaking when he has seventeen chances of success to one of failure is neither very wise nor very manly—to say the least of him.

THE PROPHETS ARE WITH US.

BUT SOME readers may resent these trifling sporting references to such an important matter as the outlook for a good crop year. To all such we hasten to say that the prophets are with us, though of course they come with more reverent phrases. And we hasten also to say that California is now the residence of all the weather-prophets known to us west of the Rocky Mountains. Father Ricard of Santa Clara of course belongs to us, and since last year we have imported S. V. Rehart, who formerly prophesied from Oregon. It is particularly fortunate that Mr. Rehart has moved to California, for in Oregon they do not care what kind of weather they get, so long as it is different, while in California we want it to be always what it usually is. Therefore, a prophet who puts us down for an "old-fashioned winter" cannot be long without honor. It delights us to quote the latest pronouncements of our brace of prophets and to call attention to their concurrence.

Father Ricard said on November 2:

To say that the coming winter in general is going to be a hard one, with more rain and snow than is generally necessary, and that it will not be so unbearably cold as sometimes before, may be admitted without much ado.

Mr. Rehart said on October 2:

We may expect about two months of extremely dry weather followed by a winter of heavy precipitation, probably 50 per cent above normal, or, in other words, nearly double that of last season. It will be the wettest season for the last twenty-seven years.

Surely those who delight to take guidance from the weather prophets should clap their hands with joy and clap them also upon the handles of their farm tools with enthusiasm born of a good outlook.

HOW THEY DO IT.

ONE OF THE characteristics of modern prophets is their willingness to lay bare their philosophy to the gaze of the multitude: they are quite ready to tell us how they do it. The prophets of antiquity were quite otherwise. There is no reason, therefore, why every thinking man should not be his own prophet, if he will take pains to learn the machinery of prophecy. And here we have in the cases of our two distinguished California embodiments of modern foresight, frank statements of their methods:

Father Ricard says:

The errors that some people commit to writing are sometimes exceedingly pleasing. "See," they say, "how many dates it is necessary for the poor long-range forecaster to put forward in order to insure even a moderate degree of success! Were it not better to write down every day of the month and then say each day is verified somewhere in the world?"

The only cure for this kind of unbridled thinking is mental expansion, and a course in strict meteorology, abounding in well-observed fact and bristling with higher mathematics.

This refers to the requirements for observation and understanding of sun-spot phenomena, which Father Ricard claims to be the basis of his mundane prognostications.

Mr. Rehart, according to his chosen interpreter, the Chronicle, proclaims his philosophy in these words:

Mr. Rehart disclaims any scientific basis for his predictions other than observation of the summer weather, finding a counterpart between hot and cloudy spells in the summer and rain and dry times in the winter. He says: "For the past forty-two years cold summers have been followed by more or less dry seasons and for the same period of years long, hot summers have been followed by seasons of more than normal precipitation."

The Chronicle seems to question whether Mr. Rehart's basis is scientific. Our judgment would be that it will be regarded as one of the most important discoveries in meteorological science—if he can prove the truth of it.

THE TOOLS OF PROPHECY.

AS WE ARE no prophet, we need no philosophy, but we are none the less anxious to place in the hands of our readers an outfit of tools by which each can determine for himself that both of the prophets cited are much more likely to be right than wrong in the forecasts for the current season. This is for the reason stated in our first paragraph: that California seasons, by seventeen to one, have been more or less good, and that one has no reason to hold for a moment that a dry beginning makes a dry season. The following is the record of San Francisco rainfall to November 1 and seasonal, since the Americans came:

Year	Rainfall to Nov. 1	Rainfall seasonal	Year	Rainfall to Nov. 1	Rainfall seasonal
1849-50	3.14	33.10	1884-85	2.92	18.10
1850-51	.33	7.42	1885-86	.83	33.05
1851-52	1.24	18.46	1886-87	.62	19.04
1852-53	.80	35.26	1887-88	.30	16.74
1853-54	.62	23.87	1888-89	1.13	23.86
1854-55	2.69	23.76	1889-90	7.29	45.85
1855-56	.00	21.06	1890-91	.33	17.59
1856-57	.52	19.91	1891-92	.93	18.53
1857-58	.98	21.81	1892-93	1.67	21.75
1858-59	2.90	22.22	1893-94	.39	18.47
1859-60	.08	22.27	1894-95	2.82	25.70
1860-61	.91	19.72	1895-96	.89	21.25
1861-62	.02	49.27	1896-97	2.20	23.43
1862-63	.52	13.74	1897-98	1.80	9.38
1863-64	.03	10.08	1898-99	1.92	16.87
1864-65	.35	24.73	1899-00	3.92	18.47
1865-66	.50	22.93	1900-01	1.94	21.17
1866-67	.11	34.92	1901-02	1.42	18.98
1867-68	.24	38.84	1902-03	1.70	18.28
1868-69	.15	21.35	1903-04	.17	29.58
1869-70	1.41	19.31	1904-05	7.52	23.45
1870-71	.03	14.11	1905-06	.00	20.42
1871-72	.09	30.78	1906-07	.40	26.17
1872-73	.15	15.06	1907-08	1.40	17.35
1873-74	.92	24.73	1908-09	.77	25.57
1874-75	2.71	20.56	1909-10	2.03	19.52
1875-76	.24	31.19	1910-11	.70	25.49
1876-77	3.74	11.04	1911-12	.28	14.96
1877-78	.67	35.18	1912-13	1.74	11.97
1878-79	1.83	24.44	1913-14	.08	29.46
1879-80	.81	26.66	1914-15	.31	27.41
1880-81	.05	29.86	1915-16	.02	27.12
1881-82	.79	16.14	1916-17	2.04	15.78
1882-83	2.92	20.12	1917-18	.02	??
1883-84	1.90	32.38			
			Normals	1.54	22.27

These figures afford basis for much meditation and ample exercise of the prophetic art on the basis of what has actually occurred in the past, which is the best known foundation for prophecy. These figures will make or break almost all theories. They show, for instance, that dry beginnings have brought very wet endings, and that the converse is also true. It is interesting to note that the wettest season San Francisco ever had (49.27 inches in 1862) began with .02 inches on November 1, exactly as we begin this year. And it is hardly less interesting that the second greatest rainfall (45.85 inches in 1890) followed the second greatest rainfall to November 1 (7.29 inches), while the very greatest rainfall to November 1 (7.52 inches in 1905) was followed by a season's total of 23.45 inches—only an inch above the normal. But out of all the confusion one may get from contrasting single instances of extremes and their sequences shines the general assurance, which California farming work and investments should bravely proceed upon, that California seasons are predominantly good and richly responsive to wisely planned and efficiently executed efforts for production.

NOW THEN GET TO WORK.

HAVING THUS established the character of the coming crop-year as clearly as prophets and probabilities can do it, the lesson surely is to get to work for the largest production of food of which California is capable under the handicap of an inadequate and inefficient labor supply. If we could land in this State fifty thousand strong and willing farm workers, we surely could double our wheat and sugar products in 1918 and carry forward our corn, beans, rice and other staple field crops at the ratio of increase which was set in 1917 over previous years. We could lift our dairy and poultry production out of much of its present hardship and check the tendency to reduction of the products. We could also increase forage crops so that beeves, hogs and sheep would be multiplying instead of declining in numbers. And we could confidently add to our acreage of staple commercial fruits, as the outlook justifies. But no matter how good the outlook for growing conditions, they must be matched by good labor conditions to come through with the products the world wants.

And what is the outlook for the world's wants? The cable says that on November 3 Sidney Webb, a political economist, at the London School of Economics, asserted that peace would come suddenly and unexpectedly and then the world would face a great shortage, signs of which were already visible. Mr. Webb continued with these words:

The wheat stocks of the world have been reduced to the smallest amount ever known. Flocks and herds all over the world are much diminished. Even the pig is rapidly disappearing. Metals, coal, timber, hides and leather and all building materials will be at famine scarcity. One-eighth of the world's population is engaged in non-productive work. The economy that could be set up against that is very small. There will be a long interval between demobilization and the repairing of the devastation and waste. We should now be making preparations to revictual the world if we are to avoid a shortage developing into a famine.

WHENCE MUST SUPPLY BE HAD?

CHIEFLY FROM the Americas and Australia and all water-craft will seek it: even idle warships may unship their armaments and go for it. It will take several years of peace for Europe to regain the degree of self-feeding which she had attained in 1913. Europe's first rush in production will be for things to sell, not for things to eat. The higher-ups over there who have made the money which the war has cost will make their first drive on commerce and its requirements, not on agriculture, and they will force as much as possible of the reduced labor supply into their service. They can make more money by selling to other nations than they will lose by buying food where they can find it. Perhaps only England and Italy will have spare men set free by the return of peace and the English surplus is already booked for her colonies. Other belligerents will probably allow very few to go to the help of the rest of the world for some years, and they will all be in the market to secure labor from adjacent neutral countries. In this country much war-labor will be thrown out, but it will be as a rule unfit for farm work and is more likely to need feeding than to help in feeding others. The eastern scarcity of farm labor will absorb all that is available of it and still be unsupplied. Broadly speaking, then, there will be great European demand for food but no gift of men to produce it in the great supply countries. The demand will be great and prices high for a long time because there is no visible labor supply in such countries to bring production much nearer to capacity for production than it now is. And yet we are under the dictation of politicians who coddle outlaw labor which proclaims destruction and

honorably organized labor which refuses to consider any interest but its own.

WHAT WILL CALIFORNIA GET FROM PEACE?

IF DIRECT lines of steamers to the Mediterranean via Panama are realized after the war as they were proposed in 1913, we are likely to get some recruits for our farm labor supply from Italy and Greece, but it is only conjecture as to the volume and speed of their coming. Such supplies will be tempted to enlist nearer home and they will be well paid to do so. Otherwise we see no relief from those to whom the laws give admittance. On the other hand, California is very likely to secure large numbers of settlers, who will desire to buy labor, not to sell it. We shall get many well-to-do Europeans who are weary of turmoil and conflict and will be glad to make homes under clearer skies and to avoid the stress of the reconstruction period abroad. We shall also get many more from the eastern states to whom the free money of the war period at the east has given the means for geographical indulgence. And such large additions to our population and force of development will increase the local demand for common labor and the lack of such labor will restrict endeavor and investment which the proper growth of the State demands. These are things which those who are coughing down the California farmers' claim to have adequate and efficient farm labor should think over carefully. Of what avail will it be to glory in our prophets and to rejoice in our probabilities, both of which are set fair for production, while we have no prospect of sufficient, competent men to do the essential work thereof?

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Sulphuring Dried Fruits.

To the Editor: The United States Government, in its administration of that portion of the Pure Food and Drug Act which applies to dried fruits, prescribes a certain maximum for the amount of sulphur dioxide to a given amount of fruit. Specifically this is, I think, 350 milligrams of sulphur dioxide to a kilogram of the dried product. Can this be interpreted within reasonable limits in terms of pounds of sulphur and pounds of fruit in the sulphur house? In other words, is it possible to be reasonably sure of not exceeding the maximum allowed by watching the amount of sulphur used in the sulphuring process? And does this vary in practice to any extent with the different fruits?—Reader, Ontario.

Our notion is that you cannot determine amount of sulphur dioxide in the bleached fruit by weighing a certain amount into the sulphur box for at least two reasons. First, the absorption will vary with different fruits and with different conditions of the same fruit. Second, the absorption will differ with different durations of exposure as well as with different quantities of sulphur burned.

As to the national regulation concerning the amount of sulphur dioxide permissible in sulphured dried fruits, there is, as we understand it, no such regulation now operative. There was at first such a regulation promulgated, which placed the amount at 0.125 per cent, which we presume is the one to which you refer. This was practically revoked by a decision dated March 5, 1908, which said: "No objection will be made to foods which contain the ordinary quantities of sulphur dioxide if the facts that such foods have been so prepared is plainly stated upon the label of each package." Since that time the provision about labeling has, we believe, fallen into innocuous desuetude and sulphuring has been done to whatever amount renders the fruit commercially acceptable. It is therefore more important to watch the appearance of the fruit than to worry about the amount of sulphur it may contain.

Is It a Reasonable Expectation?

To the Editor: Will you kindly give me your best plan how to handle a 10-acre farm close to a growing town? It is good land. I have a good stand of alfalfa on the land now, all under irrigation. I wish to get it into condition so it will clear me about $200 per acre a year.—Owner, Glenn county.

If we had a recipe like that we could win the war with it. Your expectation seems to rest on the assumption that it is possible to make land net the purchase price of it every year. Of course, land sometimes returns its purchase price the first year, or in some other year, when the crop is large and the price of it high, but we know of no land which nets $200 per acre year after year. There is land which may yield much larger gross returns, but from them has to be taken much interest on improvements and labor cost for many preparatory years, and much cost for operation each current year. Land which could be guaranteed to yield $200 an acre per year net would surely be worth upwards of $2500 per acre as an investment. We do not know where there is any and we do not have any "best plan" for making any.

But perhaps you do not mean strictly net returns, but are figuring in the too common farmer way of simply charging against a crop what has to be paid out in cash for hired labor and supplies and calling all the rest "clear," without charging your own family living and labor and interest on your capital. Of course, if you are a regular "tank" for hard work and have a houseful of baby "caterpillars" to help you, you would come nearer to "clearing" $200 per acre per year, but that does not help us to give you a plan, for we do not know any way by which land can be guaranteed to give annual gross returns of $200 right along. You need a real estate prophet to interpret your dream.

Corn-Worms in Beans?

To the Editor: I have some monstrous bush lima beans which are now setting their third crop. The last crop had worms in them, which did not eat their way into the bean but seemed to have been in the bean from the start. They looked quite like the worms that you see on green corn. Can you tell me a remedy?—Reader, Sherman, Los Angeles county.

We are no dream-reader: Why did you not send us a bean with the bug into it? You surely must have a monstrous bean if a corn-worm could get inside it and leave no door open. What you had was probably the larvae of a bean weevil, although this pest does take to limas as freely as to some other beans. In that case the egg was laid in the seam of a pod when small and the minute grub tunneled into the bean through so small a hole that the growing bean closed it up and left the worm in the bean with no sign of ingress. That is the way with the early broods of weevils: later broods break into the mature beans like burglars and leave windows open. The only remedy we know is to plant no weevilly seed.

Heating Out Weevils.

To the Editor: You say "to drive weevil out of grain place in the hot sunshine." That is a new idea to me. Will there be any danger of injuring the germ, so the seed will not be good to plant—say of beans, corn, etc.?—D., Chino.

We are not commending sunshine as a panacea for weevils. What we said was based on the old practice of emptying warehouses of holdover grain and spreading out the sacks in the sunshine while whitewashing the interior to reduce the number of weevils waiting for the new crop. Such heating is believed to reduce the weevils in the sacked grain. We are not sure how effective it is. Fumigation with bisulphide of carbon would be better if there is a tight room and you are wise enough to keep all lights away from the vapor. This treatment is available for all grains. There is no danger of injuring germs unless the heat runs above 130 degrees Fahr.

Small Worms in Bean Plants.

To the Editor: What are little white worms one-eighth to one-quarter inch long which enter the stems of bean plants about the surface of the ground and blacken them?—Reader, Monterey county.

How many times must we request readers not to enroll us in a guessing contest with this kind of a question? No coroner's jury can render a verdict without sight of the corpus delicti. Of several small white worms or grub-like creatures which might be mining in the stems of bean plants we have no means of knowing which you have. It might be a young wire worm, which likes bean roots and stems, or a symphylid, which tackles the roots of lima beans, or it might be several other things. Do not ask us to judge without the corpus delicti!

Unseasonable Bloom of Cherries.

To the Editor: Can you tell me whether the blooming of cherry trees now will spoil the crop for next year or not?—F. E. G., Auburn.

Our limited observation is that such unseasonable fall bloom does not preclude regular bloom and bearing. Theoretically it ought to, but practically, so far as we have noticed, enough bloom buds will remain dormant to make a following crop. Who has contrary observation? If we are right the fact is to be accounted for by the other fact that a tree usually has many times as many bloom buds as it can carry fruits and the loss of some of them in the fall merely gives it fewer to throw away in the spring. And the truth of this surmise depends upon how full the fall bloom may be. Write us next spring whether you get a crop or not.

Soaking Bayo Beans.

To the Editor: I would like to know through your paper what is the matter with my new bayo bean crop. I put some to soak as usual and they do not swell for forty-eight hours. Kindly let me know what is wrong with them.—L. S. G., Georgetown.

The trouble is probably not in the beans but in the water. Very "hard" water delays penetration and softening and is not fitted to increase the digestibility of beans. Add from a quarter to half a teaspoonful of baking soda to a quart of water and see if you get better results.

Storage of Onions.

To the Editor: Is there any way to keep onions from sprouting, or will keeping the sprouts cut off stop them from rotting?—R. G. M., Sherman.

We know no way to keep onions dormant in California except cold storage, which is available in the cold storage warehouses in our larger cities. Sprouting onions will not keep them dormant. Rotting is not, however, a necessary accompaniment of the earlier stages of sprouting. Rotting is largely prevented by care that the bulbs are thoroughly dry when put away and by keeping them in as dry, cool place as you can find on your place.

The Honey Melon.

To the Editor: Is the Honeydew an early melon? Is it as prolific as Rocky Ford?—Reader, Chino.

The Honeydew is classed with the cassabas or winter cantaloupes and is later than the summer cantaloupes (of which the Rocky Ford is the accepted commercial type) and is ready for use earlier than the other cassabas, though it also has good keeping quality. It is held to be prolific, but just how it compares with Rocky Ford we do not know. This is of minor importance, perhaps, as the two are not in competition at all.

Red Spider on Almond.

To the Editor: I am sending some limbs from an almond tree. This, as you will note, is covered with scale. What scale is this, when shall I spray, and what shall I use?—P. M., Yettem.

We do not find any scales. You have a light infestation with mites or "red spider"—too few to take off the leaves, as these pests do when abundant. Get after them next spring with the knock-out treatment described by Mr. Stabler on page 280 of our issue of September 22.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., November 6, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	2.19	2.87	4.67	64	38
Red Bluff	.48	1.28	2.86	78	48
Sacramento	.13	.64	1.67	80	46
San Francisco	.12	.14	1.86	74	50
San Jose	.18	.19	1.45	76	40
Fresno	.26	.26	1.06	82	48
San Luis Obispo	.12	.22	2.00	86	42
Los Angeles	.34	.34	.94	84	50
San Diego	.04	.21	.63	70	50

Municipal Milk Supply is a Public Utility

By Professor Elwood Mead, University of California

THE TEMPTATION to go out of the dairy business is great because the profits in easier kinds of farming are so abnormally large. So long as these conditions continue, nothing that has been proposed or is likely to be proposed will prevent high prices. In California, Oregon, Washington, and the Middle West thousands of high-grade dairy cows are being sold for the same reason that caused the sale of a fine Holstein herd in this State recently. The owner was getting 50 cents a pound for butterfat, but he said: "What's the use of my keeping cows? I can't get milkers, and it's slavery to do the work myself. I had thirty acres of beans this year, grown in one hundred days, and I sold them for $5,000." Ten-cent beans are better than 50-cent butterfat. Profit in growing beans, wheat, and alfalfa is certain to make milk and butter scarce and prices high.

ULTIMATE SOLUTION OF THE MILK PROBLEM.

The final solution of the milk problem will come through making milk a public utility. A cheap and ample milk supply is a municipal problem, like a cheap and abundant supply of water. The need for milk is so universal and has such a vital relation to the health and vigor of our children that we cannot afford to depend on the unorganized efforts of individuals or the organized efforts of private associations.

In order to have cheap milk we must make arrangements by which production can be systematized and cheapened, and we must make it to the interest of dairymen to prepare for this. To do this it is not necessary that prices be excessively high. The most important thing is to be certain of a paying price for several years. The equipment of a dairy farm is costly. The building up of a dairy herd which will give the best results is not a matter of a few months but the outcome of a continuous policy of selection which will run over several years. If, therefore, the municipal authorities, in conjunction with the State Agricultural College, made a study of the localities best suited to producing milk, determine the minimum supply required, and then enter into contracts with dairy associations running over, say, ten years, we would have this matter on a scientific, efficient basis.

WASTEFULNESS OF DUPLICATION.

When we turn from production to distribution we find certain features in present methods that undoubtedly can be improved. There is not a particle of reason for retaining the present wasteful, senseless duplication of routes or of maintaining pasteurizing plants which work only two or three hours a day. The distribution of milk in cities ought to be carried out according to a prearranged, comprehensive plan. Cities should be divided into districts with only one distributor to a district. The work could be done by employes of the city or by those now engaged in the business acting under a license or contract. In this way the public would always have a knowledge of costs and be freed from any suspicion of being exploited.

There is objection to this by those who have a liking for a particular distributor or who want the milk of a particular dairy herd. Some want the milk of Jersey cows, others that of Holstein cows. The gratification of these personal desires or prejudices by those willing to pay the price can be secured without depriving those to whom cost is the great factor from receiving a cheap and healthful supply of pasteurized milk. This contract for distribution need not include certified milk, or it might be provided, as is now done in the municipal markets of Edinburgh, Scotland, that the independent supplier pay a license fee which would go to help recoup the city for losses sustained through this outside competition.

High producing dairy cows make their own weight of butterfat in a year. They make twenty-five times their weight of milk in a year. The products of dairy cows are the most digestible, the most necessary, and the most universal of human foods.

LEGISLATIVE RECOMMENDATIONS.

The legislative committee of New York, which thoroughly investigated the milk situation in that State, recommended that there be created a state department to provide ways and means to consolidate the service not only in New York City but in every city in the State. It reached the conclusion that milk must be made a public utility. In Chicago there is an economic war between producers and distributors, for which the consumer is paying. A temporary truce has been secured, but it is only a truce, and is no final solution. The only fruitful policy is to make long-time contracts for supplies under municipal or state direction. It is no argument against this that it involves a change from past policies. In the past we have made too little use of our government as an instrument of public service. We have left to individual action everything which private enterprise would undertake. We have failed to recognize that the acts of individuals have a cumulative effect and create conditions which affect not only communities but the nation; also that sooner or later individuals combine and the public has to decide whether it will submit to irresponsible private or to responsible government public direction maintained to serve all the people and over which public opinion exercises a dominating influence.

LETTER TO THE MAYORS OF THE BAY CITIES, OCTOBER 29, 1917.

I have seen the letter addressed to you by Col. Harris Weinstock, State Market Director, relative to a conference regarding measures to cheapen the cost of milk. I wish to supplement Colonel Weinstock's letter by an explanation of the suggestions made in Circular 175, a copy of which is enclosed, in the hope that it will aid you in understanding what is proposed.

Our studies of the milk problem of the San Francisco bay cities leads to the belief that milk should be made a public utility. The same conclusion has been reached by the legislative commission of New York. The San Francisco bay cities consume daily about 56,000 gallons of milk. This daily demand is subject to very slight fluctuations and is certain to increase as population increases. Furthermore, as these cities grow it will be more and more difficult to have an economic and satisfactory distribution under the present uncoordinated methods.

A satisfactory solution means, therefore, a change in present arrangements for supplying consumers. Instead of attempting to patch what we now have, let us consider an entirely new scheme. Suppose that the bay cities are a great corporation, like the steel trust, and that you, as mayor, were directing head and the aldermen were the board of directors of this corporation. In that case, would you not undertake to arrange for the needed milk supply by contracting for the whole amount? You would not make that contract for one year but for a period of, say, five or ten years. Before entering into this contract, you would ascertain where milk could be most cheaply produced, and endeavor to develop that section into a dairying district. A long-time contract for the milk supply of the city would be the most effective means of accomplishing this result.

The influence of such a contract in cheapening milk production would be very great. The building up of a profitable dairy herd is not a matter of a day but of selection extending over several years. The average milk production of California is about 500 gallons per year per cow. The average should be not less than 750 gallons per cow. An increase of 50 per cent in production through selection and good management would not mean an increase of 50 per cent in cost nor anything approaching it.

If the encouragement given by these cities led to the creation of a permanent dairying district, it would be possible to organize the collection of milk and ship it to the city in carload lots so as to lessen cost. Pasteurizing plants could be placed close to the railroad tracks so as to avoid trucking through the streets.

Retailing in the city should be organized to eliminate duplication of wagons traveling the same streets, the operation of needless pasteurizing plants, the traveling long distances to cut into the territory of a rival, and making two deliveries a day when one would suffice. If we are to meet the economic competition of other cities and of other countries, we must do these things.

I hope that you will be able to send some one to the conference who can consider this matter, not simply as a means of eliminating temporary abuses but prepare for an inquiry by the municipal authorities of the bay cities into the feasibility of creating entirely new arrangements for eliminating waste and expensive production and distribution.

ROOT CROPS FOR FEED.

To the Editor: What is the comparative feeding value of carrots, sugar beets, and stock beets for dairy stock?—D. M., Soledad.

Carrots have one per cent digestible crude protein, 7.1 per cent digestible carbohydrates, and 0.3 per cent digestible fats. Figures for sugar beets are, respectively: 1.1 per cent, 9.3, and 0.1. For mangels: 1.1, 4.8, and 0.2. Therefore, if they are relished equally, the sugar beets have nearly double the carbohydrates as stock beets, but stock beets might have more per acre than sugar beets. Carrots have proved highly desirable on the Cooper Ranch near Salinas, as well as elsewhere. They give rich color to the milk, which would be a good way to attract customers in city milk trade.

One of the State institutions of Nevada has a policy of buying high-class purebred animals and selling them at cost to farmers of Nevada, so there ought soon to be a well-distributed purebred industry there.

Rice Harvesting in California

Written for Pacific Rural Press by B. J. Morris

A picture to be seen all over the rice districts of California at this season of the year.

RICE HARVESTING began in California two to three weeks earlier this year than usual. The weather conditions have been most favorable. By the time this goes to press most of the fields will be in the shock. Nature seems to be doing her "bit" to help California help feed the world.

A THRILLING SPECTACLE.

A score or more of binders at work in one rice field at the same time is a thrilling sight. The machines do not follow one another in straight lines clear across the field, as do wheat and barley harvesters, but each follows the circling lines of a dike made to hold water at a uniform depth over a certain part of the field. The size of the enclosed plots or levees is determined by the lay of the land.

A field with a score of machines going this way and that in all directions at the same time seems literally alive with teams. One is reminded of the game of fox and geese, and the harvesters appear to be playing rather than working. Still, rice harvesting is real work, and has difficulties to overcome unknown to wheat and barley harvesting.

HARVESTING DIFFICULTIES.

Besides the difficulty incident to the small checks into which the fields are divided, two or three others stand out prominently. One is the water-soaked condition of the ground. It is hard to drain the water off all parts of the field so that the ground will dry sufficiently for good traction. This difficulty is increased in many instances by the nature of the soil, which is a kind of adobe—sticky and tough when wet and hard and rough when dry. To obviate this difficulty most binders use gasoline motors.

WORKING ON BOGGY GROUND.

Another drawback which rice harvesters frequently meet is the early fall rains. The rice harvest is sometimes little better than begun when the rains begin. This puts the already soaked ground in a condition to clog the wheels and is a great hindrance to harvesting. As a prominent grower put it, "There is a fortune for the one who can invent some means for keeping the bull-wheel from clogging up."

With many rice growers a fourth difficulty presented itself this year, viz.: the shortage of labor—a condition not peculiar to rice harvesting, however.

1917 A PROFITABLE YEAR.

These troubles fade into insignificance, however, when the income from the rice fields this year is considered. Many fields are making 60 or more sacks to the acre, and few are going under 35. With an extraordinary heavy yield and with a price of 4 cents or better, the rice growers have no complaints to make about the impediments incident to their business.

A TYPICAL RICE RANCH.

As illustrative of the conditions surrounding rice harvesting, we will give a brief account of the work on the Huston Farms, near Winters.

There are 980 field acres of rice on these farms. The entire acreage will be handled this year with only fourteen self-binders. This is possible because of a very simple plan which has been successfully carried out. Four kinds of rice were sown instead of one—the Italian rice, which ripens first; the Early Prolific, which ripens next; the Wateribune, which ripens after the Early Prolific; and the 1564, which ripens after the Wateribune. At least 36 binders would be required to harvest the rice on the Huston Farms if the entire acreage ripened at one time. With the four kinds ripening in succession, the work is done easily with 14 machines and the labor reduced more than one-half.

LABOR SUCCESSFULLY HANDLED.

A most interesting feature of the work on the Hustons Farms is the treatment which the laborers receive and its salutary effect. Sixty men are required to do the field work. In addition, there is an office and superintendent force of ten men. Replying to a question as to whether he had trouble in securing laborers, Willis Pike, field manager of the Farms, replied in the negative. Asked how he had managed to get sufficient help in the face of the prevailing labor shortage, Mr. Pike explained that when he took over the management of the Farms, about three years ago, he found his most serious problem the securing of permanent help, competent and trustworthy. He decided to make the living conditions "as near home-like as possible." Accordingly clean, airy, attractive, convenient "bunk houses" were erected to accommodate all regular help. An equally attractive dining-room, scrupulously kept free from flies and unsavory odors, neatly swept and garnished, was located within handy reach of the bunk houses. A shower house, with modern conveniences, was open every night to all the men. A general store was maintained, where the men could buy tobacco, clothing, etc., at city prices. Every Saturday night an omnibus was run to Winters, taking the men free of charge to town, where they could enjoy the "movies," get a shave, etc. At midnight the omnibus returned to the Farms.

PERSISTENCE AND PATIENCE REWARDED.

For the first few months the venture was a real disappointment. Doubting Thomases poked fun at Mr. Pike, "the would-be philanthropist." When a second call for help came, however, the former hands returned to a man. Home-like conditions had done their work. The men returned with a feeling of deep appreciation for the humane treatment which they had but half-heartedly appreciated at first.

THE ANNUAL RICE SHOWER AUGURS WELL FOR DEMOCRACY.

As the writer drove by field after field from Colusa to Winters and saw the heavy sheaves of well-filled rice following one another in quick succession from the self-binders, he could not help thinking that every sheaf that fell was an earnest of democracy.

And the meaning and significance of democracy for mankind became a thousand times more precious, and laborers in the fields now call from us the blessing which Whittier so well meted out to the barefoot boy. In giving due praise to farm laborers, we follow closely his lines:

Blessings on thee, toiling man,
Harvest hand, with cheek of tan!
With thy cord'roy pantaloons
And thy merry whistled tunes;
With thy brown hand, browner still,
With the north wind, from the hill;
With the sunshine on thy face,
Through thy torn brim's jaunty grace,
From my heart I give thee praise,
Harvest hand of war-time days.

Root Stocks for Deciduous Fruit Trees

By Prof. W. L. Howard, University of California

A SURVEY of the leading California nurseries was recently made in order to determine what root stocks are now being chiefly used for deciduous trees. The following is a synopsis of the facts brought out by this inquiry. The figures given are averages for all of the nurserymen who answered the question submitted.

For almonds the chief stock is almond root, both bitter and sweet being used and together representing 56 per cent of all the almonds propagated; 44 per cent of peach stock is used.

For apricots the chief stock is apricot root, 58 per cent; peach, 27 per cent; myrobalan, 13 per cent; and almond, 3 per cent.

For cherries, Mazzard root represents 71 per cent of all cherries propagated; Mahaleb, 26 per cent; other stocks, 3 per cent.

For peach, 91 per cent of all trees propagated are on peach roots. The other 9 per cent are on almond, apricot, and myrobalan in about equal numbers.

For pears the chief stock is now the Japanese or Pyrus serotina, 63 per cent. French stock is still used to the extent of 33 per cent and 4 per cent are on quince.

For plums, myrobalan is the chief stock, 60 per cent; peach, 37 per cent; almond, 3 per cent.

For prunes, myrobalan is also the chief stock, 64.3 per cent; peach, 23.3 per cent; almond, 11.4 per cent; apricot, 1 per cent.

The reasons given for planting almond on peach were that the peach is more adaptable to extreme conditions of moisture—that is, too much or too little moisture, and that they thrive better than almond root on thin or hardpan soils.

Another reason given is that the peach is not as susceptible as the almond to root knot. Practically every nurseryman was of the opinion that myrobalan is a poor stock for almond on account of the bad union that it makes.

While peaches are pretty generally grown upon peach stock, many prefer the almond root because they say it does better on light, dry soils. It will be noticed that this is in conflict with the reasons given for using peach root for almonds. Myrobalan is used for a peach stock for planting in soils that are inclined to be wet. Prunus davidiana has been successfully used on a small scale for planting in alkali lands where peach stock had always died.

Many nurserymen prefer prunes on peach or even on almond, where the trees are to be planted on dry, gravelly soils. Also peach is the preferred stock for prunes in foothill soils wherever peach trees are known to succeed.

For growing apricots the peach root is the popular stock, because this root better fits the trees for growing on dry or gravelly land.

Continued on page 467.)

Gypsum Restores Diseased Lemon Orchard

Written for Pacific Rural Press

NINETY-FIVE PER CENT of the lemon trees on the El Cerrito Ranch in Riverside county were afflicted with brown rot and gum disease and the orchard was a wreck seven years ago, according to Manager W. C. McCully, who at that time began operations which have cleared the 125 acres of all gum disease and filled most of the old trees with fine fruit wood and fruit. It was principally by pruning and soil treatment, though good cultural practices all through have been necessary.

GYPSUM MADE SOIL AVAILABLE.

In the mountains near the ranch are great gypsum beds. Mr. McCully studied the tree growth around these and decided to try gypsum on a two-acre piece in which the trees were particularly bad. He has a theory that gummosis is principally due to hard ground and the consequent choking off of sap when it dries. Where roots must grow tortuous and twisted about themselves, they choke each other; and surely the flattened, twisted roots he found on these trees could not function to best advantage. The writer was shown some clods of this soil which were chopped out of the two acres in August, 1911. They were hard as rock, but they contained roots flattened all out of shape. The ground would soften when wet, but when it hardened the damage was done. It doesn't get hard like that now anywhere in the orchard, though it has not been cultivated in four years. It is plowed three or four times a year and the three irrigation furrows are plowed full after each watering. The soil was soft and loamy when seen by the writer late last July. It was dry on top, but the clods crumbled easily, and moisture was well held underneath. The ground used to turn up so hard that you could hardly ride over it on a cultivator. To loosen it somewhat under the trees with prong hoes cost ten to fifteen cents per tree. Last summer, though the hoe had not been used under trees for three years, the soil was soft and crumbly a foot deep as far as we dug. It was seven years ago that a big hole was dug around and under the main roots of the two acres of old trees, the gum was chiseled off, and the roots found dead and rotten. About 400 pounds of crude gypsum was put under each tree, besides enough more broadcasted between trees to total about 200 tons per acre, and all between the trees was plowed seven inches under. The trees on this two acres did not come back and were pulled out two or three years ago. Gypsum was put into the holes three or four feet deep and the lemons replanted did well. This piece was being used for a garden, so soft had the soil become.

One of the glories of California is her strong climatic contrasts. The green and gold orange groves on the valley's rim, with the picturesque snow-capped mountains in the background, make it a bit of paradise for dwellers therein.

BIG ROOTS DEAD—NEW FEEDERS MADE FROM ABOVE CROWNS.

On another piece of old trees just across the drive from the two acres mentioned the trees had been left longer because they showed signs of recovery after gypsum was applied three years ago. This, however, was a delusion, as was shown by several trees pulled from that area last spring. All their big roots were dead (on account of hard soil and gum disease, according to Mr. McCully), but as they had originally been set deep and soil had washed around the trunks, a new fringe of roots had started all around the trunks in the ground above the crowns. These roots, started since gypsum was applied, supported the trees so they looked to the writer as if they were doing well; but Mr. McCully said that they never would be fruitful because the taps and other big roots had died long ago.

NO INJURY FROM GYPSUM.

Gypsum makes conditions so the trees can recover, by aerating the ground all around them without the injury that hoes would do. Surface water drains away quickly. The ground is so porous that irrigation easily subs across from the furrow 14 inches deep midway between the trees and from the other two furrows 4 to 6 inches deep about the outside edges of trees.

Pores and angleworm holes fill the soil now, though it used to be solid. At various places we saw the surface whitened with gypsum, but Mr. McCully assured us that there is no possibility of its injuring the trees, and nothing would do this heavy soil more good than gypsum. For this reason the gypsum beds were bought last spring and a 40-horsepower tractor has been put to work hauling down another dressing for all the trees. Excessive applications, however, are not necessary to show good results, as 100 pounds per tree will help on hard soil.

ROOTS KEPT COOL.

Very little fertilizer has been used, but leaf mold is hauled from the hills at a cost of not over $2 per ton. Where this has been applied, moisture is held longer and the ground kept cooler, preventing damage to roots. With the same object, plowing is done 9 inches deep to keep roots well down below the heated surface, which dries out a few inches anyway.

THINNED WITHOUT CUTTING BACK.

In the pruning Mr. McCully seemed to be butchering. The trees were built with six or seven main limbs which crossed each other; and like crossed roots throttled each other. This was still quite evident in some of the trees last summer, though three or four big limbs had been cut out at the heads. The heavy pruning had caused a fine growth of fruit wood without suckers. It used to keep a dozen men busy taking out suckers after a usual pruning consisting of heading back as per the common practice. Mr. McCully does not head back anything any more. Where growth is too thick, he simply thins it out.

Fiftieth Fruit Growers' Convention

[To be held under the auspices of the State Commission of Horticulture at Sacramento, November 21 to 23, inclusive.]

The fruit growers of the State of California will hold their fiftieth convention in the Senate Chamber, Capitol Building, at Sacramento, from November 21 to November 23, 1917. It will be attended in a body by the County Horticultural Commissioners, who will also meet November 19, 20 and 24. The two programs of these meetings will make an exceptional treat. Everyone connected with the fruit interests of our State should be there.

PROGRAM.

[November 23 will be devoted to discussions of the labor situation, with a view of impressing on the Administration the serious absolute shortage of labor on the Pacific Coast. California Food Administrator Ralph P. Merritt has been invited to be present and get the facts as they are.—Ed.]

WEDNESDAY, NOV. 21, 9:30 A. M.

(G. H. Hecke, State Commissioner of Horticulture, Chairman).

Music, Quartet Chamber of Commerce; invocation, Bishop W. H. Moreland; welcome in behalf of the city, Hon. D. W. Carmichael, City Commissioner; welcome in behalf of the Chamber of Commerce, Charles E. Virden, president Chamber of Commerce, manager California Fruit Distributers, Sacramento; response and annual report, G. H. Hecke, State Commissioner of Horticulture, Sacramento, Cal.

REPORTS OF PROGRESS.

State Agricultural Society, John H. Perry, president, Stockton.

State Viticultural Commission, E. M. Sheehan, secretary, Sacramento.

California Fruit Distributers, Chas. E. Virden, manager, Sacramento.

California Fruit Exchange, G. H. Cutter, president, Sacramento.

Associated Raisin Growers' Co., R. L. Payne, director, Fresno.

California Fruit Growers' Exchange, E. G. Dezell, assistant manager, Los Angeles.

Almond Growers' Exchange, H. C. Tucker, manager, San Francisco.

Walnut Growers' Association, Carlyle Thorpe, president, Los Angeles.

Farmers' Protective League, C. A. Bodwell, secretary, San Francisco.

California Association of Nurserymen, Max J. Crow, president, Gilroy.

WEDNESDAY, NOV. 21, 1:30 P. M.

(E. J. Wickson, Chairman.)

Report, Committee on Deciduous Root Stocks, H. P. Stabler, Yuba City.

Deciduous Root Stocks, Dr. W. L. Howard, Davis.

Discussion led by A. L. Wisker, Grass Valley.

Better Fruits, Dr. H. J. Webber, Riverside.

California Soils and Cover Crops, Prof. W. M. Mertz, Riverside.

Discussion led by C. V. Freed and A. B. Humphrey, Sacramento.

WEDNESDAY, NOV. 21, 7:30 P. M.

(F. B. McKevitt, President California Fruit Distributers, Sacramento, Chairman.)

"California Standardized Fruits and the Auction Market." Discussion led by Frank P. Ripley, Boston; Wm. Sproule, San Francisco; Geo. W. Ashley, Lodi; Alden Anderson, Sacramento; Col. J. P. Irish, Stockton.

THURSDAY, NOV. 22, 9:30 A. M.

(W. J. Alexander, Director Prune and Apricot Growers' Association, San Jose, Chairman.)

"Have We Reached the Limit of Profitable Orchard and Vineyard Planting?" H. C. Dunlap, Secretary Prune and Apricot Growers' Association, San Jose.

Reports of Progress: Prune and Apricot Growers' Association, F. M. Coleman, San Jose; Pear Growers' Association, F. T. Swett, Martinez; Peach Growers' Association, J. F. Niswander, Fresno; California Associated Olive Growers, J. C. Martin, Jr.; Central California Berry Growers, Mark Grimes; Review, Colonel Harris Weinstock, San Francisco.

THURSDAY AFTERNOON, NOV. 22.

Excursion to University Farm, Davis, Yolo county. Special train leaves Sacramento for Davis, Southern Pacific depot, at 12:30 p. m., where there will be lunch at 1 o'clock. Then follow a tractor demonstration, statement of horticultural experiments, auto sightseeing, statement of purpose of Farm School, a public speaking contest for prizes aggregating $110, and other interesting features, including a discussion of "The Russian Situation." The return train for Sacramento leaves at 5:30.

FRIDAY, NOV. 23, 9:30 A. M.

(C. C. Teague, Manager Limoneira Orchard, Santa Paula, Chairman.)

"Labor Problems of the Past Season," H. C. Herritt, Los Angeles.

"Development of New Labor During the War," M. F. Tarpey, Fresno.

"Agricultural Labor Problems and the Draft," A. L. Wisker, Grass Valley.

Farmers' Union represented in discussion by D. M. Utter, president, San Francisco.

Report of Agricultural Labor Committee, A. L. Wisker, Grass Valley, chairman.

FRIDAY, NOV. 23, 1:30 P. M.

(A. L. Wisker, Grass Valley, Chairman.)

"Housing, Treatment and Methods of Increasing the Stability of White Labor," Philip Baier, Visalia.

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10 in. long, 7 in. wide	$10.00
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16 in. long, 7 in. wide	13.50
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YUCCA MANUFACTURING CO.,
1380 Willow St., Los Angeles, Cal.

"Compulsory Labor Laws of Maryland and West Virginia and Their Application to California Conditions," Robert Devlin, Sacramento.

FRIDAY, NOV. 23, 6:30 P. M.

Banquet, Scott F. Ennis, Sacramento, toastmaster. Speakers: E. J. Wickson, San Francisco; Robert Devlin, Sacramento; Marshall De Mott, Sacramento; A. H. Naftzger.

ROOT STOCKS FOR DECIDUOUS FRUIT TREES.)

(Continued from page 465.)

Myrobalan makes a good stock for apricots, it is claimed, where the soils are normally too moist for apricot roots to thrive.

There is quite a difference of opinion as to what is the best stock for cherries. Most nurserymen strongly defend the practice of using Mazzard stock, while others are very enthusiastic over the prospect of using Mahaleb and voice the belief that this is the coming stock for cherry trees. Advocates of the Mazzard stock believe the Mahaleb is fit only for sour cherries; the Mahaleb enthusiasts say this stock will enable the tree to better withstand extremes of too much or too little water in the soil, while its opponents maintain that it makes a poor union and dwarfs the tree.

Nurserymen are pretty well united now on the advisability of discarding the old French stock for pear in favor of the so-called Japanese stock, which has been found to be quite resistant to blight and fairly resistant to woolly aphis. All far-sighted nurserymen are deeply interested in the welfare and future success of all the trees they sell. On this account they are very anxious for careful experiments to be performed which will give some definite information as to the value of the different stocks under varying conditions of soil and climate. However, it is realized that no individual can successfully carry out such experiments and therefore the state and national governments have been called upon both by the fruit growers and nurserymen by resolutions adopted at their meetings to undertake a line of fruit stock investigations, and experiments will undoubtedly be started as soon as proper facilities can be provided. While a great deal of information could be secured in the course of three or four years, more valuable information can only come after a lapse of ten or fifteen years, and the older the trees become the more interesting they would be as regards their behavior on the different stocks.

[Meanwhile the observations of fruit growers with old trees on various stocks can add much to the available knowledge.—Ed.]

PRUNING OLD PRUNE TREES.

The crops for the five years 1912-1916 from 1,200 French prune trees now about twenty-five years old, grossed close to $40,000, and the 1917 crop was the biggest ever, according to one of their owners, Will Beresford of Tehama county. "In winter pruning we don't touch new wood in the top," says Mr. Beresford, "but we sometimes cut it back a little on the sides. We take out the dead or weakened wood and suckers." Plenty of new wood is kept growing by irrigation, aeration of the soil, and growth of winter cover crops.

FRUIT TREES

Dried Apricots

This Season

Brought as High as 17½c. per Pound

We know of nothing that pays better than Apricots. One farmer in the Lamoore district, thirty miles south of Fresno, sold his crop of apricots this year on the trees for $6,600.00. As he only had ten acres, this returned him $660.00 per acre, without harvesting expense. While this is one of the best records for the season that we have heard of, many other growers have received large returns.

Throughout Southern California districts, the Tilton Apricot is quite a favorite. On account of its late bloom, it is more free from frost than many other varieties.

We received a letter recently from Libby, McNeil and Libby, canning people, stating that they believe the Tilton Apricot to be the best apricot for canning purposes, having canned this season 1100 tons of this variety at their Selma plant.

Descriptive Catalog Free

Our catalogue this year will describe more fully than ever before all varieties of fruit-bearing trees. Anyone contemplating planting an orchard this coming season will find this book very helpful to them. It is sent free on request.

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PRICES PER THOUSAND
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10 inches long	$9.00	18 inches long	$12.50
12 inches long	9.50	20 inches long	15.00
14 inches long	10.50	24 inches long	17.50
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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

WHICH FIG VARIETY?

If you intend to make fig growing your sole business and will plant twenty acres or upwards, Smyrnas (Calimyrnas) are best, say Henry Markarian, G. P. Rixford, R. M. Roberts, and Prof. J. Eliot Coit. But otherwise, plant Adriatics, because they best endure the abuse to which small orchards, roadside plantings, and inexperienced growers' trees are usually subjected.

From the standpoint of the industry as a whole, only the Calimyrna can replace our normally heavy importations from Asia. There is a very considerable advantage in sugar and flavor in favor of the Calimyrnas over Adriatics grown under same conditions, according to Prof. W. T. Clarke of the University of California. Calimyrnas are about twice as large as Adriatics and they yield two and a half to four tons per acre, as grown by Mr. Markarian. In a few years they will be shipped fresh to the East by carloads, thinks Thos. Elliott of Wells Fargo & Co., while but little is heard of fresh shipment of Adriatics.

LOCALLY GROWN PEAR SEEDLINGS.

"Where do pear seedlings come from?" we asked J. E. Bergtholdt of one of the largest nurseries in the State. "Before the war most of them came from France, where they could be grown and delivered to California cheaper than we could grow them here. French women and children grow them in their back yards and sell them to dealers, who collect them for export.

"The past few years our French and Japanese pear seedlings have been obtained in Washington State, which is much more satisfactory so long as it does not cost too much more. Less than 85 per cent of imported seedlings grow. They may get overheated, or frosted, or dried out, or delayed. There are a dozen charges which must be paid separately, including duties, insurance, inspection at the other end, wharfage, transfers from dock to railway, etc., so that the cost of getting them here is greater than the cost of the seedlings in France. These dangers and expenses are minimized with locally grown stock and we expect at least 95 per cent to grow."

MUSCAT RENEWAL SPURS.

Renewal spurs are not generally left on Muscats, but among those grape growers who believe they are desirable is C. W. Adams of Fresno county. "A one-bud renewal spur for each fruit spur, but lower on the vine and preferably on the upper side of the arm, protects the arm from sunburn and permits it to be cut back at pruning time, rather than building it out more and more in the way of cultivators. With renewal spurs the fruit is kept close to its sap supply. The trunk is increased in diameter, allowing it to carry more sap. The bark is not hardened by sunburn to prevent free flow of sap to fruit in hot weather. Old horns often break off because sunburn has deadened all the bark except a little on the under side. Renewal canes often bear fruit also. Mr. Adams' vines are twenty-five years old and have practically no suckers.

DATE GROWING OPPORTUNITY.

About 50,000 acres of Coachella Valley are practicable for dates, including the necessary water, according to Bruce Drummond of the Indio Date Experiment Station. Very few offshoots are available for planting, Mr. Drummond having been offered $50 each for the Deglet Noors he had; but a great number of seedlings are now available. Offshoots reproduce their parents' characteristics, but seedlings vary more or less. An acre of fifty trees can yield about 8,000 pounds of dates here, says Mr. Drummond. "Dates in this valley handled as a business proposition are entirely safe; but avoid the unreasonable boosters." Several varieties have proved fine, but out of the thousands of seedlings now being grown there are likely to develop other fine varieties.

AMES' DECIDUOUS PRUNING SYSTEM THE BEST EVER.

[Written for Pacific Rural Press.]

"The best thing I ever saw in the way of pruning deciduous trees," is the enthusiastic comment of W. E. Sanborn, peach grower of San Bernardino county, who made a trip to Ed Ames' orchard in Placer county to make sure that he understood the system described in Pacific Rural Press October 6. "Ed Ames offered to show me the shipping house receipts for the 2,110 crates of plums he sold this fall at $1 per crate from 260 Giant and 40 Grand Duke trees. I knew the fruit had been there, because the marks are there. That is $7 per tree. From 169 Triumph peach trees he sold 991 20-pound boxes of fruit at 60 cents per box. One beauty of his system, with all kinds of fruit, is that he can pick everything from a two-foot ladder. I have nine acres of Tuscans and Phillips nine years old that are hard to pick clean from an eight-foot ladder. Nevertheless, I think that the fact that I sold 74½ tons of fancy peaches from that nine acres this year is very largely due to the fact that I had partially stumbled onto Ames' system of pruning. You know, a Tuscan always sets a bunch of fruit buds at the ends of twigs. People generally cut them off and get three or four shoots of useless wood that shades the inside of the tree and prevents healthy development and continuation of fruit wood low down on the limbs. If you don't cut them off, you just get a single terminal growth which does not harm the inside of the tree nor waste its energy. My partial practice of Ames' system has resulted in a lot of healthy fruit wood down on the main limbs—too much of it. Your article did not make clear just what to do with that. So I went to Ames to find out. He never clips off a terminal bud. If he wants to get rid of fruit growth or wood growth that is too thick, he cuts the whole twig or branch off close at the place where it joined the branch it came from. If fruit twigs are too thick, as they are on some of my trees, take off completely to the older wood from which they come, alternate fruit twigs more or less as the occasion demands. Never cut off any branch part way between its tip and its crotch."

ALPHA POWER SPRAYERS

For Quick, Effective Spraying

The experienced orchardist, the man who understands the difficulties ordinarily encountered in efficient spraying work will appreciate the practical, sturdy construction of the Alpha Power Sprayer. Your careful analysis of the operation of each feature will show why the Alpha is a dependable HIGH PRESSURE spraying machine and a safe, permanent investment.

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Equipped with the Alpha Automatic Pressure Regulator, which holds the pressure steadily at the desired point and relieves the engine and pump of unnecessary strain when nozzles are closed. All parts of pump are readily accessible and interchangeable.

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The power behind the pump is the dependable high class Alpha Engine. When spraying you have no time to lose tinkering with an unreliable engine. Intelligent handling of the Alpha guarantees you freedom from troublesome delays. No cranking necessary; no batteries. A vigorous, full-powered engine that will last for years.

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Judicious planters are placing orders now

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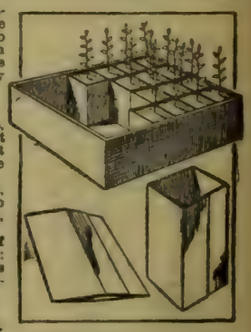
Why let rabbits bark your trees at this season of the year when for about a penny apiece you can save every one of them. We also have a heavy one that will save your tree from moderate freezing. If it's squirrels, tell us your wants. We have protectors for every need that will save your tree.

COLLAPSIBLE PLANTING POTS

Are you going to raise some Olive Cuttings, or Eucalyptus, or Rose Cuttings? Why not grow them in these pots and have every plant a single root system, and be assured every one will grow?

Why not plant your early Cabbage, Chilis, Tomatoes, and have good healthy plants to set out that will not stop growing a single day, for you can plant both pot and plant?

These pots are the up-to-date method of plant growing. Don't take our word for it: try them yourself. Write for samples of pots or protectors. Tell us which you are interested in.



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On account of owner being drafted, he has for sale a 40-acre orchard, of which 20 acres are in Olives and 20 acres in Almonds, planted in Spring of 1915.

Trees are in first-class condition—no better in the country. There is also on the place a new, modern cottage, well with tank, tank-house, engine and pump and tool shed.

Will sell as a whole or each 20 acres separately. We invite inquiries and will quote prices and terms on application.

Address: Owner, R. R. No. 1, Box 158, Orland, Cal.

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If you want the best trees grown in Placer County, write for price list to

UNITED FRUIT COMPANY, Newcastle, California

ALMONDS ON APRICOT.

Almonds on apricot roots grow all right for a year, but E. J. Brans of Butte county found that one row he planted on apricot broke off at the end of the first year, while the rest of a fifteen-acre orchard on peach roots continued to grow fine.

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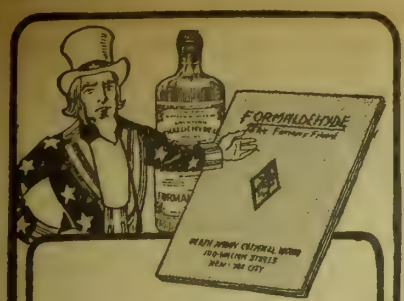

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is the best and most economical disinfectant—officially endorsed as *the* standard treatment for seed grains. It absolutely rids seed grains of smuts and fungus growth, also scab and blackleg diseases of potatoes—destroys germs in stables, cellars, kennels and chicken houses. One pint bottle costing 35c treats 40 bushels of seed. Write for the new illustrated Hand Book—FREE.

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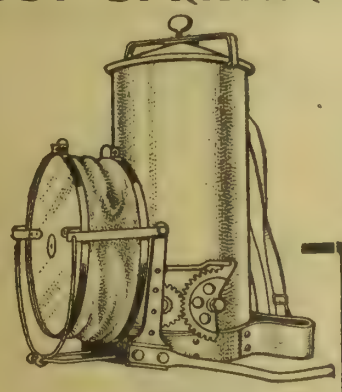

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Standard size $16.00
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The electric automatic block signal system is operated with such a degree of accuracy and watchfulness as to seem almost superhuman. Out of an average of 300,000 indications each month, not a single false movement was registered.

"98% of all trains are on time"

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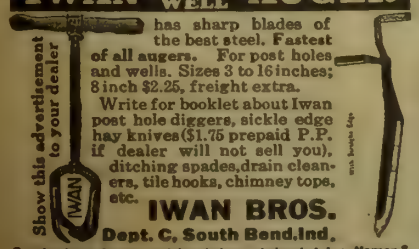

has sharp blades of the best steel. Fastest of all augers. For post holes and wells. Sizes 3 to 16 inches; 8 inch $2.25, freight extra.

Write for booklet about Iwan post hole diggers, sickle edge hay knives ($1.75 prepaid P.P. if dealer will not sell you), ditching spades, drain cleaners, tile hooks, chimney tops, etc.

Show this advertisement to your dealer

IWAN BROS.
Dept. C, South Bend, Ind.

Genuine Iwan Augers and hay knives wholesaled by: Harper & Reynolds Co., Los Angeles; Thompson-Diggs Co., Sacramento; Baker & Hamilton; Dunham, Carrigan & Hayden Co.; Pacific Hardware & Steel Co., San Francisco; Western Metal Supply Co., San Diego, California.

PRACTICAL FARM COURSE PLANNED.

A course in practical agriculture, involving the farming of a definite project by each pupil for not less than thirty-six weeks, with record kept of profits and losses, is among the interesting branches of vocational education to be carried on in California during the next few years, with State and Federal aid, by the California State Board of Education. The course will be open to any person of fourteen years of age or over, no matter what his previous schooling, and can be installed in any school district where the State Board of Education deems it advisable. The district will pay half the expense of instruction, the State and Federal Government sharing the other half. This was made possible by the last Legislature, and plans now are being worked out by the State Commissioner of Industrial and Vocational Education, Edwin Snyder.

PRACTICAL WORK.

Three-fifths of the time will be set aside for farm project work, one-fifth to mechanics of the course and the remainder to academic subjects, including farm mathematics, farm science and farm English. Each pupil will conduct a farm project, selected on the basis of his interests, opportunity and strength. This work will include the producing and marketing of farm, orchard, vineyard or garden crops or of bees, poultry, stock or other animals of their products. The work will be conducted on a commercially productive basis. Each pupil must buy or lease the necessary land or animals, purchase seed, fertilizers and feed, and may rent teams or farm implements and employ labor. He must also market his product, keep a complete record, close the project and balance his accounts. A pupil might operate a farm belonging to his parents or himself, as the project. Where he buys or leases from his parents or other adults, all contracts must be duly signed to give a legal status.

MECHANICS' COURSE.

The course in farm mechanics will consist of farm carpentry, concrete and cement work, plumbing, pipe fitting, tinning and care and repair of farm building and tools. It may also include study of gas engines, automobiles, pumps, motors, and electrical wiring. Scientific and literary writings on rural subjects will form the academic and farm English course.

Applications for the installations of these agricultural courses by the State Board of Education already have come from numerous school districts in all agricultural portions of California. During the next ten years the State and Federal Government will set aside an increasing amount of money annually for installing and carrying on these and other vocational courses, including vocational trade, household economics and industrial courses.

SUBSOILING HELPS VETCH.

Vetch roots and nodules eighteen inches deep are common on S. W. Baker's orchard in Sonoma county, where he subsoils about a foot deep every spring. Where soil is not too loose and where it does not run together with winter rains, subsoiling before sowing vetch holds more moisture, especially on hillsides.

LARGER AND BETTER CROPS

With a great world food shortage and with the great war depending on the ability of this country to supply the allies, every acre of land should be made to produce its utmost. This can only be done by feeding the soil, i. e., increasing the available supply of the elements required by your crops.

GOLD BEAR FERTILIZERS

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS
FOR CALIFORNIA SOILS

are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

Let our Fertilizer Department help you solve the problem of bigger and better crops.

WESTERN MEAT CO.
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and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

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ALFALFA SEED

When you think of Alfalfa Seed you say, well, I won't need any until spring, so I will wait until then and buy. Not so fast, Mr. Rancher; maybe you will and maybe you will not.

Times have changed. Seeds, like other staples, have advanced. And this very advance and demand means, with a small crop in 1917, that things will buzz later on. Note the big advances on Alfalfa Seed the past month. What will it be later on?

We handle this seed in great quantity, both retail and wholesale. Years of experience have made us the Alfalfa kings of the West. We know what you need, if you will tell us what your soil is. California grown seeds are our hobby as well as our business, while

ALFALFA SEED IS OUR SPECIALTY.

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Write for Sample and Prices

California Seed Company
151 MARKET ST., SAN FRANCISCO

Field and Garden Suggestions

[Written for Pacific Rural Press.]

EXTERMINATING MOLES.

To the Editor: What can be done to get rid of garden moles?—J. R. H., King City.

There are three kinds of mole traps which are more or less successful. W. H. A. Umland of San Mateo county cleared the troublesome pests out of his garden early last summer with one consisting of a U frame about 18 inches long with the legs about four inches apart to push into the ground a few inches a-straddle of the most recent mole runs after pressing the dirt down just enough to fill the run with soft dirt. A trigger rests on the flattened ridge so that when the mole passes that way again and pushes up the dirt to open his run, the trigger is released and allows a spring to quickly jab several sharp spikes on both sides of the trigger down through the run, impaling the mole. Where dirt is dry and too hard or barren for moles to work near the surface, they tunnel eight to twelve inches under ground, disposing of the dirt by digging to the surface occasionally and pushing the dirt through the hole, volcano fashion. Gopher mounds are more to one side of their holes. To trap the moles in their deep runs, which are more frequently used repeatedly and by several animals, dig down at a mound until you open the tunnel. Avoid loosening dirt much below the bottom of the tunnel, as the mole might go through that and avoid the trap. Block the tunnel with loose, fine dirt. One kind of a trap for this place has jaws which snap together when the trigger is released by the mole pushing upward the loose dirt. Another has two wire loops which you press into the loose dirt to surround the filled-in tunnel. These loops are jerked upward by a spring when the mole reopens his tunnel.

MORE MAGPIES.

To the Editor: Mr. H. C. Bryant, who answered some questions on the magpie in the issue of September 29, says: "The magpie is to be found in certain localities of the Sacramento and San Joaquin Valleys only." From the numbers of broods and "flocks" that are on this ranch and others close by in the coastal range, I would say that Mr. Bryant is somewhat misinformed. Our magpie has the yellow bill spoken of and from my experience with them in the Sacramento Valley undoubtedly is the same thief of bright-colored objects.—C. C. Staunton, Atascadero.

When making the former statement as to the distribution of the yellow-billed magpie, I had in mind the fact that these birds were found in the central and eastern parts of San Luis Obispo county, as, for instance, Santa Margarita. However, the conditions are similar to those found in the great valleys and are not true coastal regions. Formerly this same magpie was found south through the inner coastal counties as far as the Simi and Conejo Valleys in Ventura county. It is now less common and much more restricted in range than formerly. The above facts can be found in Grinnell's "A Distributional List of the Birds of California."—H. C. Bryant, Berkeley.

RATIO OF HEADS TO THRESHED MILO.

To the Editor: How much milo maize in the head is required to make a ton of threshed grain? Is there a standard weight for such recognized by the trade?—T. B. J., Hanford.

[Answer by Prof. G. W. Hendry, University of California.]

A good milo head with a two-inch stalk contains 80 per cent of grain by weight. Poorer heads range from 60 to 80 per cent of grain. At this rate, 2600 to 3500 pounds of heads are required to make 2000 pounds of threshed grain, depending upon the quality of the heads. If cut with longer stubs of stalk, a correspondingly greater weight of heads will be required. The standard weight for a bushel of good milo grain is 56 pounds.

WHY STORED POTATOES ROT.

Loss of potatoes in storage is due to five principal causes, according to L. D. Swett of the Food Administration. Sweating, heating, and consequent rot may be avoided by letting them cure a few weeks in small piles or in well-ventilated storage. Rot is sure to occur if they are wet when put into storage. Frosted potatoes are ruined for storage. Several diseases spread all through piles in which diseased potatoes are stored. The prevention is to sort them carefully by hand (this is done commercially in California), cooking diseased or injured potatoes before feeding them to stock.

ALFALFA RENOVATION.

Alfalfa may well be renovated once every winter when it is most dormant, after it is two years old, says A. H. Smith of Riverside county. The best type of renovator is made for the purpose somewhat like a springtooth harrow, but with teeth narrowed and rounded on the front side so they will slip around alfalfa roots, but pointed so they will cultivate six inches deep.

HAY WEIGHT AND VOLUME.

To the Editor: How many cubic feet are there in a ton of hay?—R. T., Holtville.

As a general average, there are 450 cubic feet per ton of hay. There are less cubic feet per ton if the hay is fine, if cut immature, if not cured enough, or if it has been in the bottom of a stack or under other pressure, and if it has settled long in the stack or barn. Straw varies from 600 to 1000 cubic feet per ton.

AN APPRECIATION.

Editor Pacific Rural Press: Today the announcement is being made to the world that the Second Liberty Loan of 1917 has met with even a greater success than the first, and at this time we are especially mindful of the efficient co-operation that you and your associates have rendered. The Liberty Loan Committee of this district, through us, again expresses to you and your associates its sincere appreciation of your patriotic service. Very truly yours,

GENERAL PUBLICITY COMMITTEE.

By Geo. H. Rand, Secretary.

Santa Clara Valley Nursery Stock Is the Best You can Buy. Growing conditions here are ideal.

Fruit Trees That Produce

Trees grown on new soil—thrifty, strongly rooted, free from disease—budded from orchards that have a known record for results. That's the kind of trees you get from this nursery—and there are no better trees grown anywhere.

Write for prices on any stock in which you are interested.

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Uncle Sam counts on you

to serve the nation by getting the *most feed value out of your crops.* Without increasing acreage or yield, you can get 25% more corn feed by husking ears and making fodder of stalks, leaves and husks—besides saving labor over hand husking.

The Appleton cuts or shreds stalks and leaves, while husking ears. The *original* successful husker; so strong and simple that first models, made years ago, still give good service.

Guaranteed to do more work with less power

than any husker of equal size. Husks cleanest; shells least, has most efficient corn saver. Easiest, safest to operate—works in all conditions of corn. Sizes for 4 h. p. engines and up described in our *FREE HUSKER BOOK.* Write to

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It tells you how to save money on your stump blasting. It shows in 40 illustrations the most effective ways of preparing charges, loading and blasting stumps with

GIANT FARM POWDERS

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This valuable book was written especially to suit *Western* conditions—by men who have blasted hundreds of acres of stumps *like yours.* It contains many letters from Pacific Coast farmers, telling why they prefer the Giant Farm Powders.

Make This Test: Get a 25- or 50-pound case of either of the Giant Farm Powders—Giant Stumping for wet work and Eureka Stumping, which costs less, for dry work. Get *any other* powder. Blast with both, and you will find that Giant Farm Powders go further.

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Cantaloupe Planting in Imperial County

[Written for Pacific Rural Press.]

"Always put up high borders and flood the ground three times before planting cantaloupes. You get the earliest melons that way," speaks one of the oldest growers in Imperial Valley, R. Malan, after learning this by experience. His crops have been up to 400 crates of marketable melons per acre.

Earliest plantings are made shortly after Christmas. These are all "capped" for protection from frost and to keep the ground warm enough to sprout seed. Last winter was a cold one and only about 800 acres had been planted up to January 24, according to Horticultural Commissioner F. W. Waite, with over 10,000 acres still to plant.

Mr. Malan says that water should never come within four inches of as high as the base of the vines, which means that the furrows between rows should be about twice that depth. He it was who suggested that cantaloupes should be planted in beds. The growers had gotten together and raised $2,700 to experiment with. The experimenter contoured his fields and Mr. Malan noticed that the best and broadest leaves and the most "standard" melons grew close to the borders, while between the borders grew "pony" melons and small, narrow leaves. He suggested then the bedding system, which is universal today in Imperial county. The general practice is to plant on one edge only of flat ridges seven or eight feet wide on hard land and closer on "soft" land. Hard land makes more cantaloupes, but soft land makes them earlier.

One idea in keeping water below the bases of vines is to make the roots go deep below the surface, which is bound to get hot and dry at intervals. Mr. Malan has found big cantaloupe roots that had gone down under the furrows and up into the next "bed." It is not necessary to irrigate again until March and the first half of April. After that every irrigation makes them ten days later in ripening, according to Mr. Malan, although softness of the soil has considerable effect.

State Fair Directors' Farming Interests

To the Editor: What are the present agricultural interests of the California State Fair Directors?—Subscriber.

President John M. Perry of the State Board of Agriculture gives us the following data:

John M. Perry, Stockton: Principally grain business; warehousing; vineyards intercropped with beans and potatoes.

E. Franklin, Colfax: Fruit ranch in Placer county.

Theo. Gier, Oakland: Vineyards in Napa and Livermore Valleys.

E. F. Mitchell, San Francisco: One thousand acres in Fresno county; hogs and sorghum grains.

T. H. Ramsay, Red Bluff: Principally sheep.

C. J. Chenu, Sacramento: Not farming.

T. H. Dudley, Santa Monica: Livestock.

I. L. Borden, San Francisco: Seven thousand three hundred acres in the Delta, raising potatoes, onions, etc.

H. A. Jastro, Bakersfield: Three hundred thousand acres with livestock in Kern county.

E. J. De Lorey, Los Angeles: Not farming; retired stockman.

Geo. C. Roeding, Fresno: Nurseries, orchards, vineyards, extensive general farming.

Ralph W. Bull, Arcata: Cattle.

TOMATO SEED PLANTED NOW.

Plant tomato seed in Coachella Valley now, as soon as possible. R. R. Cheatham planted the seed in a hotbed under canvas in a warm, protected location about October; and transplanted in February, when the tomatoes were about five inches tall.

Strength and Results

Big crops come from well prepared seedbeds. Perfect disking is what does it. Use specialized tractor tools that will make your tractor give the biggest and best results. Plowed ground or stubble—it is all one to the sturdy

Cutaway (CLARK) Tractor Disk Harrows

Once over is enough—no packing from the tractor wheels. Because of the rigid frame it thoroughly pulverizes and levels the land. Compare the work of the rear disks with those of any other type and see why the CUTAWAY (CLARK) Tractor Harrows lead in popularity. They have made good not only at tractor demonstrations, but in actual farm use under the most difficult conditions for a dozen years. Entirely successful on work in every section of the country. Two types, light and heavy. Hitch is adjustable to fit any drawbar. The draft is light for the work accomplished.

They are built of special steel, extra strong to stand hardest tractor strains. Special heavy disks of cutlery steel forged sharp. Sizes for every make and size of tractor—let our engineers advise you. Send for complete catalog and free book "The Soil and Its Tillage" for helpful facts.

Ask us for name of nearest dealer who sells *genuine* CUTAWAY Tillage Tools.

The **Cutaway Harrow Co.**
602 Main St.
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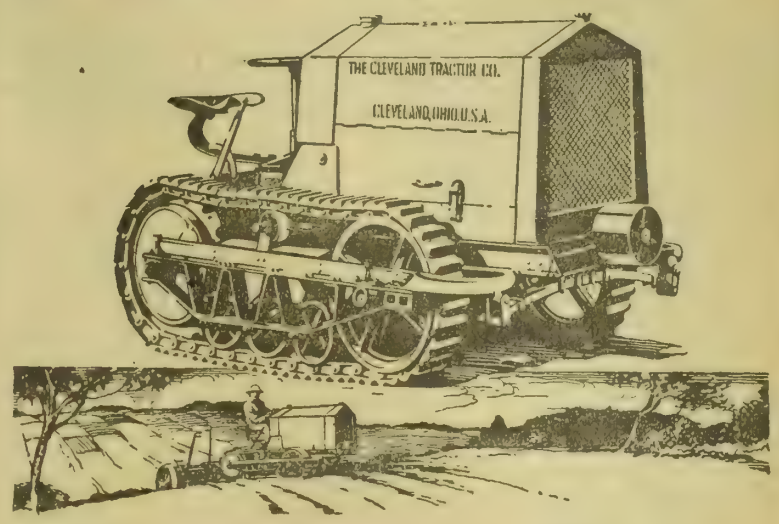
Maker of the original CLARK Disk Harrows and Plows

Cleveland Tractor



Prepare *Now* for Bigger Crops Next Spring

Forget the old routine. Adopt improved methods. That's the only way to solve your labor problems and boost production in 1918.

Munition plants and factories in general are working at top speed. They have steadily drained farm labor from the fields. Now the draft has taken many more men.

You must cut down on labor requirements. That is exactly what the Cleveland Tractor, the country over, is helping wide-awake farmers to do.

This wonderful little machine will do your work *better, faster, and at much less cost* than you can possibly do it with horses and men.

Hauling two 14-inch bottoms, it plows 3½ miles an hour—8 to 10 acres a day. That is more than you can do with three good 3-horse teams and 3 farm hands. And at this high speed the Cleveland Tractor turns over the prettiest job of plowing you ever saw.

Figure up the saving—not only in labor—but in time and good, hard cash.

In addition, the Cleveland enables you to plow when you need it and where you need it. Because it *crawls on its own tracks*, it can go over almost any soil at any time. That is something you can't do with horses and men. *Think of the extra yield that means.*

Moreover, the Cleveland does not pack your seedbed. It is light—only 2750 pounds—and has 600 square inches of continuous traction surface. No other tractor built exerts so small a pressure.

The Cleveland gives you 20 h. p. at the pulley and 12 h. p. at the bar—economical, dependable power to do your hauling and stationary engine work.

Rollin H. White builds the Cleveland Tractor with all the scrupulous care he put into the manufacture of motor trucks. He uses only the best materials—only the finest motor truck parts and gears. He has protected all gears with dirtproof, dustproof casings.

He has so designed the Cleveland Tractor that it *steers by the power of its engine.* Just a light turn of the wheel and the motor does the rest. Anyone can drive it. It will actually *turn in a 12-foot circle*—less than it takes to turn a team.

These are real advantages—too big and too important to be overlooked. There are others just as big. Combined, they make the Cleveland the biggest labor-saving, time-saving, money-making implement introduced into modern farming.

Prepare now for bigger, better crops next spring. Decide now to make the Cleveland earn money for you, as it is doing for hundreds of others.

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Tractor Economy Proved at San Jose

[Written for Pacific Rural Press.]

The Tractor and Implement Demonstration at San Jose, November 1, 2 and 3, drew thousands of questioning farmers from all the region between Tulare and Monterey counties on the south to Yuba and Sonoma counties on the north. They came by steam, electricity, and gas. It was no trick to tell by their healthy complexions that practically all of them were farmers. You couldn't circulate over the grounds without knowing that the labor situation has made them think as they never have before about the economy and necessity of using tractors. The dealers found it so, for several whom we questioned reported lively sales, and the rest probably did as well. One mentioned the crystallizing effect of the demonstration on people who had been hesitating as long as three years. The reason for this was that ten different makes of tractors (and several of some of the makes) were there doing every kind of tractive work that tractors could be called on to do in orchards or in field seedbed preparation. It was a discriminating aggregation of crowds too, as indicated in the discussions below. This was partly due to the intimate acquaintance of a large proportion of them with automobiles, which were packed in all available space and along the roadsides. It was also due to a condition more common now than a few years ago. Answering our questions as to whether they already had tractors or were just there to choose some, a surprising number said that they already had one and wanted to choose one additional. In practically all cases, the one in use had proved satisfactory or had only one or two faults. The people, however, wanted the best that might have been developed since they got their first ones, and were there with open minds.

DEMONSTRATION QUICKLY ARRANGED.

The splendid success of the Demonstration indicates live-wire activity on the part of Acting Manager J. H. McCollough, Jr., and his associates, the members of the Santa Clara Valley Tractor and Implement Dealers' Association, who organized and definitely started the enterprise only two weeks before it was pulled off. It was a dealers' demonstration purely, most of the factories not having been consulted nor asked to contribute. They met one night at the Chamber of Commerce rooms, voted to carry it out, and immediately put up $50 each. It cost them as much more before the end. Rent of the tent, about 300 x 90 feet, in which were the still tractors and a great variety of tractor machinery, cost $450 alone.

About seventy acres of dry, level, heavy black soil covered with grain stubble was assigned to the various machines, according to their horsepower ratings, to be plowed during the demonstration. In addition, four rows in an adjoining prune orchard were permitted to each tractor to plow if desired. Even the 75 horsepower Best asked for one of these.

EASY SHORT TURNING MUCH DESIRED.

The main question and comment heard in the everchanging groups around all the tractors was in regard to their ability to turn short corners. The stunt most often remembered was the sight of tractors chasing their tails. With some of them, the tails consisted of double disks whose rear ones had to back up sometimes, so short was the turn. The Yuba whirled around a little cone of dirt, and even the 40 horsepower Best crossed its own tracks in turning entirely by stopping or backing one track while the other was running ahead. The 45 horsepower Caterpillar also manipulates itself entirely by tracks, as it has no wheels on the ground. The Cleveland is another of this type, its compactness and small size giving it special agility. All of the wheel types turn short, as the tools can well follow them.

FUDGING DOESN'T PAY.

The power of all the machines seemed to be accepted without question. Practically no adverse comments were heard on the engines, except that some of them seemed running too fast to keep it up indefinitely. As some of the high speed engines have been standing the gaff for years, this question seemed more a matter of adequate cooling facilities than of reducing the speed. However, the engines which took their loads along smoothly, slowly and without laboring caught more favorable comment than those which were overloaded to make a bigger impression. It is getting hard to fool a farmer, and he is quick to note the attempt. Some of the drivers, we regret to say, fudged in a way that reflected and obtained discredit on their machines, which may not have been deserved. With gang plows, it is easy to set the furrow unit two inches shallower than the unit which leaves the open furrow, and casual watching does not reveal the difference. Another common fudge was to run so the furrow side bottom out a very narrow strip. Another which we did not observe here is adjustment of disk plows so they cut a narrower strip than they seem to. Sometimes we noticed plows being set deeper on approaching a crowd. These tricks are unworthy a good cause, and their absence would win more converts to tractors than their presence.

INTERESTED IN BIG AND SMALL TRACTORS.

Not all the visitors were orchardists and therefore interested in short turns, for as the 75 Best swept out through the various crowds to its position at the outer edge of the field, it picked up a long, wide train of people who would scarcely call it an orchard tractor. Highly favorable comment was heard when its half dozen 14-inch Oliver moldboards (14 inches from bottom to top) were buried out of sight and cutting full width. The furrow thus left was fully a foot below the level. The 40 Best and the 45 Holt were hardly orchard tractors, yet they never lacked interested crowds.

SUBSOILING GAINS FAVOR.

Subsoiling has been considered strictly a field operation until the past year or two, and it cannot be done satisfactorily with less than 12 horsepower. Indeed, the single standard Killefer subsoiler going 24 to 28 inches deep on the unplowed ground gave the 40 and 45 horsepower engines all they wanted to do. We did not observe the Knapp subsoiler in the field at work, but its efficient construction was easily seen in the exhibit tent. Its operation can be seen at numerous ranches through the State, principally the bay region, for this is a San Jose product which has been on the mar-

Subsoil work should be done as soon as possible, while the ground is dry. Reports from grain, bean and other crops, where subsoil plows have been used, are showing big returns for the amount invested. If you are intending to do any of this work this fall, do not delay, but get your tractors moving; they do not earn anything standing idle. We build from the single standard for the small tractor to the five and seven standard for the largest tractors made.

The Killefer Manufacturing Co.

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Read What These Sheldon Owners Say

I and my hired man laid a feeding floor for my hogs, 24x24, in one day, also put floor in my cow barn. My neighbor liked it so well I am not able to keep it at home—ANDREW CHRISTENSEN, Hancock, Minn., Rt. 1.

We have used the mixer during past year for putting in cement foundations for a complete set of farm buildings, including silo, and like it very much.—DANA WRIGHT, Jamestown, N. D.

Last year I bought a cement mixer from you with which I am well satisfied. It did not take long for it to pay for itself and I surely can recommend it to anyone needing a big mixer at a small price—WM. PARRS, Martinton, Ill.

I am more than busy with my Sheldon Concrete Mixer. Have more work than I can do. I get $10 a day when I work out.—JESSE L. WITTER, Wellsville, N. Y.

The machine works fine. Have already got the job of mixing concrete for the bridges in this township.—JOHN ROSE, Spartansburg, Pennsylvania.

Last spring we purchased of you a set of gasolines to make a concrete mixer. It was constructed per the plans furnished, and it surely worked great.—D. M. BRUBAKER, Freeport, Ill.

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Make your own concrete mixer. You can do it at a cost so low you can not afford to mix concrete by the shovel method. Along with our iron parts we send Free Plans and permit for making your own machine. A good way to get a practical mixer at a small expense. Or, we will sell you the complete machine, ready built.

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If you buy a Sheldon Mixer for your own use, you can make many times its cost in a season by renting it to your neighbors. Or, if you want to go out with the mixer on contracts, you can easily earn $8 to $20 a day. Our customers are doing it right now. The jobs go to the man with a Sheldon Mixer every time.

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Shows our full line of mixers which are sold direct to you on strong guarantee. Thirty days trial privilege. No other like it. Patented. Two styles, hand and power. Mixes 2 1-2 cubic feet a minute. One man can operate it, but it will keep 2, 3, 4, 5 or 6 men busy. Continuous chain drive. Tilting dump. Easily and quickly moved. All parts guaranteed. Does work equal to $400 mixers. Be sure to get the catalog. Write today.

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The Sheldon will pay for itself on first small job. Takes the backache out of concrete. Makes possible those many small improvements that add so much to the value of your land.

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For bored or drilled wells from 10-inch inside diameter up; and for capacities of 250 gallons per minute up to 3000 gallons per minute. Built for pumping from any depth to and including 250 feet. They are absolutely water balanced and are self-aligning. More water can be obtained from such wells than with any other type. Built in belted or direct motor driven types. If interested, write for Bulletin.

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ket only three years, during which interest in subsoiling has been awakening. It was a revelation to see where a subsoiler had passed through the ground, raising a rounded ridge two feet wide and six inches high at the center. It was also interesting to hear the favorable comment on the Holt 40 and the Killefer heavy duty tractor cultivator. With 21 long curved teeth in a double row 10 feet wide, this cultivator was tearing up a subsoil consistently eight inches deep and more, which had never been disturbed before, and was leaving the top soil on top. It seemed better than deep plowing except where weeds must be turned under. Double disks were quite commonly in evidence to show what the various tractors could do on freshly plowed ground.

SOLID FOOTING NEEDED FOR MANY TRACTORS.

Next to the question of short and easy turns, probably the most comment was heard on the traction footing of the various machines. The universal topic of the relation of track-type upkeep to its greater footing was freely discussed. The power required to revolve tracks is generally considered greater than to revolve wheels, though the relation of rated motor horsepower to drawbar horsepower seems not to be consistently different in one type than the other. Footing along the top edge of a furrow is notably less secure than farther away or in the bottom. This feature was noted by many farmers. It is considered by tractor makers, too, as shown by the several makes whose traction avoids the soft edge. The Bean pulls by a single track a foot or more from the edge, while its furrow wheel is adjusted to level the machine quickly by a lever and notches. The Fageol runs its U-bolt grousered wheel in the furrow. The Moline adjusts its furrow wheel to ride on top or in the furrow by changing a single bolt. The Samson, with its sieve grip for soft ground and its wide wheels, seems not to object to the top of the furrow. All the double-track machines run fearlessly on the top, though an observer thought the narrow track of the Cleveland on the edge would require constant attention.

RUNNING CLOSE TO TREES.

In the orchard, after short turning and traction questions, the most interesting seemed to be how close the tractors could get to the trees. To satisfy this demand orchard tractors are generally built lower than horses and as narrow as possible in order to avoid side draft in plowing close to trees. Those that are too tall or wide can use a long drawbar, hitching right- and left-hand plows to the ends to do close plowing without side draft while running in the clear centers between trees. The Moline is doing this.

TENT EXHIBIT.

Power machinery and accessories were exhibited in the big tent. This included Knapp Liberty tractor plows, a Knapp subsoiler; John Deere plows, harrow, clod crushers, and disks; Bean spray pumps, deep well and centrifugal pumps, and opposed engines; Smalley force-feed cutters; Killefer tractor tools; Oliver plows and disks; a Victory oil motor pumping; Newell-Sanders and P. & O. plows and implements; and lubrication and fuel oils.

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Skilled Tractor Engineers BIG PAY

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ONLY PRACTICAL TRACTOR SCHOOL IN THE WEST — 813 FIGUEROA ST. Los Angeles — 5000 GRADUATES BIGGEST AUTO SCHOOL ON THE COAST

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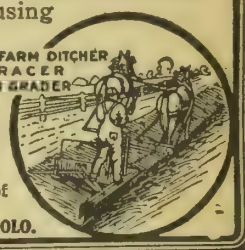

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General Agricultural Review

Field Crops.

Many carloads of canned tomatoes are being shipped from the cannery at Lindsay.

There is no sale for beans at Santa Barbara pending the outcome of action in price control.

The early frosts in the Livermore Valley nipped the corn silage slightly, but no serious damage was done.

Owners of tule land in Sutter county are preparing the land to be planted to beans next spring and summer.

It is reported that the bean weevil has appeared in Tulare county and threatens damage to the crop of beans now being harvested.

The American Sugar Factory at Chino closed last week. Its season ran just eighty days and its factory's output for that time was about 8,500,000 pounds of sugar.

The California Lima Bean Growers' Association has decided in the future to market its beans under the trademark "Compass Brand Limas." The intention is to thus establish a reputation for its high-class limas.

On careful growing tests conducted by the State College of Agriculture it has been found that San Joaquin Valley land produces one bale of cotton to the acre, meaning by this 500 pounds of lint cotton and 1,300 pounds of seed.

It is said that a Lompoc flower seed grower has cleared this year on five acres $9,000 planted to Austrian poppy. The seed is used by Holland and Austrian bakers and candy makers and Lompoc is now the only source of supply.

The corn contest in the Earlimart district in the southwestern district of Tulare county last week was a good success. Awards were made to Charles M. Kiggens for the best milo maize, to Lloyd Wade for the best kaffir corn, to C. E. Snyder for the best feterita. O. N. Garrison won second prize for milo maize and H. T. Franklin the third prize.

Santa Maria's bean crop, it is said, will net growers this year $4,000,000 and the Lompoc district $3,250,000. These are the biggest returns ever made. As a result land values have advanced from $350 per acre to $850 and $1,000 per acre, and ranch sales are being freely made at these prices. Prices have dropped from 14c to 11c for small whites.

Deciduous Fruits and Nuts.

Prune week will be held in San Jose from November 19 to 24, inclusive.

Peaches shipped from the Porterville district are expected to net the growers about $90 per ton.

S. Mondo of Oakdale recently shipped a carload of French and sugar prunes that weighed 100,000 pounds.

Recently a carload of quinces from the Tulare district sold for $2.90 per box, while pomegranates from the same district brought $2.95 per half box. This is nearly double the prices received for the same classes of fruit last year.

The U. S. Department of Agriculture, Bureau of Markets, reports that 467 storages show that they held 1,106,977 barrels and 1,178,215 boxes of apples on October 15, a decrease of about 7 per cent as compared with last year.

The Yucaipa Valley Apple Show closed last Sunday. It was the largest and best ever held. The exhibits were not only larger than any previous year, but the quality of the fruit was superior. Many young orchards that came into bearing helped to swell the display.

Glenn W. Miller, a successful horticulturist of the Oroville district, advises the planting of deciduous fruits, notably the plum, for his district, as it would afford a means for earlier returns than could be obtained where the planting was exclusively to oranges and olives.

Some canners are offering $52.50 per ton for blackberries for next season's delivery in the Sebastopol district, or $50 for a five-year term. No sales have yet been made. About 220 acres of berries will be grubbed out this season to make room for trees. This, together with an extensive demand and present high prices, will mean still higher prices, as it will shorten the crop by about 550 tons.

Citrus and Semi-Tropical.

Olive picking is now on in the Lindsay district. It is expected the season's output will be about a 35 or 40 per cent crop.

Governor Stephens recently visited the olive plants of the Oroville section and expressed himself as astounded at the extent of the industry in that district.

The Charter Oak Citrus Association paid the past season $379,985 to its members for all varieties. The average price for navels was $1.21 and for Valencias $1.96.

P. J. Dreher, secretary and manager of the San Antonio Fruit Exchange, in his annual report says that the closing year was the greatest in the history of the Pomona valley. The total returns exceeded $4,000,000, or about 50 per cent greater than any previous year. Nearly 2,000,000 boxes of fruit were shipped during the year.

A car of new crop grapefruit recently shipped from Woodlake to New York netted the grower $2 per box. The grapefruit in that section this year is of high quality.

Officials of the Eighth National Orange Show have received an urgent request from President Wilson that the Orange Show continue as before and be held. The exposition is to take place at San Bernardino, February 20-28, 1918.

The fall meeting of the California Avocado Association, held at the

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Efficiency, low operating expense, low upkeep costs—these "Caterpillar" Tractor features bring bigger profits to "Caterpillar" Tractor owners. The "Caterpillar" Tractor is a tractor service—built for service, backed by service. The investment in such a machine pays liberal returns.

Complete information concerning the "Caterpillar" Tractor sent on request.

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CATERPILLAR
Reg. U.S. Pat. Off.

Glenwood Inn, Riverside, October 27, was well attended. The display of fruit, however, was not up to last year's.

The citrus and food experts of the University of California have decided to do all possible to promote the culture of the avocado and bring it to a stage of productiveness which will make it a common food in California homes.

In Los Angeles county the yield of olives is thought to be about a third of an average crop. The fruit, however, is said to be of fine quality. The following prices are being bid on the Los Angeles market for the new crop: Standard, $80 per ton; medium, $90 per ton; large, $150 per ton; extra large, $200 per ton; and mammoth, $250 per ton.

As the picking of olives in some orchards has commenced, it is evident from the reports at hand that the crop in Southern California will be a very short one. The excessive hot weather in June cut down the yield of olives as well as oranges. In Santa Barbara county Horticultural Commissioner Beers says the crop will not be over 25 per cent normal.

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WILD MUSTARD, Etc.

When writing send samples and state quantity

Aurora Seed Mill

48 N. Aurora St.
STOCKTON

Grapes.

The California Associated Raisin Company has advised their packers and sales agents that they cannot confirm any more orders for seeded raisins for November shipment owing to the shortage of cars.

On a day to be set in the early part of December expert viticulturists of the University of California will give a demonstration to the farmers of the Sutter and Butte communities on how to prune, trellis and stake Thompson seedless grapes.

The financial statement issued by the directors of the California Associated Raisin Company says 103,800 tons of the 1916 raisin crop, valued at $13,595,070.50, were sold. The 1917 crop will be about 35,000 tons in excess of last year's crop.

Reports from Lodi state that the thousands of crates of grapes now stored in the sheds of local fruit companies will soon be moved and room made for stacking in more of the crop now on the vines. It is feared that much of the harvest on the vines will rot because of the car shortage.

There were practically 500 cars of grapes in California yet to ship when the rain came this week, according to President F. B. McKevitt of the California Fruit Distributers. Most of the Malagas and Emperors were in, so Tokays were the heaviest losers, if, as is unknown at time of going to press, there have been any losses at all.

FARM PRODUCTS MUST BE SOLD BY TRUE NET WEIGHT.

Chas. G. Johnson, State Superintendent of Weights and Measures, urges the strict enforcement of Section 32 of the Weights and Measures Act, which provides for the sale of commodities by the true net weight, and by "true net weight" is meant the actual weight of the specific commodity sold, to the exclusion of the weight of the container. When farm products, such as grain, potatoes, beans, etc., are sold by weight, the weight of the sack or container shall not be included in the weight of the product. When farm products are weighed by public weighmasters for storage, or for purpose of sale, the weight certificate issued shall record the true net weight of the product.

The approximate weight of the small bean sack is 8 ounces.

The approximate weight of the large bean sack is 12 ounces.

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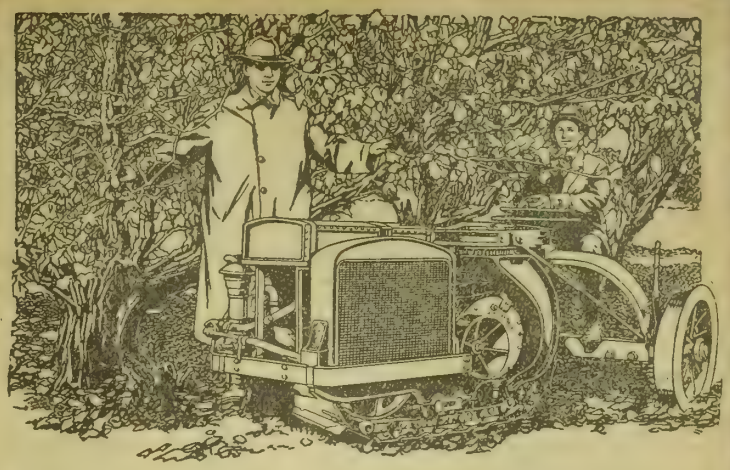

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For Orchards and Vineyards

Built by Long-Established Concern

Here is the tractor that the owners of orchards and vineyards have wanted to buy for years. It is built by the Bean Spray Pump Co., makers of the famous Bean Sprayers and Pumps. It does what no other tractor has ever done before. Its patented front-drive offers exclusive features, which sooner or later you will want in a tractor. Don't buy any tractor until you know all about it. Don't find out about this too late.

Great Traction With Light Weight

This is the lowest-priced track-laying tractor manufactured.. It weighs but 3100 lbs. and costs less to operate than wheel-type tractors of equal power. Note how the track grips the ground, and compare that contact with the wheel-type's.

This means great pulling power with a very light tread. No other can work so well in light soil.

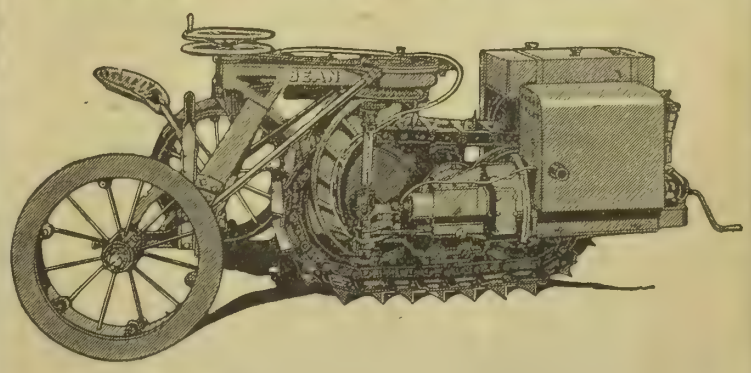
Handles Better Than Horses

This Tractor is handled more like horses than any other machine in existence. And it does what horses cannot do. It will pass under tree branches only 4 feet off the ground, plowing close up to the trunks. It works between 7-foot rows in vineyards, and cultivates right up to the vines without breaking off young shoots.

You can turn it all the way around inside a 10-foot circle (5-foot radius); and it pulls with its full power on these turns the same as on straight-aways.

When you hit soft spots or holes you simply "gee" or "haw" the track and pull out, as you would with a team.

BEAN TrackPULL Tractor



Pays for Itself

The Bean TrackPULL Tractor pays for itself in what it saves its owner. It is simple and strong and durable. Every part is over-strength. The motor is an automobile type, so you know how to care for it. The Tractor is rated at 6 h. p. at drawbar, and 10 h. p. at the belt. On account of the patent front drive principle and simple transmission the fuel consumption is far less than other types doing the same amount of work.

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Increase Livestock by Saving Feed

[By Chas. A. Crate of San Francisco at California Creamery Operators' Convention.]

Because of the demands for beef and the shortage of forage in all of the warring European countries, the number of dairy cattle have materially decreased in the past three years. Recent reports from the French Government show a decrease of about 17 per cent in cattle, 33 per cent in sheep, and 38 per cent in hogs. The combined record of the Eureopean nations shows a decrease of over 28,000,000 head of cattle alone. Conditions do not seem to be any better in the United States, for, according to Government statistics, the number of cattle in the United States decreased some 16,000,000 head in the six years between 1907-1913, while it is estimated by leading authorities that the decrease in the past three years has been equally as much or approximately a 20 per cent decrease.

The principal cause of the decrease of the number of cattle in this country in the past three years is the heavy demand for beef coupled with the shortage of mill feeds, and in many sections the shortage of forage, with consequent all-around high prices. This has resulted in many dairy herds being deliberately sacrificed to the butcher.

VEALING CALVES REDUCES STOCK.

Another contributing factor to the present cow shortage is the practice of slaughtering calves for veal. In the whole-milk sections the price received for the milk has been such that the dairyman has felt he could not afford to raise even the heifer calves, and this feeling has been intensified for the past two years by the unusually high prices for feed, with the result that more calves are being sacrificed now than formerly.

An analysis of the situation as it exists must lead all to conclude that the ending of the war will bring a demand on this country for dairy stock for shipment to Europe that we will not be able to fully supply, with the result that prices will be exceedingly high. It would seem to me the part of wisdom that we now prepare for this demand and thus reap the profit that is sure to be the lot of the man who has stock to sell, as well as stock to keep with which to produce both butter and cheese, for which the demand will still be sufficiently great to warrant high prices.

The answers to the problem that confronts us are: (1) Cheapening the cost of production; (2) increasing the stock-carrying capacity of the land; (3) improving the quality of the dairy stock; (4) raising the heifer calves. The accomplishing of the first two will in a measure automatically bring about the latter, for if the dairyman has progressed to that extent he will appreciate the advantage of better stock and will be more disposed to raise the heifer calves, for they will be worth more.

THE SILO IS THE SOLUTION.

The silo is the solution to both reducing the cost of production and increasing the stock-carrying capacity of the land, for it will provide the equal of the very best of rich, juicy green grass for all the year round; and when fed with a legume, such as clover or alfalfa hay, will permit the almost entire elimination of the mill feed expense bill and still maintain the maximum production. The crop grown for silage and fed as such, regardless of what it may be, will feed 25 to 40 per cent more stock than when harvested in any other manner. This, for the reason it is cut at a period when it has reached its greatest feeding value, is succulent and all of the forage is utilized, which is not the case either in soiling or where allowed to mature and only part is harvested and fed dry.

SILO MUST BE AIR TIGHT.

The making of silage is like the canning of fruit, in that both the silo and the fruit jar must not leak the juice out, as if they do there will be spoiled feed and spoiled fruit. This points the necessity for a good silo, and I want to emphasize right here and now that if you don't put up a good silo you might just as well keep the money you would pay for it in the bank or in your purse, for it will prove to be a wasted investment.

VALUE OF FEED GREATER THAN COST OF SILO.

The value of the feed put into the silo every time it is filled is greater than the cost of the silo. Now, if through faulty design, poor material or workmanship the silo leaks and spoils a portion of the feed, the loss is quite likely to be greater than the difference in the cost of a good silo and a makeshift, the latter being dear at any price.

The history of silo building in the East and Middle West is replete with failures, not because silage was a failure, but because of the many inferior, cheap silos that were put up in the mistaken notion that almost anything would do. This idea was fostered by many who were seeking to serve their own interest in the sale of a bill of material and in many instances by a lack of knowledge of the requirements of a silo which should make into good ensilage practically every pound of good feed put into it in proper shape.

SAVE WASTED FEED BY CUTTING IT.

Another means of conserving the feed available is by finely cutting dry feed instead of feeding in the bulk. The waste when feeding in the bulk, especially where the hay

HOLSTEIN
Friesian Cattle

PRINCE BUTTER BOY
First Prize Sacramento 1917

Herd Sires:
Prince Butter Boy
King Mead of Riverside
Toyon Valdessa Hengerveld
STOCK FOR SALE

J. H. HARLAN CO.
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PRINCE ALCARTRA KORNDYKE

We are offering for sale a number of young bulls—some ready for service—sired by Prince Alcartra Korndyke and out of dams with records up to 30 pounds in seven days and over 800 pounds in a year. We have priced these extremely low in order to move them quickly and make room for the coming crop of young calves. Order one of them now and have the advantage of the larger records that their dams are sure to make at next freshening.

The first daughters of Prince Alcartra Korndyke are now finishing their yearly test and will average well over 650 pounds butter under ordinary herd conditions and stand well up in the list for the Association prizes.

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The problem most difficult for dairymen to solve today is the problem of getting milkers and ranch hands at any price.

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THE PROBLEM WHICH YOU MUST
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If this equipment saves TIME ONLY, it is doing good work for you. But it will save money also, because the work can be done in LESS TIME and with far less back-breaking labor. A litter carrier has four times the capacity of the wheelbarrows you may now be using and can be filled, run out and dumped in the same or less time than you can fill, wheel out and dump a wheelbarrow.

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INNISFAIL DAIRY SHORTHORNS

GLENSIDE ROYAL 406155
Grand Champion Sacramento, 1916; Modesto, 1917

Our herd of registered Shorthorns has been carefully selected from the leading milk producing strains of the breed and is being developed along the same lines in our hands. The herd is headed by

GLENSIDE ROYAL

a prize-winner at the 1913 International and grand champion at Panama-Pacific Exposition.

Sired by him and out of large cows of good milk production, we offer for sale a few choice young bulls.

Our entire herd is tuberculin tested.

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Cattle selected from best Imported and Advanced Register Stock.

Now Offering Choice Bulls.

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WM. GALLOWAY CO., Box 3378 Waterloo, Iowa

is coarse and stemmy, ranges all the way from 10 to 40 per cent, all of which can be eliminated by cutting it up with the same machine you will use for filling your silo. The feed cutter of today is not merely a machine that you will use a few days during the season, but because of its adaptability for cutting not alone all kinds of green feed, but dry feed as well, including the making of an excellent grade of alfalfa or bean straw meal at a cost much less than half of that for baling, it is an all-the-year-round piece of equipment. Another advantage in cutting dry feed is that it requires less storage space than hay in bulk. If it is cut and stored away as it is harvested, the expense of handling is much less than in any other manner, and it is ready for feeding without further preparation.

COMPARISON OF ALFALFA MEAL WITH BEAN.

It has been thoroughly demonstrated in practical experiments that alfalfa meal which you can make with your own cutter at less than a dollar per ton for cost of labor and power is practically the equal of bran when fed with good corn silage to milk cows. The results of such a test made at the Nebraska Agricultural Experiment Station is given in a leaflet that may be had for the asking.

ALFALFA MEAL AND BUTTERMILK OR SKIMMILK AS A HOG FEED.

One of our good creamery managers present recently told me of the excellent result they had obtained in the use of alfalfa meal which they had made themselves when fed to hogs in connection with buttermilk from the creamery. This institution has always kept a careful record of the cost of their hog lot, consequently were in a position to make comparisons of results that were conclusive. Where the ration for stock hogs was alfalfa meal and buttermilk, as compared with alfalfa hay and buttermilk, the gain in favor of the alfalfa meal and buttermilk lot amounted in weight to more than one dollar per head when sold on the basis of the market two years ago. Both lots of hogs were of about the same age and size and fed the same length of time, both lots being finished on a grain ration additional to the alfalfa and buttermilk.

CEMENT STAVE SILOS.

[Written for Pacific Rural Press.]

A cement stave silo 10x40 feet was shown at the State Fair by J. S. Copley of Modesto, who had seen one fourteen years old in Michigan, never repaired, and better than when put up. The staves were tongue-and-grooved on all edges. Each was 30x10 inches, 2½ inches thick, and made of one part cement to three parts of sand. They are curved differently for each different diameter of silo, so the inside edges fit closely, while their outside edges leave a crack "for expansion." They were held in place by flat soft steel bands. The inside was finished smooth with cement waterproofing.

In the State Dairy Competition for September there were entered 198 cows, 191 days in milk on the average. The average production for the thirty days of the competition was 929.9 pounds of milk, 41.721 pounds of fat.

80 of the WEST'S GREATEST HOLSTEINS

Selected by a Committee of three from the Herds of

A. W. MORRIS & SONS
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Sacramento, Cal.

FRANK HATCH
Modesto, Cal.

Are You Keeping Step?

In these days of world readjustment time-honored institutions have crumbled and upon their ruins there are arising structures of greater strength, beauty, and usefulness to aid in the progress of mankind.

Even to the dairy cow, no longer humble, has the new economy reached, and War, in three short years has accomplished what an army of agricultural college educators and farm journal editors have labored half a century to bring about.

The common dairy cow is no longer a business possibility. War has driven thousands of her kind to their proper place—the butcher's block. The rank and file of dairymen are at last learning that no matter how high the price of her product some cows are never able to show a profit.

This awakening accounts for the unprecedented demand for high-class cows that are known to be profit-makers, and the volume of that demand will continue throughout the years.

Behind the millions of good dairy cows stand the breeders of registered purebred dairy cattle, upon whose skill in selecting, mating, and developing the best and most productive individuals and families, depends the progress and improvement of our grade dairy herds.

Before the fierce demand for PRODUCTION and MORE PRODUCTION only the more highly developed registered herds will be able to advance, and it behooves every breeder who expects to keep step in the march of events to see that his herd contains only the very best animals that he can breed, develop, or buy.

To afford other breeders to buy in a public sale which offers only animals of the very highest rank, conscientiously selected by a committee of three, and with the most liberal health guaranty ever attempted in a sale in America, fifteen of California's foremost breeders permitted the selection from their herds of eighty animals of most famous breeding and superb individuality.

One or more of the magnificent animals in this offering would strengthen any herd in the world and better prepare it to meet the future assured demand for breeding Holsteins of the greatest excellence.

Besides having been chosen because of outstanding breeding and individuality, every animal in this offering is guaranteed against tuberculosis for sixty days and is guaranteed to be a breeder.

A catalog showing extended pedigree of each animal, also milk and butter records, will be mailed to all who request it.

Six 30 Pound Cows

FOURTEEN DAUGHTERS OF 30-POUND COWS
A 29-POUND 4-YEAR-OLD
TWO DAUGHTERS OF 29-POUND COWS
TWO 28-POUND COWS
SIX DAUGHTERS OF 28-POUND COWS
TWO 27-POUND COWS
FOUR DAUGHTERS OF 27-POUND COWS
TWO 26-POUND COWS
FOUR DAUGHTERS OF 26-POUND COWS
TWELVE HEIFERS AND COWS WITH RECORDS FROM 20 TO 25 POUNDS
ONE 1000-POUND YEARLY RECORD COW
A DAUGHTER OF A 1000-POUND COW
TWO 800-POUND COWS
FOUR DAUGHTERS OF 800-POUND COWS
SIX DAUGHTERS OF 700-POUND COWS
THREE 600-POUND COWS

BULLS OF HERD HEADING BREEDING AND TYPE

A son of Miss Valley Mead De Kol Walker, 36.81 pounds butter in 7 days as a junior three-year-old, world's record heifer in the eight months after calving division of the senior two-year-old class. As a senior two-year-old she made 790.38 pounds butter in 257 days, freshened practically without rest and made 36.81 pounds butter in 7 days.

A son of King Valdessa, son of the great 41-pound cow Valdessa Scott 2nd, out of the world's record heifer Finderne Soldene Hengerveld, 35.33 pounds butter in 7 days at first calving.

A beautiful, light colored, show quality son of King Mead of Riverside, out of a 33-pound dam that made over 1,000 pounds butter in one year.

A son of King Valdessa out of a great 30-pound cow.

A son of a 32-pound cow that will make around 1,200 pounds butter, this year.

A son of Spring Farm King out of a 31.70-pound dam that milked 91 pounds in one day, 581 pounds in 7 days, and is a promising candidate for a much higher record. He is a beautiful individual.

A son of Prince Aralia Walker, he by Prince Gelsche Walker and out of Aralia De Kol 3rd, out of a 25-pound three-year-old daughter of a 34-pound cow.

A son of Prince Gelsche Walker out of a 27-pound four-year-old.

A great young son of King Morco Alcartra out of a 23-pound two-year-old daughter of Prince Gelsche Walker.

A splendid grandson of King Korndyke Sadie Vale out of a 29-pound cow that has a 34-pound three-year-old daughter.

DAUGHTERS OF GREAT SIRES

Many of the greatest sires of the breed are represented by daughters in this offering, including King Korndyke Sadie Vale; Prince Gelsche Walker; King Mead of Riverside; King Segis Pontiac Alcartra, the $50,000 bull; King Segis De Kol Korndyke; It; Admiral Walker Prilly; Segis Pontiac De Kol Burke; King Morco Alcartra; Prince Gelsche Walker Korndyke; Korndyke Queen De Kol's Prince; King Walker 5th; King Segis Pontiac; Tidy Abbekerk Prince; King Korndyke Pontiac; Annie De Kol Lakeside Model; King Pietertje Hartog.

BRED TO GREAT SIRES

The outstanding females making up this sale are bred to many of the most richly bred sires of the breed, including It, son of the first 37-pound cow, and she was also the first cow to make over 1200 pounds butter in one year; Prince Gelsche Walker, sire of a 36-pound junior 3-year-old and a 34-pound junior 4-year-old, and rated as one of the most promising of present-day sires; King Mead of Riverside, sire of a 35-pound daughter that will make around 1350 pounds butter this year on strictly official test, and his other daughters as a group are famous for large yearly production and high average per cent of butter fat; Sir Aaggie De Kol Acme, son of the 35-pound cow mentioned above; King Segis Alcartra Prilly, Grand Champion at 1917 California State Fair, son of the $50,000 bull and out of a 30-pound granddaughter of Prilly; King Segis Alcartra Abbekerk, son of the $50,000 bull and out of a 30-pound daughter of Tidy Abbekerk Prince; King Pontiac Segis Korndyke, 30-pound proven son of King Segis De Kol Korndyke; King Morco Alcartra and Prince Alcartra Korndyke, sons of Tilly Alcartra, the world's greatest dairy cow; King Pontiac Netherland Segis 3d, grandson of King of the Pontiacs and out of a great 34-pound dam; Prince Gelsche Walker Korndyke, the $4000 son of Prince Gelsche Walker; Sir Veeman Korndyke Pontiac, 30-pound son of Sir Veeman Hengerveld; Segis Pontiac De Kol Burke Luit, 32-pound son of Segis Pontiac De Kol Burke; King Korndyke Pontiac, son of King of the Pontiacs and a 26-pound 3-year-old daughter of a 30-pound 3-year-old.

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California Breeders Sales and Pedigree Company

J. M. Henderson Jr., President
C. L. Hughes, Sales Manager
Sacramento, California

Fattening Hogs in Kern County

[Written for Pacific Rural Press.]

A small pen, good drinking water, and a wallow to offset the heating food, are necessary to get the most pork per pound of grain in fattening hogs, according to A. E. Beckes of Kern county, who fattens hogs on a large scale. Mr. Beckes makes a practice of weighing pigs when put into the fattening pens at 100 to 125 pounds, and when taken out about 100 pounds heavier. He also weighs the feed. On this basis he says that it is easy to put on the last 100 pounds in about forty days' full feeding. He gives them all they will eat from the start of this period, and their appetites increase for ten to fifteen days. There is not much danger of scours or stunting, according to Mr. Beckes. He mentions Harry Rambo's hogs, which gained three pounds per day on 3½ pounds of ground wheat per pound of gain. This was fed on a sloping floor in a small pen. Larger pens encourage more running around and smaller gains. Many farmers have fed five pounds of wheat per pound of gain, the hogs being in larger pens. Ground barley or gyp corn has required about 4½ pounds per pound of gain for Mr. Beckes. He grinds all grain and feeds it dry in a self feeder. The extra saliva secreted, thinks he, gives the hogs enough more benefit from dry feed eaten to counterbalance the extra amount they would eat if it were wet. They will drink enough water later. This opinion seems to prevail in the Wasco district.

Part of the wallow ought to be in the shade, on general principles; but Mr. Beckes is unable to notice that his hogs prefer the shady end, even in hot days.

Medium type Poland-Chinas seem preferred, because, as Mr. Beckes says, they can be marketed any time after they weigh forty pounds, as they are always in good shape. The cheapest hundred-pound pig is grown on alfalfa with a little grain. Those grown in winter with less green feed require longer to grow to the same weight.

Feeding the State Fair Pig Club Winner

[Written for Pacific Rural Press by Howard C. Peterson, Reedley.]

[How a purebred pig grew from 35 pounds at ten weeks to 265 pounds 163 days later, and much more at ten months, is told below by the youthful member of the Reedley Boys' Pig Club. The pig won first place in the Boys' Pig Club exhibit at the State Fair, fourth as a senior pig in an open class of 26 entries, and two ribbons at the Fresno Fair.—Ed.]

This registered Poland-China sow, Belle of Fowler, weighed 450 pounds at the age of ten months, making an average daily gain of 1½ pounds since the date of birth. She will be a year old November 9, and she weighed over 500 pounds October 20.

Young pigs must have an abundance of good pasturage and a good supply of fresh water daily. Great care has to be exercised in feeding a pig to make it put on such a heavy weight at so early a date if the hog is to be kept for breeding purposes, because a young pig weighing 450 pounds at the age of ten months must have very strong legs and a large pasture to run on to keep in perfect condition.

This pig has been fed all she would eat up clean, twice a day, since the day she was weaned. Skim milk and middlings or shorts were the only feeds fed for the first nine weeks after weaning.

Starting on the tenth week after weaning or at the age of five months, a balanced ration of rolled barley, middlings, tankage and skim milk was fed.

In fitting this hog for the Sacramento and Fresno Fairs, a balanced ration of rolled barley, middlings and corn was used, just enough skim milk being used to wet the middlings. I am feeding now rolled barley and middlings, two quarts of barley to one part of middlings.

I always keep a small amount of fine, soft coal and air-slaked lime, mixed in a ratio of three to one, in my pig pen for them to eat. There is no danger of worms getting into your hogs if the above is kept before them at all times.

AVOIDING WRINKLES ON HOGS.

[Written for Pacific Rural Press.]

Wrinkles back of the shoulders of a hog of well-known Eastern breeding put him second instead of first at the State Fair. A much wrinkled herd at the Fresno Fair found itself low on the premium list.

The only way to keep wrinkles off from a well-fed hog is to keep him growing steadily without ever getting a setback, says A. B. Eikenberry, who worked a long time for W. A. Young of Lodi and fitted H. I. Marsh's winning hogs for the 1917 circuit. He has taken care of I B A Wonder ever since he was three months old except for one period of nine months. Mr. Young used to get impatient for heavier feeding and more fat, but did not insist, and this hog beat the State Fair grand champion at Modesto.

COST OF A LIVESTOCK SHOW.

A hundred thousand dollars could be more easily raised than $10,000 for a San Francisco Livestock Exposition, because business men will subscribe for a show with a chance of success, while they will not for so small a show as could be arranged with $10,000, says a breeder prominent in livestock circles. Another breeder wants to know how $100,000 could be spent to advantage. War and labor disturbances have prevented such a show in either San Francisco or Los Angeles this year, but a start has been made in the exhibit at the Land Show, and the big event is strongly favored by most leading stockmen for the near future.

Sharp advances in the corn market at Chicago, November 5, resulted from Government announcements virtually setting a minimum price on hogs—$15.50 a hundredweight. It is said the minimum price on hogs is higher than packers generally had expected.

IMPERIAL VALLEY BOYS' PIG CLUBS MADE MONEY.

The summary by State Leader of Boys' Pig Clubs, I. F. Davis, of the results of the Imperial Valley Pig Club Contest shows that the five clubs entered 95 pigs, an average of two per member. Their average weight at the start was 49.84 pounds; at the end 199.9 pounds, making an average gain of 150.06 pounds in the average of 102.4 days of feeding. The average daily gain was 1.467 pounds; the average cost per pound of gain was $0.0633, including labor, feed, and pasture. The total average cost per pig at the beginning was $4.12. The average cost of fattening was $9.50. The average selling price was $27.015. The average net profit per pig was $13.40. The Calexico Club made the cheapest gains, $0.0488 per pound. The Brawley Club made the greatest average daily gain, 1.499 pounds. Calexico made the greatest net profit per pig, $16.98; with pigs which averaged heaviest at the start, 92.12 pounds; the heaviest average in the other clubs being Brawley, 55 pounds. Evidently it does not generally pay so well to begin fattening pigs until they weigh nearly 100 pounds. The least net profit was made by the club starting with the smallest pigs, which weighed 38.02 pounds; but they made the second largest daily average gain in weight. All the pigs were sold at auction on the day of the finish and the judging in Brawley.

MONTELENA HERD of
Large Yorkshires
Headed by

LAKE PARK KING 25211
Grand Champion Boar—California State Fair, 1917.

Yorkshires have proven themselves, in every way, the breed best adapted to California conditions.
Our herd won 21 prizes with 11 entries, including six championships, at Sacramento this year.
We offer for sale two Junior Yearling Boars, Spring Boars and Gilts, and Fall Pigs, sired by Lake Park King.

A. L. TUBBS COMPANY
CALISTOGA, CALIFORNIA

to make pork=profits
these days you need fast maturing pigs —the kind that World's Champion Star Leader sires, weighing at 4 months about 150 lbs.
Get a Star Leader Boar, 3 to 4 months old for $50
Illustrated Booklet Free. Write Now, Right Now

ANCHORAGE FARM
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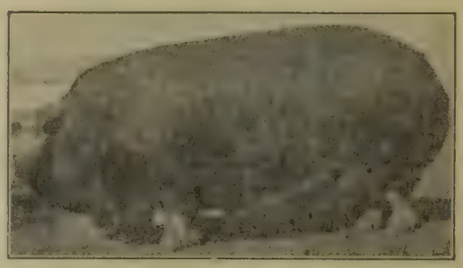
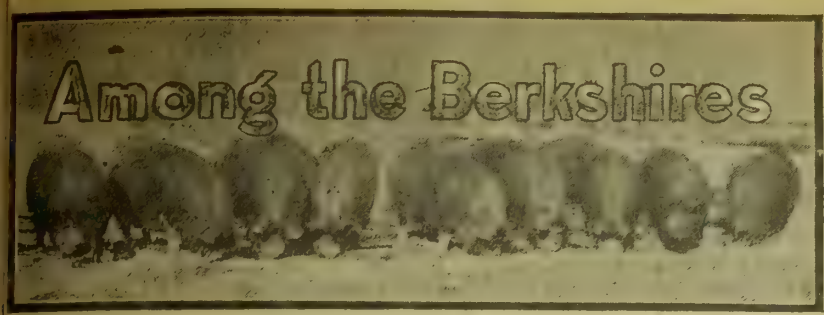
Quality Products

Bassett's Poland Chinas



For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year — uniform in size, high in quality, quickly and economically matured and finished.

Grand Champion Sow, P. P. I. E., 1915; Sacramento, 1916.
$30 UP.
FAIR DEALING, UNIFORM EXCELLENCE, SATISFIED CUSTOMERS, BEST PORK PRODUCERS, RESULT FROM YEARS OF SELECTIVE BREEDING.
M. BASSETT Hanford, Cal.



For more than 125 years Berkshires have been an important factor in farm prosperity. It was not, however, until 1875 that the American Berkshire Association was formed and a herd book opened. Since then the progress of the breed has been rapid and continuous.

The ideal Berkshire of today is black with "six white points"—four feet, snout and tip. The face is short and the nose usually somewhat "pug." The jowl is full and the neck short. The back is broad and the ribs well sprung. The loins are thick and the hams long and meaty. The legs are short but straight and strong. The hair is fine and compact and the skin pliable. The modern Berkshire is a medium-sized, early-maturing hog. A six-months pig should weigh not less than 175 pounds, a year-old hog 300 pounds, and a brood sow about 400 pounds.

Every farmer desires to secure large litters. But it is even more important that every pig have a chance to develop into a well-finished market animal. There's neither pleasure nor profit in feeding runts.

Berkshire sows make ideal mothers. They farrow an average of seven to eight pigs per litter, and they raise them, too. The growing shoats are active grazers, making good gains on inexpensive feeds. In fact, one of the strongest features of the Berkshires is their ability to turn alfalfa and other forage crops into good solid flesh.

The shoats can be fattened at almost any age desired. Another strong characteristic of the Berkshires is their ability to carry great weight without breaking down. On this point Dean Curtiss, Iowa Agricultural College, says: "The practical breeder is also placing more emphasis on good feet than formerly. He has learned that good feet are essential to a profitable hog."

Not every farmer cares to establish a herd of registered hogs, but any mixed herd can be greatly improved by grading up with a purebred Berkshire boar. He will imprint quality on all his get, producing better pork at less cost.

RAISE A FEW HOGS.

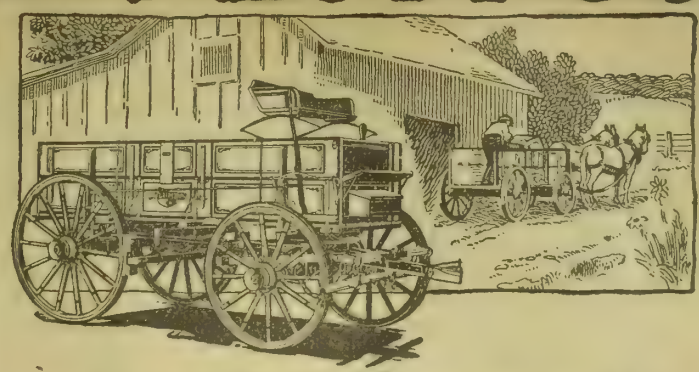
The following, from J. M. De Vilbiss, president of Stanislaus County Duroc-Jersey Breeders' Association, was received too late last week for insertion among the other communications relative to the increase or decrease of hogs in California:

"As I had a very good chance to investigate more thoroughly I did so. On October 24 a prominent farmer and Duroc hog man visited me and wanted to buy twenty-five tried sows. And as he wanted more of that age than I could spare, I spent a day with him looking up the order. I was surprised to find so few raising hogs. There were a year ago four or five different breeds of purebred hogs and numbers of grade hogs headed by purebred sires. Today there are but very few herds of hogs of any kind and a very few one-sow farmers. Upon inquiring why this scarcity existed, I received various answers, as follows: Sons in the draft, unable to get help, high priced feed, casein works buying separated milk, paying cash and eliminating a lot of work and worry that they would otherwise have in feeding and caring for hogs. I find that the one most important thing about the matter is that Western breeders and farmers have not studied feeds and feeding as much as they should. And summing the situation up it seems to me that it is a good time for the man that is inclined to work and have something to dig in and care for a few hogs, along with his other work."

STATE TO CERTIFY FREEDOM FROM TUBERCULOSIS.

"State Accredited Junior Herds," to consist of purebred calves kept separate from cattle which may have tuberculosis, and fed no milk except what has been pasteurized or brought to boiling point, are to be inaugurated about January 1 by State Veterinarian Chas. Keane. There are already applications for certification of a great many registered herds, and this will probably be carried out. There is also likely to be established an "honor roll" for grade herds which are kept free from tuberculosis. Many clean herds have been found on retests by the State Veterinarian under the dairy law.

D. O. Lively of San Francisco will leave in about two weeks on a trip East to purchase livestock.



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Young boars ready for service, sired by such boars as Grand Leader and Laurel Champion. Also from Winona Lee Champion 6th, out of Riverby Princess, Grand Champion Sow at the Panama-Pacific Exposition.

Also sows and gilts for March farrow, bred to Baron Duke 201st, Grand Champion at Omaha.

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Imported by us direct from China, where its merits have been appreciated for many years. These beans are bug-proof and thrive almost anywhere. Not affected by frost.

Invaluable also as a cover crop. Can be planted for their forage and later turned under for green-manuring.

Per lb., 10c; 100 lbs., $7.00. Write for prices on larger quantities.

Now is the time to plant.

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Largest Herd in the State

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Mature Stock and Weanlings of both sexes. Sure to please.

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Hauser's Digester Tankage

GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.

Hauser Packing Co. Los Angeles

Livestock Uses Crops and Waste Fruit

[Written for Pacific Rural Press.]

A ranchful of large undertakings is that of the Swall Land Company in Tulare county, and yet it is all conducted on conservative principles. There are 1,900 acres in the home ranch and 1,800 rented, besides about 700 acres in another place. There are 80 acres of bearing drying prunes and 60 acres of Tragedies from which Arthur Swall, the manager, shipped 12 or 14 carloads fresh this past season. Three hundred acres of French and Robe de Sargent prune trees not yet bearing testify to Mr. Swall's confidence in recent years that a growers' organization would be formed to put the marketing on a stable basis. Next spring 125 acres of Robes and Tragedies are to be planted. The crop from about 50 acres of cling peaches is sold to the cannery, and that from 50 acres of freestones in bearing is partly dried and partly packed on the ranch for fresh shipment east. A special railroad switch is provided at the packing house and another at the home ranch.

Eighty acres of young orchard were interplanted with potatoes last spring, and yielded about 4,000 sacks, about the best yield in the country. These were harvested in July and 150 acres of late potatoes planted in the same month, using seed from the first crop. The potatoes are shipped directly east by the carload. Some 2,000 acres are in wheat and barley for both grain and hay, and generally 200 to 300 acres in gyp corn for its grain. There is no corn for silage, though its value is undisputed. Fifty to 100 acres of young orchard are planted to pink beans. Over 200 acres grow alfalfa.

FEEDS CROPS TO LIVESTOCK.

Three dairies, aggregating 160 milk cows, help make the crops into money. Each dairy is supplied with hogs of which there are 300 or 400 to use the skim milk, alfalfa and some of the grain and to clean up the waste prunes, Johnson grass, etc., when they are turned loose in the orchards. Steer calves are sold at one or two years old, having helped used the skim milk. They are all sired by purebred Holstein bulls.

LABOR AND LABOR SAVING.

To handle the work, Mr. Swall has 30 to 100 men, according to the season. He had 50 during potato digging. To attract and hold the best class of men, he spent $5,000 last fall for a cook house and equipment and for two bunkhouses with shower baths and attractive appearance. He is seldom short handed, and has some men who have worked on the place five or six years.

AUTOS, TRUCKS, AND TRACTOR.

To save labor and make it count for most, there is little evidence of a penny-wise policy on this ranch. We counted five automobiles of various makes and sizes, besides one with a truck body and a big autotruck which was being used to haul 2,900 pounds of potatoes direct from the soft ground of the field to the willow grove where they were sorted and sacked comfortably. A 40 h.p. tractor saves time and labor in the orchard. It was preparing for the fall potato crop while we were there. A 75 h.p. tractor does a lot of the heavy work. To keep the machinery in repair, a fully equipped blacksmith shop, with forge and engine-driven lineshaft to operate drill, grindstones, etc., is kept ready for quick work. Beef for the men is killed fresh on the place, and an ice plant provides coolness through the summer. Fresh water is forced wherever needed by a Kewaunee compressed air system with the tank on the ground. Mr. Swall finds it impossible to keep good clothes in good shape by wearing them through the week and he doesn't try. He is always prepared to do any of the work that is to be done, and takes a hand in much of it. Perhaps this keeps him better acquainted with the viewpoint of those who work for him and makes for more efficiency all around.

Eastern View of Our Beef Possibilities

[Written for Pacific Rural Press.]

War has wiped off 115,000,000 farm animals that should be alive today, as stated by Prof. John T. Caine 3rd at the California Shorthorn Breeders' banquet in Sacramento during the State Fair. Europe is short about 26,000,000 cattle and 35,000,000 hogs. It is up to the West to help replenish this vacancy, for the only way to use our great ranges, our hay, and much of the grain is to turn them into meat and animal products. Hay and grass should be fed to good cattle, for we don't get so much for it if fed to scrub cattle. In choosing good cattle, let's remember that meat is needed more than anything else, and forget the frills of breeding for color, family, or other point except the great idea of greatest meat production.

ENCOURAGE YOUNG BREEDERS.

"When you older breeders get a man into Shorthorns," said Prof. Caine, "make him stay with them by loading him up with good stuff at fair prices. If a young breeder gets into high-priced stock and loses much by disease or otherwise, he gets discouraged and quits. Get young breeders into your Shorthorn Association, make your herds known back East by sales and exhibitions, and if you keep up your quality the East will be coming to California to buy your stock."

BEEF GRAND CHAMPION'S FEED.

[Written for Pacific Rural Press.]

Hopland Lass, the State Fair grand champion female Shorthorn, owned by Hopland Stock Farm of Hopland, was fitted for the fair, according to Herdsman Will Sims, by stall feeding on two parts rolled barley and one part bran, all she wanted, with alfalfa hay. During the fair she had alfalfa hay and a ration of two parts rolled barley, two parts rolled oats, and one of shorts. She weighed 1700 pounds at the fair while suckling a calf. She was dropped October 1, 1913.

Hillcrest Stock Farm
THORNTON S. GLIDE, Prop. DAVIS, CALIFORNIA
BREEDER OF
SHORTHORN CATTLE
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Shropshire and Merino Sheep
Shropshires sired by rams imported by me from England
The Famous Glide Merinos
Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
First Prize Breeders Young Shorthorn Herd at Sacramento

10 2-year Bulls SHORTHORNS 10 Bull Calves
We have just received a shipment of yearlings and 2-year-old heifers, bred to a son of Cumberlands Type, the bull that won 36 Grand Championships at 36 Fairs. This is the best lot of females we have ever offered for sale.
Better look them over soon, as they will sell quick.
H. L. & E. H. MURPHY, Perkins, Cal.

SCOTCH SHORTHORNS
We have just purchased the entire herd of Shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.
FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.
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ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
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a big knee like this, but your horse may have a bunch or bruise on his ankle, hock, stifle, knee or throat.
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will clean it off without laying up the horse. No blister, no hair gone. Concentrated—only a few drops required at an application. $2 per bottle delivered. Describe your case for special instructions and Book 8 M free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; allays Pain and Inflammation. Price $1 and $2 a bottle at druggists or delivered. Made in the U. S. A. by
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35 years in this business. I sell direct to the consumer. You act as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.
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Registered Jacks
Range raised; Guaranteed satisfactory breeders; Field Jacks a specialty.
REGISTERED SHIRE COLTS
James W. McCord, Hanford, Cal.

The Livestock Kranking Machine

HIGH DAIRY RECORDS, BAD AND GOOD.

Two faults we have to find with certain dairy records. Those habitually published in terms of "butter" containing one percentage of butterfat or another, seem merely an effort to take undue advantage of others which retain the logical statement of butterfat percentage. The individual who states his records in terms of butter is scarcely to blame, while the majority of breeders of his kind persist that way, but he and the public are unfortunate in having to do some arithmetic every time they want to know what his cows actually produced and whether they really do compare well with others. The outsider looking in very often does not know the difference between a "butter" record and one for butterfat, which was probably one of the real reasons for "butter" records. But what can we say of the implication when any breed or man resorts to such means to give an impression of superiority? If "butter" production is so much more valuable in telling the world of the great profits from dairying, the various breed associations might at least determine a uniform percentage of fat.

The other fault has more justification, and is not quite so unfortunate for the individual breeder. What good is it for breeders to trade among each other and wear each other's money out by handing it back and forth? Where this is done repeatedly, it opens the breeders to a charge of trying to suck some suckers into the whirlpool, and the more the merrier. But where there is a real aim to establish an enduring trade, a prime effort will be made to start and develop new breeders along lines that will make them money as well as enlarge the market for the best of the purebreds. Unless the sucker Romanizes with the Romans to make his money out of some more suckers, his only chance to make the money that will keep him in the business is from the actual superior production (of milk, fat, and calves) from the animals for which he pays superior prices. If he can do this, the superior prices are justified and he can with conscience obtain similar prices from others not suckers. But the tricks of record-making are many, and a cow that makes a startling seven-day record may not be able to keep a breeder legitimately in the game. The prospective marketees for good purebreds are fast awakening to this and circulating it among themselves. Progressive foundation purebred men are recognizing this and are providing what really shows value in cows—long-time records followed by calves.

BEAN STRAW FOR HORSES.

To the Editor: What is the value of bean straw as feed for horses?—M. S., Oakley.

All those who have coarse forage of any kind now available should send to the University at Berkeley for Circular 167 by Professor F. W. Woll on "Feeding Stuffs of Minor Importance," which has to do with all kinds of by-products of cropping in their availability for feeding purposes. It will be found to answer many questions which are arising in individual experience. On the question propounded above Professor Woll says:

Straw from leguminous crops, beans, peas, etc., is somewhat higher in nutrients than cereal straw, but is generally coarse-stemmed and less palatable to stock than the latter. Lima bean straw is commonly fed to cows, horses, and sheep in the south coastal counties of the State and is considered of nearly similar feeding value as good grain hay or fair grades of alfalfa or clover hay. In order to avoid waste in feeding, it is preferably run through a cutter and either fed alone or mixed with feeds, like silage, sliced roots, or concentrates.

COLTS STUNTED.

[Written for Pacific Rural Press.]

Farmers with mares can boost their country and make money by breeding them to the heaviest typiest registered purebred stallions. Though the Government does not require the heaviest horses, breeding grade mares to the heaviest stallions will get plenty of the lighter weights, according to Jas. McCord of Hanford. Lots of horses with the breeding to make great size are stunted by turning out to pasture and not feeding enough. This is unpatriotic, for if they should prove too big for Uncle Sam, they will be just right to help replenish Uncle Sam's pantry.

Cattle and horses are being stabbed and inoculated with the dreaded anthrax germs by raiders, who move at night, in Yuba and Sutter counties. Some of the animals are dying. Either a butcher knife or short dagger dipped in anthrax virus was used. Rigid investigation is being made.

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BLACKLEG PILLS
"California's Favorite" for nearly 20 years
For the Prevention of Blackleg in calves and young cattle

Their superiority is due to nearly 20 years of specializing in "Vaccines and Serums only."
Year in and Year Out they give better satisfaction than any other vaccine made, and the cost of a few cents per dose is cheap insurance against a disease that always takes the fattest and best.
Single Pills may be used for ordinary and range stock.
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Use any Injector, but Cutter's simplest and strongest.
Prices:
10 dose pkge. Single pills $1.00
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Cutter's Pill Injector.... 1.50
Insist on Cutter's. If unobtainable, order direct.
Write for new booklet, "The Control of Blackleg." It tells about Anti-Blackleg Serum which cures Blackleg and may be used simultaneously with vaccine to combat outbreaks and safely protect valuable stock.
The Cutter Laboratory, Berkeley, Calif.
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Four Routes East!

Sunset Route: Along the Mission Trail, and through the Dixieland of song and story. To New Orleans via Los Angeles, El Paso, Houston, and San Antonio. Southern Pacific Atlantic Steamship Line, sailings weekly, New Orleans to New York.

Ogden Route: Across the Sierras and over the Great Salt Lake Cut-off. To Chicago via Ogden and Omaha; also to St. Louis via Ogden, Denver and Kansas City.

Shasta Route: Skirting majestic Mount Shasta and crossing the Siskiyous. To Portland, Tacoma and Seattle.

El Paso Route: The "Golden State Route" through the Southwest. To Chicago and St. Louis via Los Angeles, Tucson, El Paso, and Kansas City.

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FOR SALE
One of the leading Shire Stallions of the West
DESFORD BANKER
Three Imported Shire Mares all in foal.
Two Stallion Foals and one Filly Foal.
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Mr. Farmer:
You can't get along without a Pull, so buy a good pair of mules from
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First Prize 2-year-old and Reserve Champion, California State Fair, Sacramento, 1917.
Offering a few 2-year-olds and upwards, with heavy bone and high quality, that weigh a ton or more. If you are looking for the best come and see them or write for particulars.
EVERY STALLION GUARANTEED AS REPRESENTED
Prices and Terms Reasonable
N. W. THOMPSON
PATTERSON, CAL.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Dairymen around San Leandro are mixing pea vines with barley hay for ensilage. The results will be watched with interest by other dairymen.

One of the three head of females to be consigned by F. W. Kiesel to the Guaranteed Holstein Sale is a heifer, Natoma Verona Korndyke, out of a 31-pound cow by a 32-pound bull and in calf to a 35-pound bull.

Five cows of the herd of A. W. Morris & Sons will finish yearly tests this month with big records. On November 1 Aaggie Acme of Riverside, with ten days to go, had made 1,045 pounds butterfat, or over 1,300 pounds butter.

W. J. Higdon of Tulare has secured for herdsman H. L. Redd of Granger, Wash., formerly with the Davis dairy herd. Mr. Higdon's herd now contains about seventy-five head of registered females. Twenty head will be on official test this winter.

Creameries and other strategical points are soon to be placarded by the State Veterinarian, calling attention to the folly and absolute uselessness of having any hogs at 15c per pound affected with tuberculosis. Raw diseased milk is practically the only cause of this disease in hogs.

A. J. Welch, prominent Guernsey breeder of San Francisco, has just returned from a trip East. He reports that Edgemoore Farm won a good share of the Guernsey honors at the National Dairy Show, including junior champion bull, second on aged bull, first four-year-old cow, first junior heifer calf, first on young herd and first on cow with official yearly record begun at five years.

Beef Cattle.

The James Mills Orchard Corporation recently bought a registered Shorthorn bull from Hopland Stock Farm.

Four head of steers from the beef barn of the University Farm will compete for honors at the Portland Livestock Show. The world's champion steer came from this same herd.

Three cattlemen are in the custody of the Federal authorities under a charge of willfully setting a forest fire on October 23, in the Stonyford, Colusa county, district of the California National Forest. The fire has burned over ten thousand acres.

The Taafe Ranch, near San Luis Obispo, between the Santa Rita Ranch and the Atascadero Colony, consisting of 6,000 acres of range land, has been sold to Luis and Gaspar Marre. It is said that an offer of $9,000 for the feed alone was recently made to the owners. Approximately $100,000 is believed to be the purchase price.

Swine and Swinemen.

Charles G. Cooper of San Francisco bought of Hopland Stock Farm nine registered Berkshire sows for his ranch near Honcut.

P. E. Mitchell of Atwater writes: "I bought a registered Poland-China sow and boar a year ago. The sow farrowed eight pigs the first litter and raised them all. In the past six weeks I have sold five of them: J. R. Laird, Legrand, boar pig; J. C. Jones, Merced, boar pig; Mrs. R. W. Mitchell, Atwater, sow; M. V. Silva, Winton, boar; D. L. Lander, Atwater, boar. These pigs were six months old."

After agreeing to make up a trainload of hogs for Kansas City, a number of hog raisers of the Imperial Valley last week turned round and sold most of their collected hogs at El Centro at $15.50 to $16 per cwt. to Los Angeles and San Francisco buyers rather than ship them East and pay the necessary shipping and selling expenses, as all they could expect to get on the Kansas City or Omaha markets was $18 per cwt.

Sheep and Goats.

From the sheep barn of the University Farm eleven head of fine wethers will be shown in competition at the Portland show, which opens about the middle of next month.

At the Eisen vineyard in Fresno 800 sheep are dead and many more are expected to die as a result of poisoning. It is presumed that the sheep ate poison that had been sprayed at the bottom of grape vines to kill worms.

Preparations are now being made here by San Francisco packing companies for feeding about 50,000 head of sheep here for the block on a ration chiefly composed of beet pulp, the refuse from the local sugar mills. In addition to the beets, roughage of various kinds to the total value of $100,000, and which is to be purchased in the open market here, will be used.

Horses.

The San Rita Stock Farm reports that good draft horses from five to seven years old are bringing from $175 to $225 per head. The Farm has supplied the Government with a number of cavalry horses from their racing stock.

A number of farmers in Contra Costa county are anxious to have someone give them an effective remedy for the distemper that is very prevalent at this time among all kinds of animals, especially horses and mules.

Five Percheron mares and a Percheron stallion will be exported to Japan this month. Most of the horses in Japan are too small to handle heavy farm machinery and for that reason Percherons are desired for breeding with the small native horse.

Miscellaneous.

C. R. Thomas, who is appointed to manage the Los Angeles Livestock Show next fall, visited the California Land Show for pointers.

A new record was made in cattle receipts at the Chicago stock yards in October. During that month 413,000 head of cattle were received, as against 384,466 head received in September, 1892; the previous record month. Hog receipts were 435,000 head, as against 781,000 head for October, 1916.

C. L. Hughes, manager of California Breeders' Sales and Pedigree Co., writes as follows: "In the third Sacramento sale of registered Holsteins, held here on October 30-31, the cattle from seven consignors were originally tuberculin tested by five veterinarians. After the sale a number of purchasers availed themselves of the privilege of retest which was offered at this sale and cattle from five consignors were tuberculin retested by two veterinarians. The result showed that there was not a single tubercular animal in the lot, and as the original tests were made by the same veterinarians who have tested cattle at former sales of this company, we believe this retest has furnished strong evidence that they are thoroughly and efficiently aiding us to offer only sound, healthy cattle to the buying public in our sales."

NEVADA PERCHERONS.

The field was never brighter for the purebred horseman, says John Matley, well-known Percheron breeder of Reno, Nev. Mr. Matley is an old-timer at the game and just now owns one of the finest Percheron herds in the West. This year's crop of colts could hardly be excelled. Mr. Matley's herd includes several imported mares and is headed by the widely known Matineax, who was reserve grand champion at the P. P. I. E.

CATTLEMEN'S STATE ORGANIZATION RECONSTRUCTED.

At a meeting in this city last week of the more prominent cattlemen of the State a reorganization of the cattle interests was effected. A large attendance was present and much enthusiasm shown. Co-operation in getting the new hide and brand law into operation, the improvement of stock and range conditions were matters strongly emphasized by the speakers. In the evening a banquet was spread for the members and a good and profitable time had. The officers are: President, L. A. Nares, Fresno; vice-president, Fred H. Bixby, Long Beach; attorney, George Clough, San Francisco; treasurer, the Anglo Paris and London Bank. Directors, O. B. Fuller, Los Angeles; Fred H. Bixby, Howard B. Jack, San Luis Obispo; L. A. Nares, Henry W. Lynch, Pleyto; E. A. Rudolph, San Francisco.

UNUSUAL

Holstein Offering

Our Consignment to the

QUALITY SALE

Sacramento, Dec. 5, 1917

consists of the following ten highly bred animals all of show ring type and quality.

MISS KORNDYKE MERCEDES No. 121428 Grand Champion Cow, California State Fair, 1917. Heavy in calf to King Segis Alcartra Abbekerk, a 30-lb. son of the $50,000.00 bull.

MISS PONTIAC NUDINE OF SPRINGVALE No. 175955, who has a 30-lb. record made at 5 years. Heavy in calf to "King Segis Alcartra Prilly," a 30-lb. son of the $50,000 Bull and Grand Champion Bull at Cal. State Fair, 1917.

A YEARLING DAUGHTER OF THIS COW by a 30-lb. sire and bred to "King Segis Alcartra Prilly."

"OAKVALE JENNIE KORNDYKE" No. 173499. A five-year-old cow with a 27-lb. record, who has a 30-lb. full sister. Heavy in calf to "King Segis Alcartra Prilly."

TWO DAUGHTERS OF THE $50,000 BULL, "King Segis Pontiac Alcartra"—One from a 31.35-lb. dam, one whose first seven dams average over 31 lbs. butter in 7 days. Both bred.

A DAUGHTER OF "KING MEAD OF RIVERSIDE," and from a 23.63-lb. dam, whose dam is a 30-lb. cow. Bred to "King Segis Alcartra Prilly."

A DAUGHTER OF "KING WALKER 5th" and out of a 30-lb. cow. Safe in calf to "King Segis Alcartra Prilly."

A DAUGHTER OF THE GREAT SIRE "IT" and from a 27-lb. three-year-old daughter of "King of the Pontiacs." Bred to "King Segis Alcartra Prilly."

A GREAT YOUNG BULL, BORN JAN. 11, 1917. A high-class show bull, whose dam is a 31.70-lb. five-year-old and capable of increasing present record. His sire, "Spring Farm King," who is a 34-lb. son of King of the Pontiacs and a full brother to the first 44-lb. cow, K. P. Pontiac Lass. The records of the first three dams and the sire's full sister of this bull average 34.41 lbs. butter, 7 days.

BRIDGFORD COMPANY

KNIGHTSEN, Contra Costa Co. CALIFORNIA

KIMBLE RAMBOUILLETS.

These sheep are purebred, large and smooth, with heavy fleece of fine, long, staple, white wool. Yearling rams and ewes. Individuals or carload lots.

Prices reasonable. Correspondence solicited.

CHAS. A. KIMBLE, HANFORD, CAL. Breeder and Importer.

SHORTHORNS BERKSHIRES

HOPLAND STOCK FARM

HOPLAND, CAL.

Registered bulls—yearlings and two-year-olds—bred on same lines as Grand Champion Cow at Sacramento, 1917.

Boars and gilts by Iowana Rival Majestic, a son of Rivals Champion.

Prices Reasonable—On Application.

SAN FRANCISCO OFFICE - 226 SOUTHERN PACIFIC BLDG.

THE HOLSTEIN CONSIGNMENT SALE AT SACRAMENTO.

Ninety-three head of registered Holsteins brought $26,570 at Sacramento on Tuesday and Wednesday of last week. Leaving out one consignment, which was in no condition to enter a sales ring, showing too plainly the effects of under feeding, sixty-four head brought an average of $343. The average for bulls was $321, that for cows and bred heifers $244. The sale was topped by King Ignaro Mead, a fine yearling son of King Mead of Riverside and out of a cow with a yearly record of 1,077.76 pounds butter, consigned by A. W. Morris & Sons and bid in by C. Yokum of Tulare for $900. The highest price for a cow was $775, paid by J. S. Gibson Co. for Woodcraft Gem Cornucopia, a young cow, also of the Morris consignment, with a 24-pound record and a promising candidate for 30 pounds. The sale was conducted by the California Breeders' Sales and Pedigree Co. Rhoades & Rhoades were the auctioneers.

W. J. Higdon of Tulare was the largest buyer at the sale. He secured eight head for $2,555, including a young cow, Pauline Soldine De Kol 3rd, who has a record of 27.70 pounds at three and a half years of age.

C. Yokum, another Tulare breeder, bought seven head for $2,395.

Annie Donders, proprietor of the Andon herd at Fresno, bid in seven head for $2,300, including a cow out of a 30-pound dam and having a record of 2,362 pounds. This cow is a half sister to Segis Pontiac De Kol Burke Gerben, head of the Andon herd.

A. W. Morris & Sons, F. W. Kiesel and Frank Helm each secured five head of good ones.

Napa State Hospital bid in four head for $995.

C. A. Miller of Ripon paid $800 for Nudine Butter Boy, a 30-pound bull of the Bridgeford consignment, who was first prize senior bull calf at the State Fair this year. He also secured a fine Bridgeford heifer for $370.

Gotshall & Magruder of Ripon secured a young cow, De Kol Princess Belle 2nd, sired by the 33-pound bull Prince Korndyke Pontiac.

J. M. Campbell of Escalon bought for $675 a son of Prince Gelsche Walker out of a 29.67-pound dam consigned by Santa Anita Ranch.

Other buyers were H. C. Muddox of Sacramento, three head; G. P. Robinson, Sacramento, four head; W. B. Atterbury, Crows Landing, five head; J. M. Christensen, Pacheco, five head; G. A. Cressey, Modesto, three head; George Winter, Ione, three head; V. Dolcine, Davis, and E. J. Weldon, Sacramento, two head; H. E. Vogel, Fresno, C. L. Morse, Modesto, A. Schmidt, Oswald, Jones & Son, Perkins, R. E. Clifford, Strathmore, E. Levintine, Acampo, E. O. McCormick, San Francisco, C. A. Briggs, Sacramento, J. H. Miller, Ripon, A. F. Sheidecker, Zamora, Bridgeford Co., Knightsen, and Peterposten Bros., Galt, one head each.

Ten head consigned by the Bridgeford Co. of Knightsen brought an average of $457 per head.

Morris & Sons secured King Clorinda Sadie Vale, a young son of King Korndyke Sadie Vale, whose seven nearest dams have records averaging 31.94 pounds, consigned by McAlister & Sons. The price paid was $475.

A. A. Hartshorn, a prominent Holstein breeder of New York, attended the Sacramento sale. Mr. Hartshorn bred Prince Gelsche Walker, now in the A. W. Morris & Sons herd.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

Poland-Chinas.

MAKE BIG MONEY with our famous Whitten Ranch Poland-Chinas—the mammoth, prolific, fast-growing, easy-feeding, money-making kind. Weaned pigs, service boars and bred gilts, many bred to our great $1,000 Jumbo Model. Prices reasonable; satisfaction guaranteed; everything immune. Send for free illustrated book, "Hogs for Profit." Packed with valuable information; tells how to become successful. Ranch in Tulare county, but address owner, R. H. Whitten, 519A Marsh-Strong Bldg., Los Angeles.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

FOR SALE—A Missouri Kid bid $6600 on a Poland China boar in Iowa. Ours are from Missouri. Send me $20 and I'll show you! July farrow. Big, long, smooth, registered, crated, f. o. b. N. M. Lester, Gridley, Cal.

POLAND-CHINAS—Size combined with quality; the big, easy-feeding kind, money-makers, prize winners; bred sows and gilts; service boars and young boars. W. Bernstein, Hanford.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

LARGE TYPE POLAND-CHINA GILTS, bred to Alexander; prices reasonable. G. E. Shelford, Healdsburg.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend streets, San Francisco.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRE GILTS—Rival's Champion Best and Bandmaster blood lines. D. B. Wentworth, Napa.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Lawe, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

FOR WELL-BRED BERKSHIRES, write Glenwood Acres Stock Farm, Paso Robles, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

REGISTERED DUROC-JERSEYS — Good stock shipped in from the East; bred sows, pigs of all ages, both sexes; some fine young boars; prices right. Nicholas G. Jesch, Northam, Nev.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC-JERSEY SPRING BOARS—Cholera immune; write for pedigree and prices; satisfaction guaranteed. Buchholz Bros., P. O. Box 246, Merced, Cal.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

DUROCS OF GUARANTEED BREEDING—Pigs $15 up, sired by State Fair prize winner. H. E. Boudier, Napa.

RANCHO DEL SUR DUROC-JERSEYS—Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DOS HERMANOS DUROCS—Young boars and gilts. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND — The mellow, easy feeding type; 20 bred gilts due to farrow during October and November; 50 spring pigs, both sexes, sired by Billiken; every animal is cholera immune; Billiken was grand champion boar at the State Fair; a son was reserve grand champion and a daughter was grand champion sow. Why not get started right and with the best? Write for prices and for booklet on Chester Whites. C. B. Cunningham, Mills, Sacramento Co., Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Are you looking for the easy feeding, early maturing breed of hogs? Then drop a line for booklet and prices to R. L. Robinson, Box 142, Fair Oaks, Calif.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

HOLSTEIN BULLS FOR DAIRYMEN—I have to make room in my barn. It is now overcrowded for winter. I have a number of young bulls ranging from one month to one year old, sired by Prince Gelsche Walker Korndyke and King Sadie Vale Elzevere. All are good individuals, straight in back, with good bone. Have excellent records back of them. Here is an opportunity for you to get the best breeding for very little money, as I have them priced very low. Write for pedigrees, price and photos. E. J. Weldon, Box 962, Sacramento.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

YOUNG BULLS sired by Grand Champion King Hengerveld Ormsby, grandsons of Pietertje Maid Ormsby, 35.55 pounds 7 days, test 5.31 per cent. Kounias, Registered Stock Farm, Modesto.

BUENA ALTA HERD registered Holsteins, blue ribbon winners at State and county fairs; heifers and bull calves for sale. F. A. Heroux, 629 Fifty-sixth street, Oakland, Cal.

REGISTERED HOLSTEINS — Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

TOYON FARM HOLSTEINS—Sons of Finderne Soldene Valdessa for sale. Toyon Farm Association, First National Bank Building, San Jose.

HOLSTEIN BULLS from cows with records; won two firsts and one second at Modesto butterfat contest. A. M. Bibens, Modesto.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Calif.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

Jerseys.

FOR SALE CHEAP—A few head of registered Jerseys. Best blood in State. Fine individuals. A few young cows, heifers, and bull calves. Tribble Bros., Lodi, Cal.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY COWS for sale. O. J. Ames, Oakdale, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS — Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

GUERNSEY BULLS, ready for service. Calla Grove Farm, Manteca, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

VERAMONT STOCK FARM — Purebred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS — Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS and **ROMNEYS** — Dorset ram lambs for sale. John E. Marble, South Pasadena.

KAUPKE BROS., WOODLAND, CAL.—Breeders and Importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, Importers of Hampshire sheep.

HORSES AND MULES.

FOR SALE—Percheron horses and mares, age 4 to 10 years; weight, 1200 to 1600. Price, $200 to $300 per span. S. L. Skaggs, Madera, Cal.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

STOCKTON FOR PERCHERONS—Best by State Fair test. Winners for the last five years. H. G. Learned, Stockton.

MISCELLANEOUS.

FOR SALE OR TRADE—Registered Percheron stallion; black; age 5 years; sound; weight, 1950 lbs.; height, 17 hands; good breeder and fine action; will trade for registered Holstein cows; picture, price and pedigree upon application. Address D. B. Adams & Son, R. F. D. 1, Box 245, Modesto, Cal.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend Sts., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

DUROC-JERSEYS—Four months old; fat and thrifty; $100 for five; also one Berkshire sow, bred for second litter, $50; exceptional bargains. Jersey Queen Farm, San Jose.

D. O. LIVELY announces a purchasing trip East. He will execute orders for customers for any kind of livestock and save money for buyers. 215 Hobart Bldg., San Francisco.

DEVONS FOR SALE—35 heifer calves, 11 months old, at $50 per head on the ranch. W. E. Gird, Bonsall, San Diego county, Cal.

FOR SALE—Sixteen head of Shorthorn grade yearling steers. R. D. Westfall, Colusa, Cal.

Farm Loan Bank Doing Big Business

(Continued from first page.)

ORCHARD VALUATIONS CONSERVATIVE.

Southern California orchardists presented a particular problem. They figured their citrus land values at about the cost prices and applied for loans accordingly. It was only recently that the Executive Committee of the bank made a thorough canvass of the situation, holding hearings in Los Angeles; and came to the conclusion that the best citrus orchards should be grouped into Class A, on which loans not over $400 per acre could be approved. This, of course, aroused protest. But when one of the leading fruit growers and capitalists there who wanted certain orchards valued at $1,300 per acre was asked if he would buy bonds of the bank if it made a policy of such high valuations, he admitted that he would be afraid to do it. Orchards of high enough production to enter Class A are presumed to be able to repay loans within fifteen years, which is the time limit for this class. Other rules for citrus orchard loans are given elsewhere. Nothing similar to this has been done so definitely for any other class of lands. It was considered that the land without the trees would be worth about $400. As the loans in any case cannot be over half the value of the security, this indicates that the added value due to prime bearing citrus trees under twenty years old is considered not over $400 per acre. Generally in appraising deciduous orchards to date the added value due to trees has been a good bit less than $400 in most districts.

LARGE ASSOCIATIONS BEST.

A distinct policy regarding geographical limits of local associations was put into effect on the Southern California visit, and is being extended as much as possible. Heretofore there has been a tendency, due to advices which proved uneconomical in many cases, to cover too small territory in each association. It had been hoped that small associations could enlist the services of a secretary gratis and thus save expenses of the local appraising committees, as well as to have the latter operate in neighborhoods with which they were familiar. It has very often proved difficult to find a secretary who could donate enough time to care for the business most efficiently. Thus paid secretaries to devote all their time to association business are now recommended by the Berkeley bank. To work this satisfactorily, the associations should be big enough so that all their expenses, including secretary's salary, do not exceed one-eighth of one per cent of the money borrowed by the association. In accordance with this policy, the fifty or sixty local associations in Southern California, applying for about $2,000,000, were recently amalgamated into two in Los Angeles county, one in Orange county, one in San Diego county, and one for the southeastern portion. As some of these associations are among the first organized, a corps of fifteen appraisers will be sent there right away to clear up all their applications. This has not been done previously, due to the absence of a fixed policy regarding orchard classification.

APPLICATIONS COMING FAST.

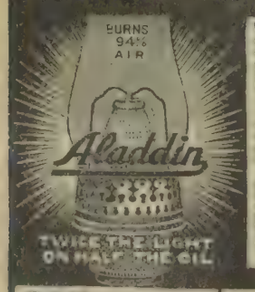
On October 24 there were 268 local associations. Most of the borrowers are located in California; Utah, Arizona, and Nevada come next in order of the amount of applications for farm loans. In October fifteen new associations had applied. The applications averaged about thirty per day and about $5,000 each. Current applications are cared for with relation to current trips of the appraisers.

HOW TO BORROW FROM FARM LOAN BANK.

The procedure in applying for loans is to get from the Federal Land Bank at Berkeley, Cal., a "complete outfit for forming a National Farm Loan Association." Advertise a meeting to be held for organization. Keep a copy of the Circular of Instructions before you. Have all (not less than ten) prospective borrowers sign the articles of association. Elect a board of five to nine directors. These directors should be local, responsible, representative, reasonably permanent land owners, and all applicants for loans. On them will fall the responsibility of approving all applications after the local loan committee has appraised the properties. Choose a loan committee from among your best men, but mostly outside the directors, if possible, in order that the directors may be impartial in approving the loan committee's appraisals. The bank cannot loan more than the local loan committee

New KEROSENE Light

10 Days Free—Send No Money | Beats Electric or Gasoline



We don't ask you to pay us a cent until you have used this wonderful modern white light in your own home 10 days, than you may return it at our expense if not perfectly satisfied. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene. Passed by Insurance Underwriters. Children handle easily. Tests by U. S. Government and 35 leading Universities show the new improved ALADDIN

Burns 50 Hours on One Gallon

common kerosene (coal oil), no odor, smoke or noise; simple, clean, won't explode. Over three million people already enjoying this powerful white, steady light, nearest to sunlight. Won Gold Medal at Panama Exposition. Greatest invention of the age. Guaranteed.

$1000 Reward will be given to the person who shows us an oil lamp equal to the new ALADDIN in every way (details of offer given in our circular). We want one user in each locality to whom we can refer customers. To that person we have a special introductory offer to make under which one lamp is given free. Write quick for our 10-Day Free Trial Offer and learn how to get one free, all charges prepaid. **Yours FREE**

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NEW BOOK BY A CALIFORNIAN

Prof. Wickson Writes Authoritative Work on "California Vegetables."

Edward J. Wickson, professor emeritus, University of California, has issued the fourth edition of his standard book, "The California Vegetables in Garden and Field." Prof. Wickson is an authority on the subject he presents in this work. At this time, when there are vegetable gardens taking the place of flower beds in dooryards, and when every farmer is encouraged to devote more acreage to garden truck, the book by Wickson will be doubly valuable and should interest a large circle of amateur and professional growers.—S. F. Examiner.

VEGETABLES IN CALIFORNIA

This era of backyard gardening has been found an opportune time to bring out a fourth edition of Professor Edward J. Wickson's "California Vegetables," reset, and, when necessary, rewritten to include the latest experiences or answer questions not covered in previous editions. Professor Wickson's special field is "Agricultural Practice," which, being interpreted, means actual plowing, hoeing, irrigating, harvesting, pruning, fertilizing and other actual farm operations involving manual labor and the use of tools, as distinguished from that form of agricultural activity in which the tongue is the principal implement. He was for many years professor of agricultural practice in the University before becoming dean of the college, and is now professor emeritus, which means that for meritorious service he may hereafter do what he likes. He is, of course, an enthusiastic personal gardener. It is thought that this summary of the experience which qualifies Professor Wickson to write about vegetable growing will be more enticing than any summary of the contents of the book, which consists of cultural directions for growing all vegetables, either commercially or for family use, under the varying California conditions. The backyard gardener especially will find it much cheaper to learn from this book than from his own mistakes. (Published by the Pacific Rural Press, San Francisco; price $2.)—San Francisco Chronicle.

REVISED AND EXTENDED EDITION OF TREATISE ON CALIFORNIA VEGETABLES

Prof. E. J. Wickson, professor of horticulture emeritus of the University of California, has recently completed a revision and extension of his work on "California Vegetables in Garden and Field," as the fourth edition, and the treatise has just been published by the Pacific Rural Press, San Francisco. Professor Wickson's works on California fruits, vegetables and other kindred volumes are always valuable and interesting, and the new and revised edition of his work on California vegetables is acceptable and timely.

The new edition is attractively bound in cloth and well illustrated. The text has been carefully revised and freshened with the latest information, and the type has been reset throughout. The contents shows chapters on: Vegetable Growing in California; Farmers' Gardens in California; California's Climate as Related to Vegetable Growing; Vegetable Soils of California; Garden Irrigation; Garden Drainage; Cultivation; Fertilization; Garden Location and Arrangement; The Planting Season; Propagation and Planting; Vegetables for Canning and Drying; Seed Growing in California; Garden Protection; Weeds in California; and a chapter on each of the vegetables separately, from asparagus to turnips.

The work contains over 300 pages and is priced, including postage, at $2 a copy.—California Fruit News.

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There seems to be a tendency for prospective borrowers to be impatient until their applications are approved, and then be slow about returning the mortgage, certificate or abstract of title, and other papers. This is often due to slowness of abstract companies and insurance companies. The money is sent promptly when these last papers are received. It is noteworthy that where the loan committees have understood the rulings of the Farm Loan Board and the purposes of the act, as well as the injury that would be done to the system by overvaluations, they have appraised properties about right.

TITLE REQUIREMENTS.

About 80 per cent of the certificates of title have proved satisfactory, the other 20 per cent having to be held up, often due to errors of abstract companies. Sometimes a man joins an association and the abstract shows that his wife owns the property. In such a case the membership must be transferred or the wife deed a half interest to her husband. In all cases both husband and wife must sign the mortgage note. If minor children have an interest in the property, no loan can be made. The bank cannot accept a mortgage signed by a guardian, administrator, corporation, lessor or lessee (unless the lease is to be abrogated in good faith before the loan is to be delivered).

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Beaded Potatoes

To the Editor: The beaded tubers which your correspondent, R. E. Wood, saw growing on the north bank of Platte river were not potatoes.

When I was a boy we found these tubers growing in all the creek bottoms in Iowa, and we roasted and ate them. They were mealy and had a pleasant, slightly sweet flavor. They seem now to have disappeared, more's the pity. I have heard that they have been taken to France and there cultivated and a few years ago some were imported and used in New York. Above ground the plant is a vine. I have had them hunted for in places where they grew fifty years ago, but without success. Like the May apple, wild plum, wild crab apple and wild black cherry, they deserved the attention of plant breeders and improvers, but did not get it.

Oakland. JOHN P. IRISH.

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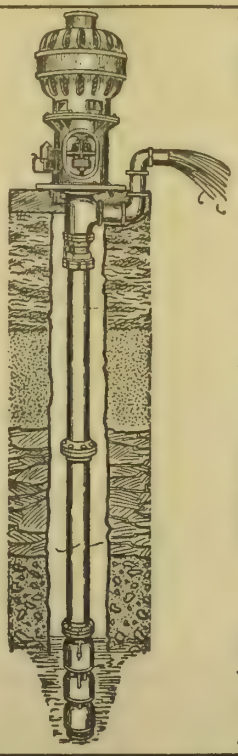

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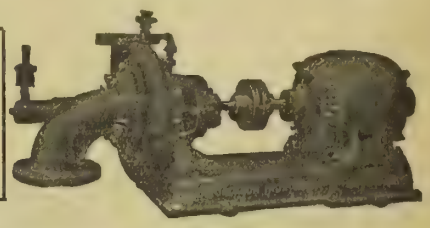

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Wormy Chickens Cured

To the Editor: Will you tell me how to rid a flock of hens from worms? Killed a young bird this a. m. which, when opened, had a dozen or fifteen white worms two to three inches in length. Taper toward both head and tail. Will dispose of most of the flock, but would like to retain 12 or 15 for use through the winter if I can be sure that I can conquer the worms. Assume that they are all infested as all run together. Also is it advisable to let the family flock feed from the manure heap?—E. D. S., Cupertino.

To the Editor: We read your department closely and with interest. We have some brown Leghorn hens, good layers, that are allowed to range, that show long worms in their droppings. They taper at the ends and are jointed. We also have about 130 Plymouth Rocks, kept in pens, which void a number of tiny worms in their droppings. The land here has never had fowls on before. The Rocks are fed buttermilk, alfalfa, bran mash, table scraps, weed and grass for greens, and mostly wheat as grain. Lately they have had little meat. Please favor me with an early reply.—Mrs. M. F., Sanger.

To the Editor: Our buff Leghorns have white worms about two inches long. Will you please tell me how to get rid of them? We feed wheat, bran, soaked oats, and all the white clover and Swiss chard they will eat. They are not laying much.—Mrs. I. A., Lincoln.

TOBACCO CURE.

R. C. Richey of San Diego county had 2500 chickens with keen appetites, but they got down to six eggs per day and were "going light." Their plumage was unkempt, and their heads blue. A lot of them died; 30 pullets gave up the fight in one day. They were afflicted with round worms, some of which were nearly three inches long. About 700 pullets got the tobacco cure, which finished some of them; but the rest were recovering and gaining weight when seen by the writer. About seven pounds of tobacco stems were covered with water which was brought to a boil and simmered two hours. The decoction was then mixed with enough mash to induce the pullets to eat it at 2 p. m., not having had any feed since noon of the previous day. Two hours later, they were given mash containing 11 ounces of epsom salts per 100 hens to clean out the tobacco and worms. They should have been confined then, over a chicken wire through which the droppings would pass out of their reach so they could not pick up the worms again. A good many worms were found. The dose was repeated two months later. To prevent further infection, the yards were sprinkled with corrosive sublimate one part to 1000 parts of water, using about a gallon of the solution per 100 square feet. It is claimed that the worms are never found over two inches underground.

CULTIVATION VS. POULTRY WORMS.

"Every place where poultry has worms, I have noticed that the proprietors do not cultivate frequently," says Mrs. M. B. Nixon of San Diego county, who has been raising poultry by the thousands with no serious troubles the past three years. She has the yards cultivated and planted about every two weeks where possible. Where they cannot be cultivated, lime or disinfectants are applied.

California Poultry Practice, by Mrs. Susan Swaysgood, says: "The remedy for worms is santonine. Dissolve two grains for each bird in warm water. This water is to be used in mixing a mash that has been previously prepared by mixing into it half a teaspoonful of castor oil. See that all birds get a share of this mash. All droppings should be burned. Another remedy is half a teaspoonful each of turpentine and coal oil mixed into a portion of mash for each bird.

Gasoline killed round worms, tapeworms, and pinworms in 600 pullets for A. L. Roddick of Monterey county. A teaspoonful of gasoline per grown fowl was mixed in a smaller quantity of mash than the usual feed, adding some fresh chopped meat so they would eat it quickly, as the gasoline evaporates soon. Several such doses were given in a month and the pullets were transformed.

A tablespoonful of pomegranate bark dried and powdered, per 100 hens, given in a mash and followed two hours later by mash in which has been mixed a tablespoonful of castor oil, is recommended by Mrs. Swaysgood. Clean up and burn the droppings for several days.

PREVENTION.

"Prevention is easier than cure. It lies in feeding a little wood ashes in the mash feed with a dose of epsom salts, about twice a month. When birds are having much milk or meat, it should be given once a week," writes she. Or, give a few drops of oil (not spirits) of turpentine in the mash once per week.

Remarkable Record for Old Hens

[Written for Pacific Rural Press.]

To the Editor: I thought perhaps the following record might be of interest to poultry raisers and others interested in agriculture. The facts are vouched for and no error could possibly have been made, since the lady has only the two hens, and these hens were purchased just after the earthquake and fire in 1906. The two hens were mature when bought. One is a grade Plymouth Rock and the other is a mixture of some American and French blood, being black in color yet having a hood and laying colored eggs. Both hens are over ten years old. Last year the lady, my mother-in-law, residing at 2615 Benvenue, Berkeley, Cal., had a flock of 22 hens, among which were these two colored hens. All the other hens were White Leghorns. The carefully kept egg record for the three-year-old hens was 134 eggs, average. Recently all the hens were sold excepting the two old favorites. During September they laid a total of 43 eggs and in October 34 eggs. The hens are fed a commercial scratch feed . Oakland along with table scraps and greens from the garden. Certainly these two old hens are entitled to a pension and would put to shame at this season many of the younger members of the so-called "200-egg strains."

H. M. BUTTERFIELD.

POULTRY CONDITIONS AT PETALUMA.

The poultry business at Petaluma is in a very unsettled condition. In some sections 40 per cent of the hens have been shipped out. Many poultrymen are going out of business entirely because they find they can make more money working for wages than they can keeping poultry at the present prices of feed. If the present conditions prevail a few months longer, the stock of laying hens will be reduced to an alarming degree. In view of the urgent necessity for food conservation, it seems that the Federal Government would do well to look into the poultry condition in Sonoma county and if possible find some way to prevent such a serious depletion of one of the best sources of our present food supply.

HEN-PROFIT 125 EGGS.

[Written for Pacific Rural Press.]

"Which type do you keep?" was the inscription above a couple of hens in the University exhibit at the California Land Show. Beside one hen was a pile of 200 eggs, representing her past year's production. Beside the other a pile of 75 eggs, representing her past year's production. Between the hens are piles consisting of 30 pounds mash and 45 pounds mixed grain, which represent what each hen ate while producing her pile of eggs. Both ate the same; but if the 75-egg hen paid for her feed the other one made a profit of 125 eggs.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

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SPRING CHICKS—We are booking orders now; we start our run in January; Rhode Island Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. Remember, order early. Campbell Poultry Ranch, Campbell, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

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Classified Advertisements

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WANTED—Married man to work on my ranch in Stanislaus county, California; salary, $60 per month with house; young orchards, alfalfa, sheep and hogs; permanent position, with opportunity for advancement for right man; in your application give particulars as to experience, former employment, age, and personal habits. Address G. V., care Pacific Rural Press, San Francisco, Cal.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market St., Stockton, Cal.

WANTED—Hog man, capable of handling one of finest registered Poland-China herds in State. Want energetic man of sterling character and brains, thoroughly experienced yet willing to follow instructions. Give age, full experience, references and salary expected at start. Address Box 850, Pacific Rural Press.

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VINEYARD AND RANCH for sale in Lower California—The ranch consists of 450 acres, 90,000 full-bearing grape vines in perfect condition, Zinfandel, Burgundy and Mission varieties; rest of land for farming; winery with all the necessary apparatus, fermenting and storage tanks, the latter with capacities of from 1,000 to 5,000 gallons each; the whole Pacific coast of Mexico for a market, being only winery on said coast and the protection of very heavy import duties on all foreign wines; retiring from business on account of age; will sell at reasonable price for cash or part cash and rest in good income property. Address F. Andonaegui, Ensenada, Lower California, or to M. Ormart, Bellevue Hotel, San Francisco.

FOR SALE—Good ranch in Round Valley, Mendocino county, in heart of dairying section, close to creamery and town; about 100 acres good farm land and 80 acres good grazing and hog pasture; good buildings, fenced and cross-fenced; price right and easy terms. Owner, Chet Leavitt, Covelo, Cal.

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ALFALFA PLANTERS, fill your fall requirements now with Green-Gold seed; high quality because of personal field selection; low price because of direct dealing; send for samples and prices. Bomberger Seed Company, Desk A, Modesto, Cal.

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Poultry for Profit

[Written for Pacific Rural Press by Susan Swayegood, Pomona.]

CHEAP FEED.

POTATOES.

This question is becoming more frequent, and harder to answer, because often "cheap" feed does not contain any food value as an egg ration. It's one thing to keep birds alive, or even looking all right, and quite another to get those same birds to lay eggs. There must be a surplus left over from the natural requirements of the system, or there can be no eggs. Some people have a surplus of small potatoes and would like to feed them, but unless potatoes are mixed with some good food that contains protein they make very poor feed. Not only that, but if fed in excess they will cause the fowls to have leg weakness, especially in the heavy breeds. I have tried this matter out several times, to make sure I was right, and on different breeds, and in every case I found that if fed too many potatoes, either cooked or raw, the hens lost the use of their legs, and got fat and boggy behind as though suffering from dropsy. When the potato ration was discarded these same hens soon became normal again.

THE POTATO RATION.

How many potatoes may be safely used? I would not under any consideration use more than ten pounds of potatoes to twenty pounds of other feeds, and these should be feeds containing ground barley, wheat bran, bone meal and meat. Ground oats and bran would do, but shorts or middlings contain too much starch to go with the potatoes, which also are starchy. What you want to mix with potatoes is something that is short on starch and long on bone and muscle building elements.

BARLEY, OATS, ALFALFA.

In a short time we will have oats in, that should be cheaper than barley. At any rate, if the Government will let Canadian oats in free, we can have cheap and good poultry food. In the Alberta country there are thousands of bushels of good oats, and all it needs is a free market and they will come to us. Idaho is short, as the whole State had a hot spell during the summer that injured the grain crops. So just at present the clouds are rather dark for the feed dealer and poultryman, but I believe, after a bit, we will see our way clear to better and cheaper feed.

The man with a good patch of alfalfa or other green feed will pull through and be money in pocket by keeping at it, but it would not be wise to make many changes until near spring next year.

PTOMAINE POISONING.

To the Editor: We have a few chickens, all young and previously healthy, laying regularly. Tonight I found two hens lying on the ground with head drawn up, combs turn black; cannot hold their heads up; have spasms every little while, when they flutter about and then lie as though dead. A neighbor's chickens were attacked likewise. Some think they have been poisoned. Please advise.—Subscriber, Proberta, Cal.

This is ptomaine poisoning—something they have picked up on range. A good physic or some mucilaginous drink made from flaxseed and boiling water would be good for the flock. Give castor oil in a warm mash, allowing a tablespoonful to a chicken, and give it at night. Look well over the range to see if it is dead gophers or other animal that is causing the trouble.

"STICK-TIGHT" FLEAS.

To the Editor: Do you know of a way to get rid of those little "stick tight" fleas on chickens and cats? I have very sandy ground and they seem almost impossible to exterminate. They get on the chickens' heads and turn the combs black.—R. D., Downey.

Rub a little carbolic salve on the chickens' heads. Go very light on small chicks. Spray houses, roosts, dropping boards, floors, and walls with one ounce creolin to a gallon of coal oil. Dissolve naphthalene crystals in coal oil, let stand several days. There will be a residue left, but the oil contains the element you need—odor. It takes strong odor to drive away fleas.

PULLET WHEEZY.

To the Editor: One of my pullets has a hard time to breathe. She opens her mouth and there is a wheezing sound and she has to gasp for breath. There is no fever; comb and wattles are nice and red.—Mrs. J. G., Escalon.

Canker in mouth and throat is most likely what ails this pullet. Swab the throat out with a little cotton and a teaspoonful of creolin to a pint of water. Scald all your feed and drinking troughs and clean up, as it is very contagious. It will be a good idea to give the whole flock a little creolin or any other antiseptic in the water for awhile.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

PROPER POULTRY BREEDING.

As a word of caution, do not under any circumstances use immature stock as breeders. No doubt there will be chicks hatched this season from pullets and undersized cockerels. These chicks will not mature and make profitable layers. Feed is too high to waste on cull stock. We must improve our stock by proper breeding methods.

IMPROVING EGG PRODUCTION BY BREEDING.

Late fall and early winter egg production give more accurate and reliable measure of the innate ability of the hen to produce eggs during the entire year. Trapnesting carried on during this period, therefore, gives a record of sufficient extent in determining the heavy layers, since only the good hens lay during the period mentioned. Trapnest records show:

1. The record of egg production of the hen, taken by itself alone, gives no definite or reliable indication from which the probable egg production of her daughters may be predicted.

2. Egg production ability is inherited, and for this reason, if for no other, we must use males from high producing females. The experiments conducted by the late Professor Gavull of the Maine Experimental Station proved that the male bird is over half the breeding flock.

3. The number of visible oocytes (yolk seeds) on the ovary bears no definite or constant relation to the actually realized egg production. Often a hen when cut open has a large number of immature eggs which never develop, but are absorbed by the hen.

4. As regards winter production, birds fall into three rather well defined classes—(1) those with high records, which should be used as future breeders; (2) those with low records, should be disposed of at the end of the first laying year and should not be put in the breeding pen; (3) those not laying during the winter, the Sunday dinner kind.

5. High productiveness may be inherited by the daughters from the sire independent of the dam. Some people have an idea any old male bird will do, but this is a mistake.

6. High productiveness is not directly inherited by the daughters from the dam. Continued selection of high producing dams does not improve the egg production powers of the daughters. The proportion of high producing daughters is the same, whether the dam has a high or low fecundity, provided both are mated to the same desirable male. The daughters of high producing dams may be high or poor layers, depending upon their sire.

7. Medium or poor laying ability may be inherited by the daughters from their sire or dam, or both.

(To be continued.)

DON'T Try to Ignore FACTS

Your success with poultry depends on feeding in harmony with established scientific facts.

The scientific fact is that the lactic acid bacilli contained in buttermilk kills the CAUSE of bad bowels in poultry, it prevents and cures White Diarrhoea.

Get bulletin 162, recently issued by U. S. Dept. Agriculture, Berkeley, Cal.; a complete exposition of the wonderful value of lactic acid bacilli contained in buttermilk. Write them today for a free copy of this bulletin, it may mean much to you.

A-1 Buttermilk Mash, containing DRY BUTTERMILK costs but a few cents more than non-buttermilk mash; learn why it's worth a great deal more.

Get more and better eggs. Raise more and stronger young chicks.

A-1 Buttermilk Mash is a feed that poultry LIKE; they eat it readily, keeps them in GLOWING HEALTH. You will find it profitable to feed.

This buttermilk contains 10,000 LIVE lactic acid bacteria per cubic centimeter.

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Buttermilk GLOBE A-1 Dry Mash

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We wish to announce that we have instituted an entirely new branch of service to STOCK and POULTRY raisers. We maintain a crew of experts whose sole duty is to correctly advise you on any question or problem that may trouble you regarding the correct feeding, housing or care of ANY KIND of STOCK or FOWL. Won't you let us shoulder some of your burdens on this department?

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WILL BE WORTH MONEY THIS YEAR

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1378 MARKET STREET, SAN FRANCISCO

Factory Decoto, Cal.

Mrs. Best's Letter.

SEASONABLE STYLES.

My Dear Friends: One-piece dresses are still the most popular garments of the season, as well as the most practical and convenient. The skirts are often made in tunic effects, the drop skirt being narrow and the tunic embroidered in gold or bright colors or prettily beaded. Another very popular style is the pegtop skirt made quite narrow at the bottom with folds of goods on the hips. One of the newest notes on the dresses is the long roll collar of white satin. The simplest kind of a waist is the best style and finished with one of the new collars makes it possible to get very good effects in garments made at home.

FABRICS FOR PIECE DRESSES.

Blue serge is the most popular material, and, worn with a fur or a scarf, is a substitute for a suit. Jersey cloth is also very good style, and is shown mostly in blue or sand color, but the newest and most fashionable materials are the soft plaids. These come in beautiful colorings and so subdued in tone that anyone could wear them. Almost all of the dresses are belted, some of them with quite a sash effect, folding over in front, with graceful, hanging ends.

SIMPLICITY THE STYLE NOTE.

The suits continue simple in lines, some of the coats being belted without pleats and others Norfolk in style. Still others are snug-fitting to the waist, with flare on hips. Some of these jackets button snugly to the throat, while others have deep rolling collars. The skirts are plain and rather narrow.

COAT DRESSES.

The woman who never feels quite dressed without a coat will like a coat dress which combines the smartest features of both a coat and a dress. The waist is lined and the collar buttons high in coat effect and is many times of fur. The combination of cloth and fur is particularly good in the coat dresses.

Coats are shown mostly in belted models, with big, square collars, many times of fur, and large buttons for decoration. Some of them hang full from the shoulders, but the fitted body and gathered skirts are particularly nobby. The colors are rather sober, but the linings are gay and bright.

MANNISH BLOUSES MODISH.

Mannish shirt waists for women are very good style, as a natural consequence of the vogue for sport suits. Many of them come in heavy white Madras or white silk, and are made either with turn-down collars or with attached high collars that can be worn with four-in-hand ties. These mannish blouses can be made at home much more easily than the lacy blouse. Good shirtings cost about thirty-five cents a yard, and collar bands can be bought for five cents apiece, which will greatly simplify the task of finishing the shirts around the neck.

Black patent leather belts add a smart touch to the slip on sweater and black Angora wool collars and cuffs are seen on the new sweaters. One of the new sweaters is in khaki colored brush wool, made with large sailor collar and belt.

ROSABELLA BEST.

THE HOME CIRCLE

OUR "BIT" IN THE GREAT WAR.

"Ninety per cent of American food consumption passes through the hands of our women," says Mr. Hoover. Women are the food dispensers, and food, the President and Mr. Hoover tell us, will decide the war. Fighting men, and men engaged in all the preparations for and appurtenances to fighting, must be fed, and fed well. We shall have not only our own nation to feed, but the nations of the Allies. We must, therefore, not only raise all the food we can, but save all the food we can. We must buy economically, plan economically, and eat economically. The Government wants the salt and smoked meats, ham and bacon for its troops, because these meats keep. Therefore let us go without ham and bacon, and buy the cheaper meats, those which have to be used at once.

We must not waste bread. "A single pound of bread saved weekly for each person," Mr. Hoover tells us, "will increase our export surplus of wheat 100,000,000 bushels."

I think we have been great bread wasters. This is a slothful custom under the best of circumstances, but at the present time it would be unpatriotic as well.

All tag ends of bread should be carefully saved and made up into some appetizing dish for the home table. Potatoes should be used sparingly, and no waste allowed in the peeling. Some women peel potatoes in chunks—actually hewing off great chunks and slices of the vegetable rather than take the trouble to peel thinly and carefully. There is double waste in this method—quantity and nutrition—for the part of the potato closest to the skin carries the most nourishment. Farm women are often especially wasteful of vegetables and of wheat products because of the lavishness of supply, but even farm women, who even now will not feel the burden of high prices or the stringency of supply, must do their share in saving. They can save for some one else not so fortunate. Women must work individually and collectively in this cause. "Concerted effort is essential to the success of a saving by the nation," states Mr. Hoover.—National Food Magazine.

HAS ANY ONE A BETTER RECIPE?

Editor Home Circle: Can you tell us how to feed the dogs? Not the pampered darlings of "the idle rich," but the good, friendly dogs of the ranch. In the good old days of abundance pans of bread and milk were given them, though even then one sometimes thought of the children in the crowded cities who had no such plentiful food.

But now, when it seems a sin to take the (Belgian and French) children's bread and give it to the dogs, what are we to do? The generous butcher no longer throws in a chunk of meat for them as once he did, but they must be fed.

I have tried this plan: Raising our own potatoes, though under difficulties, we had a great many too small for the table. I boil them, remove the skins, and mash them, add a cupful or more of cornmeal, a little salt and any unusable grease; pour on boiling water and any skim milk available. If sour or buttermilk is used, I add soda. This batter I put into a greased frying pan and bake it in the oven.

As I break the cake and add a little skim milk or the washings of the pan in which gravy was made, I say to myself with satisfaction: "So much wheat bread saved for our Allies in their need." Can any one give me a better recipe?—I. H., Danville, Cal.

PIE WITHOUT CRUST.

Lighten your labor by omitting the crust from the pie. Serve the fruit, fresh or stewed, and save the time spent on pastry, also the flour and shortening necessary to make it.

Custard, potato or pumpkin filling will make just as good a dessert if prepared in the usual way, baked in a baking dish without crust, and served with just a suggestion of tart preserves or jelly.

When you feel that you just must have pie, try this plan: Cook your fruit for filling and season as usual. Place in pie plate without bottom crust. Cover the top with thin slices of bread, sprinkle with brown sugar, and set in a hot stove to toast and candy over. Serve hot. This is really a delightful dessert and liked by grown-ups as well as children.

GLAZE.

Glaze is called for in many recipes and its making ought to be understood by every cook. To prepare it, take a quart of good meat stock and boil it down until it measures only a cupful. Boil it carefully. When it is reduced to a cupful it should be a thick paste. Put it in a jar with a screw top or in a bottle with a cork and keep it covered. It will keep for a week at least. Buy a camel's hair brush and with this apply the glaze to meats that are to be served cold—like a baked loaf of chopped meat or cold boiled ham. Add it, too, to sauces to give them richness and flavor. It is a good idea to reduce any soup stock that may be left over to glaze.

Two coats of white enamel applied to the shelves and drawers in the kitchen will make them more easily kept clean. Let the first coat dry thoroughly before applying the second.

FUNDAMENTALS OF FOOD ADMINISTRATION.

[Written for Pacific Rural Press.]

The first fundamental in Food Administrator Herbert Hoover's creed is that producers shall get enough for their products so they will stay in the producing business. The second fundamental is that everyone who performs real service in distribution is entitled to reasonable compensation, said California Food Administrator Ralph P. Merritt. He adds: "It is felt at Washington that every American must be tied to the war through personal sacrifice, especially where this is a matter of food substitution to help supply the fighters the foods they must have and which can be most readily shipped to them.

Good Health.

[By M. E. Pastor, M. D.]

Whooping Cough.

In a recent medical symposium on the subject of whooping cough a few interesting suggestions were made. One physician stated that a lump of gum asafoetida as large as a hickory nut in a teacup of hot water and allowed to cool, if given in teaspoonful doses, about five minutes apart when the coughing was violent, would relieve the paroxysm. Another said the violent spasmodic conditions of whooping cough could be arrested by placing a basin of scalding hot water on the floor and pouring into it an ounce of strong liquid ammonia. It is claimed the fumes give immediate relief. Still another practitioner of forty-five years' standing claimed ordinary sulphate of quinine to be a specific for this disease, given in full doses proportionate to the age of the child. In any event, a physician should be called in, if available, as whooping cough is a more serious disease than it is commonly supposed to be.

Anthrax Precautions.

People living in the anthrax infested districts of California having to do with infected animals would do well to bear in mind a few precautions set forth in a leaflet issued by the College of Agriculture of the University of California. It says that the ground contaminated by blood or bloody discharges and the ground upon which the animals died should be burned over with crude oil or other fuel. Clothing and other objects that may have come in contact with the animal or things in its environment should be disinfected by soaking in strong disinfectants. Carbolic dips are recommended for the purpose. If one's hands become contaminated, wash them with soap and hot water and then a 1:500 solution of bichloride of mercury. Standard veterinary authorities forbid post-mortem examinations in suspected anthrax cases. The carcasses of the dead animal should be burned immediately or buried at a depth of at least seven feet. A covering of lime would hasten decomposition and make for safety.

Whiskey Camouflage.

When one learns that camouflage is the French word for "disguise," he may feel that he is making considerable headway in the acquisition of the French tongue, but he may not know that camouflage is practiced in many insidious ways outside of France. A valued exchange suggests that many very intelligent and conscientious men and women are imposed upon by whiskey sold under camouflage practices. It says, and truly, that alcohol may be doctored with a little molasses, a little licorice, a little glycerine, and a few drops of the tincture of some bitter herb, just enough to give it a tang, and then sold to people—straight-laced people at that—as a valuable medicine. Of course, it isn't whiskey, it's just "bitters," but it stimulates just as hilariously, and benefits chiefly the seller. Most bitters are camouflage.

Women's Work in the War.

It is reported that our Government is having difficulty in securing sufficient medical recruits for

ervice in the army and navy. Women are coming to the rescue in his emergency in various parts of he country, and are taking the laces in public health work of medical men who have entered military ervice. They have shown peculiar daptation to bacteriological work.

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will call for no apologies *this* Thanksgiving Day if done with a KEEN KUTTER Carving Set.

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WRITE FOR PRICES

COTTAGE GARDENS NURSERIES, INC.

EUREKA, CALIFORNIA

IT'S A GAY OLD WORLD.

It's a gay old world when you're gay
And a glad old world when you're glad;
But whether you play
Or go toiling away,
It's a sad old world when you're sad.

It's a grand old world if you're great,
And a mean old world if you're small;
It's a world full of hate
For the foolish who prate
Of the uselessness of it all.

It's a beautiful world to see
Or it's dismal in every zone.
The thing it must be
In its gloom or its glee
Depends on yourself alone.
—Selected.

SUGAR-SAVING DESSERTS.

Saving sugar is imperative at this stage of the war, and the U. S. Food Administration offers the following recipes, tested by practical housekeepers, as ways for the thrifty farm housewife to aid in the national sugar economy campaign:

Pumpkin Pudding.—Two cups of stewed pumpkin, ½ cup brown sugar, ½ cup honey or maple syrup, 2 eggs, 1 tablespoon flour, 1 teaspoon cinnamon, ½ teaspoon nutmeg, ⅛ teaspoon cloves, ⅛ teaspoon ginger, 1 teaspoon vanilla, 1 pinch of salt, 2 cups milk. Mix all ingredients and bake in greased pudding dish. Serve hot or cold.

Indian Pudding.—Five cups milk, 1-3 cup cornmeal, ½ cup honey, 1 teaspoon salt, 1 teaspoon ginger. Cook milk and meal in double boiler 20 minutes. Add honey, salt, and ginger. Pour into buttered pudding dish and bake 2 hours slowly. Serve with tart jelly or preserves.

Cheese Custard.—One and a half cups cottage cheese, ½ cup maple syrup or honey, 2 tablespoons milk, 3 eggs, 1 teaspoon melted fat. Press the cheese through a colander; beat the eggs until light; add them with all the other ingredients to the cheese; mix until smooth. Place in a baking dish and bake in a moderate oven about 30 minutes.

Peach Souffle.—One quart canned peaches, ½ cup honey or syrup, 3 eggs. Drain and mash through colander 1 quart of canned peaches. Add ½ cup of honey or syrup and well-beaten yolks. Beat thoroughly, then beat whites stiff and fold carefully into the peach mixture. Turn the whole into a greased baking dish and bake in a quick oven 6 minutes.

Apples and Dates.—Steam until tender in a covered pan 1½ quarts of sliced apples, with ½ cup of water, and the grated peel of 1 lemon. Add ½ cup of chopped dates. Simmer the fruits together for 6 minutes. Serve cold.

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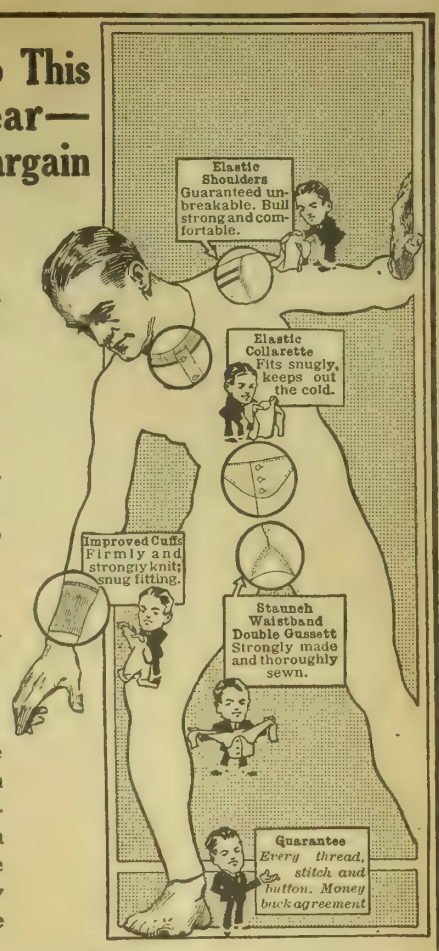
You can bet your last cent that Hanes will give you more real value for your money than any other buy. No frills, no fol-de-rols—just downright value and a heaping lot of it, too.

Hanes is form-fitting, elastic and comfortable. The fleecy-warm cotton is mighty fine protection from the cold—and it feels mighty good, too. Pre-shrinking keeps it true to size and shape.

Greatest Winter Underwear **HANES** Sold at Popular Prices

ELASTIC KNIT UNDERWEAR

And just read about these special features over there in the illustration. No more high-priced underwear for the man who sees Hanes. It's just the popular price for everybody and the underwear everyone should wear.



Mothers, Fathers—Get this Big Bargain

A jam-up boy's union suit, chock-full of all the big features on the men's suits. Downy-soft, warm and everlastingly fine, it's value can't be duplicated. You sure ought to buy this splendid underwear for your youngsters. See if it doesn't put it all over anything you ever tried at twice the price!

P. H. HANES KNITTING COMPANY
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This Label on Every Garment HANES Buy None Without It

Warning to the Trade—Any garment offered as Hanes is a substitute unless it bears the "Hanes" Label.

A Cheerful Start

Breakfast in a warm comfortable room—the best start for a successful day. No smoke or odor. Fuel consumed only when heat is needed—no waste.

STANDARD OIL COMPANY (CALIFORNIA)

PERFECTION OIL HEATER

SAN FRANCISCO.

San Francisco, November 7, 1917.

WHEAT.

Wheat continues dull and unchanged. The possibility of rains in the near future has had no effect on the demand for seed wheat as yet.

(Federal Grain Corporation quotations for bona grade. Sacked grain 4 cents per hundred more.)

Sonora wheat $3.43
Northern Club 3.43
California Club 3.43
Northern Bluestem 3.50
Northern Red ..... None offering
Russian Red ..... None offering

BARLEY.

The barley market is slow, with prices below the level of last week's quotations. Choice feed maintained its former quotations better than the other grades and sacked only 5c.

Shipping, per ctl..... $2.45@2.50
Brewing ..... 2.45@2.50
Choice feed, per ctl..... 2.40@2.45

OATS.

All grades of oats were off this week except black oats, which maintained its former quotation. Red seed showed a decline of 25c.

White Feed, per ctl..... $2.65@2.75
Red Feed, per ctl..... 2.60@2.70
Red Seed, per ctl..... 3.00@3.25
Black Oats ..... 3.00@3.00

BEANS.

The bean market continued weak, with lower prices. The dealers have not adjusted their business to Government regulations. The fact that they cannot hold beans in storage for more than thirty days puts the business on a hand-to-mouth basis. As the Eastern wholesalers are under the same restrictions, no orders are being given for large amounts. The demand among consumers is good, but the orders come in in such small driblets that in a sense the demand is regarded as light. A stronger market is not looked for until the business readjusts its methods and viewpoint.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl..... $ 8.75@ 9.00
Blackeyes ..... 8.75@ 9.00
Cranberry beans ..... 12.00@12.25
Red Mexicans ..... 8.75@ 9.00
Small whites (south) ..... 12.00@12.25
Large whites ..... 11.75@12.00
Limas (south, recleaned)..... 12.75@13.00
Pinks ..... 8.50@ 8.60
Red kidneys ..... 12.75@13.00
Mexican reds ..... 8.75@ 9.00
Tepary beans ..... 9.00@ 9.25
Garbanzos ..... 7.25@ 7.50

CORN.

Corn continues stagnant, with little offered and less demand. Some Australian corn arrived this week, but it was in small quantity and very poor condition. From $3.50@$3.75 was asked for this corn, but very little changed hands at this figure.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk..... $4.00@4.10
California, sacked ..... None offering
Milo maize ..... None offering
Egyptian ..... $3.00@3.25

HAY.

The receipts of hay this week were 1,334 tons, against 1,740 last week. A large proportion of these receipts were alfalfa. Most of the arrivals were on Government requisitions and were used for that purpose alone. It is almost impossible to obtain cars at the various hay centers. This shortage of cars is likely to continue for some time. Feed is so high that many of the city business men are selling off their delivery teams and installing automobiles.

Wheat, No. 1 ..... $23.00@25.00
No. 2 ..... 20.00@22.00
Tame oats ..... 25.00@26.00
Wild oats ..... 20.00@23.00
Barley ..... 20.00@23.00
Alfalfa, new, first cut..... 20.00@24.00
Stock hay, new ..... 17.00@19.00
Straw, per bale ..... 60@90c

FEEDSTUFFS.

The market for feedstuffs shows only two changes. Alfalfa meal was stronger by $1 in the bid price, remaining steady in the best grades, and rolled barley receded $1 from its last week's quotations.

(Per ton, San Francisco.)

Beet pulp, per ton ..... None offering
Alfalfa meal, per ton..... $29.00@31.00
Bran, per ton ..... 41.00@42.00
Oilcake ..... None offering
Coconut cake or meal..... None offering
Cracked corn ..... 85.00@ 86.00
Middlings ..... 52.00@55.00
Rolled barley ..... 53.00@54.00
Tankage ..... None offered
Rolled oats ..... 59.00@60.00
Rice middlings ..... None offered
Rice bran ..... 32.00@35.00
Shorts ..... 45.00@47.00

POTATOES, ONIONS, ETC.

The onion market is dead and onions are not moving even at the lower prices quoted. Potatoes are not moving with any life. The Oregons received are off in quality and the price has been materially lowered. Celery is still quoted in bunches at prices unchanged from last week. Some half-bunches are coming on the market and meeting with favor.

Asparagus ..... None
Peas, small, per lb..... 7@8c
do, large ..... 10@12c
String beans, per lb..... 7@8c
Wax beans, per lb..... 5@7c
Hubbard squash, per 100 lbs..... 75c@$1.00
Summer squash, per box..... Nominal
Cucumbers, per box..... 75c@$1.00
Celery, per bunch..... Nominal
Tomatoes, per lug box..... 40c@$1.00
Potatoes, Salinas ..... $2.85@3.00
Idahos ..... 2.25@2.35
Oregon ..... 1.65@2.35
Rivers, per ctl..... 1.75@2.15
Sweets, per lb..... 2½@3½c
Onions, yellow, per sack..... $2.00@2.15
Reds ..... None offering

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Produders.

Garlic, per lb..... 5 @6c

POULTRY.

The poultry market continues firm and somewhat higher. The Eastern markets are all firm and advancing, so the indications are that no great amount of surplus stock can come into this market. Large young roosters are plentiful, but small broilers and friers are scarce and prices firm.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb., young..... 30@31c
do, dressed, old..... None offering
Broilers, 1½ to 2 lbs..... 35@35c
do, 1¼ lbs..... 38@40c
do, under 1¼ lbs..... 10@12c
Fryers ..... 26@30c
Hens, extra, per lb., colored..... 24@26c
Small leghorns ..... 20@22c
Smooth young roosters, per lb. (3 lbs. and over) ..... 25@26c
Old roosters, per lb..... 17@18c
Geese, per lb..... 16@18c
Squabs, per lb..... 43@45c
Ducks ..... 18@20c
Old ..... 16@18c
Belgian hares (live) ..... 16@17c

BUTTER.

Butter shows a decline of 1c from the close of last week. The steamer Ventura arrived from Australia this week with 192,100 pounds of butter. While this butter will probably not be marketed here, its presence in the city has had its influence in keeping prices.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43½	43½	43	43	43	42½
Prime 1sts	43	43	42½	42½	42½	42

EGGS.

The market for eggs showed a decided advance of last week's prices. The sudden jump in extra first pullets is explained by the fact that there has been no trading in them during the advance of the rest of the market, and they were bid up to a parity as soon as the marked difference caused a decided demand.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	55½	56	56½	57½	58	58½
Extra 1sts	55	55	56	57	57	58
Extra pullets	46	46	46½	48	49½	51
Extra 1st pul.	45½	45½	45½	45½	45½	50

CHEESE.

The market for cheese was quiet, with unchanged prices. Y. A.'s was nominal today and yesterday, the last quotation being on Monday, when the price of 25c was fixed.

Y. A.'s ..... Nominal
Fancy California Flats, per lb..... 23c
Monterey cheese ..... 18@25c

FRESH FRUITS.

Figs, peaches and plums are no longer on the market. The two latter are still being marketed from cold storage, but their quality is reported to be poor. Seedless grapes are off the market and other grapes are falling off in receipts. Cantaloupes were slightly cheaper and watermelons somewhat higher.

Apples, per box..... $1.00@2.00
Pears, per box ..... 75c@$3.00
Cantaloupes, per crate..... $1.00@1.75
Apricots, per box..... None
Peaches, per box..... None
Nectarines ..... None offering
Figs, per box..... Nominal
Watermelons, per doz..... $1.50@3.00
Grapes, Malaga, lug boxes..... 50c@$1.00
do, Seedless, lug boxes..... Nominal
do, Muscats, lug boxes..... 1.00@1.75

CITRUS FRUITS.

There was no material change in the market for citrus fruits. Lemonettes were somewhat lower. In another two or three weeks it is expected that the new crop oranges will begin to arrive from the South. As the crop is light the prices are expected to be high.

Oranges:
Valencias, fancy ..... $3.50@3.75
Valencias, choice ..... 3.00@3.25
Lemons:
Fancy, per box..... 6.00@6.50
Choice ..... 5.00@5.50
Standard ..... 2.50@3.50
Lemonettes ..... 3.00@3.50
Grapefruit, fancy ..... 4.00@4.50

DRIED FRUITS.

The dried fruit market was strong with prices advancing. The demand from the East and by the Government for dried fruits is expected to keep this market at a high level.

(Net to growers, bulk basis, f. o. b. San Francisco.)

Apples, new crop ..... 14 @15 c
Apricots, per lb. ..... 14 @16½c
Figs, black, 1917 ..... 6½@ 7½c
do, white, 1917..... 8½@10½c
Calimyrna, 1917 ..... 15½@16½c
Prunes, 1-size basis, 1917..... 6½@7½c
Pears ..... 6½@11½c
Peaches, 1917 ..... 9½@10½c

BERRIES.

The receipts of berries continue light, but the demand is not in excess of the supply.

Strawberries, Banners, chest....$6.00@9.00
Longworths ..... None
Blackberries, per chest..... $4.00@5.00
Raspberries, per chest..... 7.00@9.00
Gooseberries ..... None

HONEY.

The high prices of honey caused such a falling off in the demand that the prices were lowered this week to stimulate business. There is not a large supply on hand.

Comb—
Water white ..... 15@16c
Light amber ..... 10@12c
Amber ..... 9@10c
Extracted—
Water white ..... Nominal
Light amber ..... 11@12c
Amber ..... 9@11c

WOOL.

The fall clip is now practically all in in this State. Daily press dispatches from the East state that some farmers are storing their wool, convinced that the price will eventually soar to $1.

Fall Clip—
Humboldt and Mendocino..... 50@52c
Sacramento Valley ..... 45@48c
San Joaquin Valley..... 40c

HIDES.

There has been quite a little activity in the country hide market the past week or two, owing to a disposition on the part of some holders to make fractional price concessions to buyers, who do not seem to be keenly interested. The market is steady, however, and prices as follows:

Cattle:
Wet salted hides, per lb.—
Steers and cows, all weights..... 19@20c
Bulls and stags ..... 16@17c
Kip ..... 22@2
Veal and calf..... 26@2
Damaged ..... 6@1
Horses:
Wet salted, skinned to hoof:
Extra large prime..... $4.00@5.
do, medium ..... 3.00@4.
Small ..... 2.00@3.
Colts ..... .50@1.

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., November 6, 1917.

There has been practically no change in the general condition of the Eastern markets this past week as compared with the week previous, though extra fancy stock of both Malagas and Tokays brought extremely fancy prices, as the demand was very strong.

The car situation has shown no improvement except during the latter part of the week, when nearly all districts were well supplied and gave the shippers an opportunity of cleaning up old stock. On account of the car shortage practically no fresh stock has been shipped East and nearly every car, especially of Tokays, has shown decided weakness. Furthermore, on account of the light supply of cars, shippers have been compelled to overload to the extent of 100 to 200 crates in addition to the regular capacity, and this necessitates packing fruit to a height in a car that ordinarily causes overripeness or decay.

The early offerings of California Emperors in sawdust met with a good demand, but prices ruled only fair on account of the quality, but good stock of good keeping quality brought high prices. A large proportion of the California Emperors packed in sawdust will be sold at private sale, though a few cars will be held for auction and will be sold in storage at the end of the season.

Following are the averages for the week:

New York—Nellis pears, $2.61; Cornichon grapes, $1.38; Emperor (crates), $1.42; Tokay, $1.37; Malaga, $1.40; Mission, $1.48; Alicante Bouchet, $1.47; Black Prince, $1.25; Emperors (drums), $2.80.

Boston—Malaga grapes, $1.50; Cornichon, $1.42; Tokay, $1.30; Emperor, $1.53; Mission, $1.28.

Chicago—Malaga grapes, $1.33; Tokay, $1.21; Emperor, $1.37; Cornichon, $1.31.

Shipments to November 1st, 948 grapes, 31 pears.

Total shipments to November 1, 1917, inclusive, 21,990 cars.

Total shipments to November 1, 1916, inclusive, 16,841 cars.

Special Citrus Market Report

Los Angeles, November 6, 1917.

Shipments of citrus fruits from Southern California from November 1 to 4: Oranges, 273 boxes, and lemons, 41 boxes. Same time last year: Oranges, 132 boxes, and lemons, 89 boxes. Not so many oranges going forward and the Eastern markets all showed a slight advance for the best offerings. Locally the market remains unchanged on oranges and grapefruit. Lemons are higher both here and in the East. Light receipts causing buyers to bid up for all good fruit. At the East the highest prices were paid for some time. Local packers have advanced their bids ½c since our last report. Local packers are bidding 2@2½c per pound for Valencias delivered and for grapefruit 3@3¼c delivered. Lemons have advanced to 3@3½c delivered, for good shipping stock. Low grades have to be sold for less.

AUCTION SALES.

New York, Nov. 5.—Seventeen cars Valencias sold. Market easier, especially on sizes 150s and larger. Valencias averaged $2.20@$6.30. No lemons sold.

Boston, Nov. 5.—Eight cars sold. Market unchanged. Valencias averaged $3.30@$4.90. Lemons averaged $6.35@$8.40.

Philadelphia.—Eight cars sold. Market unchanged. Demand good at prevailing prices. Valencias averaged $2.30@$5.90. Lemons averaged $3.35@$8.45.

LOS ANGELES.

Los Angeles, November 6, 1917.

BUTTER.

There was a further weakening in the market the past week. The receipts were not heavy, yet ample. The arrivals for the week were 349,600 pounds, against 299,400 pounds the same week last year. There was withdrawn from cold storage during the week 22,545 pounds, against 11,710 pounds the same week last year, leaving the holdings now in cold storage 78,150 pounds lighter than a year ago. Yet in the face of this showing, and in sympathy with a weakness in San Francisco, extras declined 1c up to Monday. California extra creamery..... 4
Prime first 42
First 41

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues
Extra	44	44	44	44	43	43
1916—						
Extra	33	33	33	33	33	33

EGGS.

The market here continues firm under scarcity, and what few fresh ranch eggs coming in find ready sale. Receipts for the week by rail were only 474 cases against 727 cases the same week last year. There was withdrawn from cold storage during the week 4,125 cases, against 3,58 cases the same week last year. The cold storage holdings now are only a little more than this time last year. Extras held steady and firm up to Monday and pullets advanced 2c, while case count dropped 1½c. The market is now 8 higher than this time last year.

Daily Quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues
Extra	57½	57½	57½	57½	57½	58
Case count	57½	56	56	56	56	56
Pullets	49	49	50	50	51	52
1916—						
Case count	45	45	45	45	45	45

POULTRY.

Arrivals the past week were only fair and as poultry is about as cheap as most butcher meats a steady and fair market was had for most offerings.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs..... 32@33c
Fryers, 2½ to 3 lbs..... 27c
Hens over 4 lbs..... 26c
Hens under 4 lbs..... 20@22c
Ducks ..... 20@21c
Geese 13c
Roosters, 3 lbs. up (soft bone)..... 24c
Turkeys, heavy, 12 lbs. and up.... 27@28c
Turkeys, light ..... 24@25c
Squabs, live, per lb..... 35c
Dressed, per lb..... 45c

VEGETABLES.

Offerings were somewhat better the past week, being brought in by the higher prices quoted in our last. Northern and Idaho potatoes remain unchanged. Local in fair demand and higher. Onions slow sale but steady. Tomatoes in better supply, slow sale and lower. Cabbage firmer and in good demand. Peppers in very good demand and a little higher. String beans coming in more freely and lower and the same may be said of limas. Cucumbers sharply higher, summer squash unchanged. Good corn scarce and higher. Celery steady and firm. Cauliflower in good demand and higher. Hubbard squash bringing little more money, but pumpkins unchanged.

We quote from growers:

Potatoes, Northern, per cwt..... $2.25@2.50
do, local, per cwt..... 2.00@2.25
do, Idaho, per cwt..... 1.75@2.40
do, new, per cwt..... 2.75@3.00
Onions, Yellow, per cwt..... 2.50@2.75
do, White, per cwt..... 2.25@2.50
Garlic, per lb..... 3@4c
Tomatoes, per lug..... 40@60c
Cabbage, per 100 lbs..... 90c@$1.00
Lima beans, per lb..... 6@6½c
Bell peppers, per lb..... 5@5½c
Chile peppers, per lb..... 4½@5c
Celery, per crate..... $2.50@2.75
Eggplant, per lb..... 2@2½c
Sweet potatoes, per cwt..... $2.25@2.50
Cauliflower, per crate..... $2.00@2.25
Hubbard squash, per 100 lbs..... $1.00
String beans, per lb..... 5@8c

FRUITS.

There was a firmer tone to this market the past week. Apples met with a good demand and the Bellefleurs made a good advance during the week. Local apples, however, were slow and lower. Quinces are higher and of slow sale. Not so many grapes coming in and meeting with a fair demand at good prices. Pears higher; best in fair demand. Japanese persimmons hardly so firm and in fair demand. Melons slow sale but firm.

We quote from growers:

Apples—
Bellefleur, 4-tier $1.25
Jonathan, 4-tier ..... 1.75@1.90
Grapes—
Tokay, per lb..... 3½@4c
Cornichon, per lb..... 3½@4c
Pears, per lb..... 4@6c
Quinces, per lug..... 90c@$1.00
Local apples, per lug..... 35@50c
Cassabas, per 100 lbs..... $1.00@1.25
Christmas melons, per lb..... 1c
Honeydew melons, per crate.... $2.25@2.50
Japanese persimmons, per lb..... 4@5c

WALNUTS.

A firm market and good demand is being had for choice nuts. As the Association has none to offer, a premium is being bid by outsiders for all good nuts. Association prices:

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.90c

HANDLERS OF FOODSTUFFS NOW UNDER REGULATION.

Grain farmers, who were the first class to come under regulation by the Food Administration, and other agriculturists may entertain a feeling of satisfaction through learning that dealers in foods and feeds are now subject to a more rigid regulation, including restraint as to profits they may make. All wholesale handlers and all large retail dealers must secure a license—a permit to do business—and must regularly report to the Food Administration. The purpose of this regulation is that no dealer in various commodities may sell at more than a reasonable advance over the actual purchase price. Included in the commodities to be handled under license are beef, pork, mutton, cleaned rice and rice flour, lard, condensed milk, canned goods, dried fruit and sugar. With regard to perishable foods, the Food Administration will make prompt investigation in any locality in which rises in prices may occur and will deal individually with cases of unjust, exorbitant and unreasonable profit or unfair commission.

umbo	24c	17.50c
ulls	6@12c	.....

BEANS.

Uncertainty as to the future of the market and the stand of the Government against high prices caused trade to hold back and bid lower the past week.

We quote from growers:

Limas, per cwt.	$12.00
Large white, per cwt.	12.00
Small white, per cwt.	12.50
Pinks, per cwt.	9.00
Blackeyes, per cwt.	7.50
Tepary	8.50

HAY.

But little hay coming in and light stocks caused a sharp upward movement in hay the past week. An advance of $2 all around is reported and what little is coming in is finding ready sale at this improvement.

F. O. B. Los Angeles:

Barley hay, per ton	$25.00@26.00
Oat hay, per ton	26.00@27.00
Alfalfa, northern, per ton	24.00@25.00
Alfalfa, local, per ton	25.00@26.00
Straw, per ton	9.00@10.00

COTTON.

The speculative market opened the week in New York weak, with a good deal of selling by brokers. Spot advices throughout the south somewhat conflicting, some indicating strength, while others indicating freer offerings and less demand. Spot cotton was quoted in New York last Monday at 28.90c.

HIDES AND PELTS.

Good heavy hides are meeting with a very good demand at steady prices, but light weights are slow sale and weak.

HIDES—Green Salted:

Heavy steers, per lb	16c
Light steers, per lb	16c
Kips and calf skins, per lb	22c
Bulls and stags, per lb	14c

PELTS:

California full wooled, per lb	20c
California medium wooled, per lb	15c
California short wooled, per lb	10c

Special Livestock Market Report

San Francisco, November 7, 1917.

CATTLE—Most of the arrivals of market cattle at the present time are from Nevada, and their condition is fairly good. Calves are offered very freely, and are a half-cent lower than last week. Quotations are as follows:

Steers—

No. 1, weighing 900@1200 lbs.	9¼@9½c
No. 1, weighing 1200@1400 lbs.	9¼@9½c
Second quality	8¾@9 c
Thin undesirable	6 @8 c

Cows and Heifers—

No. 1	7¼@7½c
Second quality	6¾@7 c
Common to thin	4 @6 c

Bulls and Stags—

Good	5¾@6c
Fair	5 @5½c
Thin	4 @4½c

Calves—

Lightweight	9 @9¼c
Medium	8½@8¾c
Heavy	7½@8 c

SHEEP—There is no change, present or prospective, in the sheep and lamb market. Supplies of both kinds are hard to obtain, and the demand is correspondingly light:

Lambs—

Milk	15 @16 c

Sheep—

Unshorn wethers	12 @12½c
Unshorn ewes	9½@10 c

HOGS—Hog receipts are slowing up, principally owing to the decline in prices which set in about two weeks ago. What effect the action of the Federal Food Administration in fixing the price at $15.50, Chicago market, will have on pork prices is somewhat problematical.

Hogs—

Hard, grain-fed, 100@150	14¼c
Hard, grain-fed, 150@300	15½@15¾c
Hard, grain-fed, 300@400	15@15¼c

Los Angeles, November 6, 1917.

CATTLE—A quiet and rather weak market was had the past week. Offerings were fairly good both from California and Arizona, and a dull beef market and weaker eastern situation caused killers to hold back and go slow. What cattle taken, however, were at old prices.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs.	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt.	8.00@9.00

HOGS—The market, while steady the past week, was a slow one. With a light demand for fresh pork, killers were not wanting many hogs and while the receipts were hardly so good as the week before, yet were ample for the demand, and the tone of the market was rather weak than otherwise.

Per cwt., f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs.	$13.00@14.00
Mixed, 200@250 lbs	14.50@15.50
Light, 175@200 lbs	14.50@15.50

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—It was the same old story in this market the past week. Light supply and light demand. Prices, however, remain steady and firm at quotations.

Per cwt., f. o. b. Los Angeles:

Prime wethers	$ 9.50@11.00
Prime ewes	10.50@11.00
Yearlings	10.50@11.50
Lambs	14.00@15.00

North Portland, Ore., November 5, 1917.

The receipts are a little bit below normal for the week's opening, carrying 1900 cattle, 1500 hogs, and 1600 sheep.

CATTLE—A larger percentage of the string of cattle entering the yards for this week's opening are good, some choice steers for their class, being grass-fed, were found in the market this week and changed hands at $9.60. Some fairly good cows were sold on the market Monday morning at $7.10@$7.25. Disregarding the fact that cattle sold some stronger than at the close of the week, we are carrying a steady quotation which we believe to be low on the basis of the sales: Best steers, $9.00@$9.50; good steers, $7.00@$9.00; good cows, $6.00@$7.00; ordinary, $4.00@$5.00; heifers, $6.50@$7.50; calves, $7.00@$9.50; bulls, $4.50@$6.75; stockers and feeders, $4.00@$7.25.

HOGS—A fair strength was shown in the hog market this morning, where the general belief was expressed that the low water mark had been passed and that the preservation of the industry requires a profit-making basis for the hog producer. Today's quotation is: Prime light, $16.00@$16.25; prime heavy, $15.85@$16.00; bulk, $16.00@$16.25; pigs, $14.00@$14.50.

SHEEP—Conditions continue steady in the sheep department with fair shipments and ready transactions. The shipment of breeding ewes continues strong with a correspondingly strong demand. The following quotations obtain: Yearlings, $12.50@$13.00; wethers, $12.00@$13.00; ewes, $8.50@$10.50; Western lambs, $14.00@$14.50; Valley lambs, $13.50@$14.00.

THE BEARING OF THE PORK PROBLEM ON THE WAR.

American farmers and stockmen may be the means of winning the war by supplying sufficient lard and bacon, it appears. Herbert Hoover says: "The pork problem is one of deepest concern. Pork products have an influence in the present world situation wider than one would ordinarily attribute to them. I therefore wish to make this positive statement, that, so far as the Food Administration is able, through its influence on the purchase of pork and its products for exportation, it will do all within its power to see that prices of pork are maintained in a ratio to feed prices that will cover not only cost of production but proper remuneration to the producer. By a system of license control, that will tend toward the abolition of speculation and punishment of profiteering, the Food Administration will further help the producers."

Since the preceding statement was made public, the Food Administration has announced a minimum price of $15.50 on first-class grain-fed hogs, Chicago base.

The great International Livestock Show, to be held at Chicago, December 1 to 8, promises to eclipse the record one of last year. Many California breeders are making arrangements to attend. Five auction sales of Red Polled, Aberdeen Angus, Galloway, Shorthorn and Hereford cattle will be held there on December

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	26.65	34.91	28.16	36.90
" 16	27.83	35.83	28.10	37.00
" 23	28.85	36.91	28.50	35.00
" 30	36.33	38.48	36.66	38.87
Feb. 6	30.25	40.00	32.33	41.19
" 13	31.40	39.70	33.25	39.00
" 20	32.00	36.00	32.00	37.00
" 27	30.90	37.00	35.25	36.00
March 6	24.08	35.50	24.16	34.50
" 13	29.91	33.50	28.83	33.00
" 20	28.33	33.25	27.16	33.00
" 27	28.50	36.00	28.08	33.00
April 3	28.50	37.91	28.83	36.33
" 10	29.31	39.33	28.00	37.00
" 17	27.33	39.58	27.50	38.00
" 24	25.25	35.66	25.00	36.50
May 1	24.33	33.08	25.33	33.00
" 8	24.10	34.05	25.00	33.20
" 15	24.58	35.50	25.66	34.16
" 22	25.00	36.30	25.00	35.16
" 29	26.50	36.60	26.50	37.33
June 5	25.50	36.30	27.00	37.66
" 12	25.83	36.50	27.00	38.00
" 19	24.50	36.00	25.91	36.33
" 26	24.50	36.16	25.91	37.50
July 3	24.60	35.06	26.00	37.00
" 10	26.40	36.41	26.60	37.16
" 17	25.83	37.83	26.00	38.66
" 24	26.00	40.25	26.00	40.61
" 31	26.00	42.82	25.91	42.58
August 7	21.00	43.00	29.16	44.00
" 14	26.50	41.66	26.00	43.00
" 21	26.50	41.50	27.95	42.00
" 28	27.25	41.91	28.50	42.00
Sept. 4	30.00	42.10	30.50	41.33
" 11	30.20	42.00	32.00	41.00
" 18	30.41	45.00	31.09	43.00
" 25	30.41	45.00	30.50	45.50
October 2	31.66	44.90	32.16	45.91
" 9	32.91	44.90	32.83	46.33
" 16	33.50	46.25	33.50	47.00
" 23	32.75	45.41	33.00	46.50
" 30	32.59	43.50	33.00	44.83
" 30	32.59	43.25	33.00	43.66

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	31.41	37.91	32.00	38.16
" 16	30.33	41.83	30.75	40.83
" 23	34.83	32.50	34.33	33.12
" 30	36.33	32.08	36.66	33.01
Feb. 6	35.66	34.99	35.50	34.70
" 13	28.90	33.30	28.00	31.66
" 20	23.66	33.01	20.33	30.75
" 27	20.30	29.00	18.50	27.66
March 6	18.33	24.75	18.00	24.91
" 13	19.50	25.96	18.91	26.08
" 20	20.00	25.66	19.08	25.91
" 27	21.41	27.16	20.83	28.00
April 3	21.75	28.58	21.00	29.25
" 10	22.00	29.66	21.00	30.41
" 17	21.16	32.33	20.91	32.08
" 24	21.83	32.91	22.58	32.83
May 1	21.00	32.00	22.58	31.83
" 8	21.20	32.75	21.41	32.00
" 15	24.58	34.20	20.83	32.50
" 22	25.46	33.40	22.50	34.00
" 29	25.00	33.80	22.50	33.50
June 5	25.00	33.20	24.51	34.66
" 12	25.00	31.16	24.16	33.00
" 19	24.83	31.41	23.75	33.10
" 26	24.66	30.16	24.58	32.16
July 3	24.60	31.90	24.00	34.25
" 10	26.10	33.50	24.00	36.00
" 17	27.16	33.66	27.00	34.41
" 24	28.20	35.25	28.00	35.91
" 31	28.50	38.00	28.00	36.91
August 7	26.16	42.58	26.00	40.16
" 14	33.08	41.41	31.00	37.08
" 21	33.09	43.33	31.83	42.25
" 28	33.50	43.50	32.00	43.50
Sept. 4	36.13	43.80	32.00	43.58
" 11	37.90	45.08	36.00	44.91
" 18	38.83	47.83	37.00	47.83
" 25	39.75	47.58	38.66	49.50
October 2	39.75	47.00	40.50	50.83
" 9	42.25	47.10	43.16	51.50
" 16	48.50	52.59	49.32	54.50
" 23	47.01	54.83	46.50	56.16
" 30	47.09	56.16	43.33	58.00
" 30	47.09	57.00	43.33	57.58

Publisher's Department.

A note from E. A. Noyes & Son of Sutter states: "We are entirely sold out of everything (swine) and will not offer anything before the 1st of May, 1918. The Rural Press deserves due credit for this, as it is the only publication we used."

Have you seen a copy of our new edition of "California Vegetables"? It is a handsome book and contains much more information than previous editions—and is being sold at the old price of $2 per copy, postpaid. We would like to send you a copy right away, now that the fall season is in full swing.

Between now and Christmas time we will have to comply with postoffice regulations and remove from our list every subscriber one year in arrears. If you are in this class, kindly send your renewal money at once. We need you on our list and want to keep your name there. Let us hear from you.

MONTHLY WEATHER AND CROP REPORT.

San Francisco, Nov. 5, 1917.

October in California was warm and dry, which was favorable for harvesting late potatoes, rice, beans, sugar beets, apples, grapes, olives, etc. It, however, was unfavorable for ranges and for fall plowing. Feed on the ranges is short and in some few counties cattle are getting so poor stockmen fear their losses during the winter will be heavier than usual. Considerable dry plowing has been done; but no seeding of wheat or barley has taken place except in a few of the southern counties. While the bulk of the sugar beet crop has been harvested under excellent conditions, there is still a portion that has not yet been hauled to the factories. In general sugar beets have turned out better than expected and the producers are satisfied with the yields.

A splendid crop of rice and a large crop of beans have been secured in excellent condition. Late potatoes matured nicely and most of the crop has been dug and marketed or else is ready to be hauled to places of shipment. In a few places tomatoes were slightly injured by frost, but by far the greater part of this crop was gathered in the best of condition.

Apple drying, prune drying and raisin drying were practically finished during the month and all three crops were saved in fine condition. The harvesting of wine grapes is also nearly finished. This crop, while not coming up to expectations in quantity, is above the average in quality. The orange crop in Tulare county is about two weeks late and the crop here, as well as farther south, will be comparatively light on account of the damage by hot weather last June. Oranges are beginning to color and lemons are sizing up slowly in Tulare county. In Los Angeles county the month was favorable for oranges and lemons, except rain is needed for cover crops. The orange trees are thrifty, with an occasional one in nearly full bloom. Valencias promise nearly a full crop if they grow to size. Very few lemons have been picked; but there will be a good crop to pick in January and during the remainder of the season if the weather is favorable.

E. A. BEALS,
District Forecaster.

The ranges around San Luis Obispo are picked very close, and the outlook for the cattlemen is bad. If the winter proves a heavy one it will mean a considerable loss to the cattle raisers.

The Stanley Estate of Napa purchased from Hopland Stock Farm, Hopland Valkyrie, the Shorthorn bull who was second senior calf at the Sacramento Fair.

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20 acres; under irrigation; all checked for alfalfa; four-room house; windmill, tank, tankhouse and barn; family orchard and berry vines; all fenced.
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Vol. XCIV—No. 20 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO NOVEMBER 17, 1917 LOS ANGELES

How California Came to Know Beans

[*Twenty-first of the Editor's series of Historical and Analytical Sketches of California Farming*]

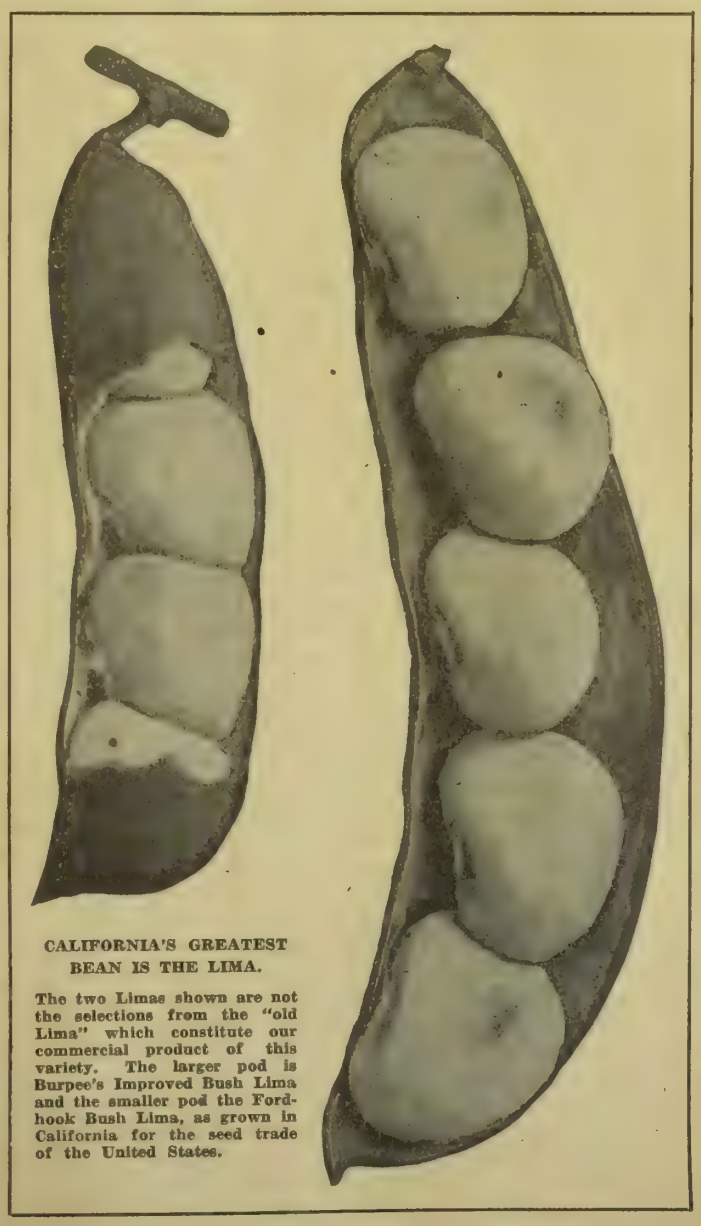
CALIFORNIA'S ADVANCEMENT in the production of beans is phenomenal. Under the influence of the two great agricultural incentives, price and patriotism, California more than doubled in 1917 the production of the previous year, although that was larger than the output of any other State, and stands this year as producing nearly two-thirds of all the commercial dry-bean crop of the United States, including all States which the Government statisticians think worth mentioning as contributors thereto. These are the figures for it, as published in the Monthly Crop Report of the United States Department of Agriculture for October 1, 1917, in thousands of bushels:

	1917	1916	1915
New York	877	720	1,495
Michigan	4,066	3,102	4,250
Colorado	1,364	424	340
New Mexico	289	425	368
California	9,278	4,175	3,868

And the value of this bunch of nine and a quarter million bushels of beans at $6.20 per bushel (which the Government gives as the "country value" on September 15, 1917) is $57,523,600—which is more than the fifty-seven millions of California's greatest annual output of gold (1853) and more than the fifty-one millions, which the United States census placed as the "farm value" of all the fruits grown in California in 1909. Truly we are going some on beans. It is time to catch one's breath and take a backward glance toward the starting.

How Beans Came to California.

Though nature gave California many leguminous plants, good, bad and indifferent, she gave us no beans in the agricultural sense. Nor does California share in the aboriginal endowment of beans, which, through the recent popularity of the tepary, have made Arizona famous. The native races of California Indians were not disposed to raise things—not even scalps. Beans came with the Spaniards, or Mexicans, who are never very widely separated from frijoles, and were therefore brought to San Diego by the padres in 1768, and were subsequently grown at all Missions. According to the records, there were grown at all the Missions during their active period, which ended in 1833, a total of 71,115 bushels of beans, of which 19,380 bushels were grown on land now central in San Francisco—which fact ought to be an inspiration to the back-yard farmers of the Mission district of the metropolis.



CALIFORNIA'S GREATEST BEAN IS THE LIMA.

The two Limas shown are not the selections from the "old Lima" which constitute our commercial product of this variety. The larger pod is Burpee's Improved Bush Lima and the smaller pod the Fordhook Bush Lima, as grown in California for the seed trade of the United States.

Pioneer Aspects of Beans.

Beans came hither with California gold-seekers, as did other garden seeds, but beans made a slow start—for what reason we do not now know. At the first display of California productions held in San Francisco in 1851, there were exhibits of many grains and vegetables of surprising size and productivity, but in the details given there is no mention of beans, though nearly all other garden growths are specifically mentioned, described and glorified. Even in the list of plants of which J. M. Horner grew crops in 1851 worth $200,000, and for which he was awarded a silver goblet as a prize, no beans are included.

There are two reasons which can be surmised to account for what seems to have been a lack of popularity of beans among the pioneers. One is general. It must be admitted that before the chemists began to expound the food value of beans, or at least before the dietetists became an influential nutritive sect and began to propagate the faith of the chemists, beans were not regarded as a food to be proud of—except in the penetrating vision of Bostonians. Another reason for the hesitation of the pioneers was that they had boiled beans all the way across the plains and in the mines until they wearied of them, and boiled potatoes, onions and cabbages became luxuries in their sight. However that may be, they neglected beans and even at the State Fair of 1857 there was only one exhibit of beans, which led the judges to scold and prophesy in this way:

One sample of beans only was exhibited. When this product shall be properly understood and the quantity known that has been and is continually imported, a wise attention will be given to a crop that will always pay, if planted upon the right kind of soil. California pays annually for many thousand bags of beans imported from foreign ports and thus a competition is brought to bear with a home product that a little knowledge would enable it to defy and even become a rival in the very ports which now send beans to us.

The sample to which the judges allude was of "white" beans grown by J. A. Austen of Stockton. In 1858 the prize for the best Chinese beans was awarded to Ah Kee of Marysville.

Commercial Consciousness of Beans.

It appears, from the committee report just quoted, that it was the local economics of beans which broke through the crust of sentiment against them as very common things. Californians took to growing beans not because they liked them but because they needed them and could not quiet their commercial conscience over the sin of parting with so much of the rapidly decreasing gold product in paying for what they could produce themselves. The turn came rapidly. Although growers were not proud enough of beans to show them freely at the fairs, as intimated above, they conscientiously applied themselves to growing them, with these results:

Year—	Acres	Product	Bushels per acre
1856	11,126	100,976	14.47
1857	11,074	215,352	19.44
1858	9,073	174,040	19.18
1859	4,685	96,219	20.56
1866	5,781	242,213	41.88

If these figures are accurate (and of course we can only give them as we find them), two things are indicated: first, that the growers learned a lot during the decade about how to grow beans and how to select land which would give a large product. Much satisfaction was expressed in connection with the product of 1859 that an average of 20.56 bushels per acre was set down in the United States census of 1860 as higher than attained in any other State; Connecticut following with 20 bushels and South Carolina next with 18 bushels. If an average product of over 40 bushels per acre, as reported in 1866, was ever actually attained, it surely beat not only the United States but the world!

It will be noticed that the acreage was reduced nearly one-half during the decade, which indicates that the high hopes of profit in beans were soon dissipated, and this becomes more clear when it is stated that the crop of 1866 was worth only $1.50 per bushel, and even at the colossal average of 41.18 bushels per acre yielded only a gross return of about

(Continued on page 497.)

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EDITORIALS

TO MAKE AND TO SAVE.

CALIFORNIA is being exalted by Eastern statisticians for the strong hold she is taking on both lines of national advancement: wealth-winning and war-winning. To produce much and to save much is the war-rule for making a progressive and humane country "healthy, wealthy and wise," and the United States are racing along this boulevard to future greatness with California in the lead in percentages of increase. According to figures gathered by the California State Council of Defense, this State will tally immense gains for 1917 in the production not only of wheat and potatoes, but also of corn, oats, rice, barley, cotton, sugar and beans. In every one of these crops the increased production during 1917 reaches millions in value. Here are some figures gathered by the State Council of Defense showing California's greatly increased crop production:

	1916.	1917.	Increase.
Barley, bu.	33,320,000	35,200,000	1,880,000
Wheat, bu.	5,600,000	6,530,000	930,000
Corn, bu.	2,048,000	2,550,000	502,000
Rice, bu.	3,263,000	5,120,000	1,857,000
Potatoes, bu.	10,575,000	13,900,000	3,325,000
Oats, bu.	6,500,000	6,560,000	60,000
Cotton, bls.	43,620	50,000	6,380
Sugar beets, tons	1,463,000	1,700,000	237,000
Beans, bu.	4,175,000	9,280,000	5,105,000

But to make much is only the first half of the problem: to save much is the completion of it. It is reported that at the close of last week the eight million mark has been passed on the scoreboard of the family enrollment campaign in the Washington headquarters of the food administration, and indications are that when all returns are in they will show that half the people of the country have agreed to support the plan for food conservation. The latest compilation gives a total of 8,020,181 persons pledged to it, and California leads with 450,000 signatures. It is not to be expected that California can continue to lead against States with several times her population, but in the percentage she still has her chance. It is no disgrace to be outnumbered. Alertness and responsiveness to the call of duty are the real qualities which make for effective patriotism, and for these qualities California is receiving merited honors.

INDIRECT POLITICS.

FOUR WEEKS ago we questioned the right of representatives of the trading branch of the Farmers' Union to commit California farmers to affiliation with the Federation of Labor for the purpose stated below by one of the representatives of the Farmers' Union, to wit:

This movement may mean the gaining by one group of the support of the other in legislation and other matters that may be of mutual interest or which matters may at least not be detrimental to the other group.

This means political affiliation or it means nothing. We object to it because it undertakes to commit California farmers to purposes and methods which are not for the welfare and success of the farming industry. The farmer as a producer must hold control of his enterprises and must not sign away his management of his own business and place the regulation of the agencies he employs in other hands than his own. If he is wheedled out of his own well-calculated requirements in the cost, quality, hours of service and continuity of help until the job is done, he becomes the slave of those who know nothing about the essential needs of successful production and care nothing. And when he affiliates himself politically with those whose purposes are always incongruous and sometimes at open enmity with his own, and whose policy it is never to remit an iota of their concrete claims, he disappears from view as a man fit to manage his own business in the world. The Federation of Labor is a splendidly built and efficient organization. We dislike many of its attitudes and methods, but so long as they are patriotic and moral we do not question its right to pursue them. But they are class interests, and to attempt to merge other class interests in them must result in subjugation of the less efficiently organized elements. The strong become stronger: the less resolute are swallowed up:

There was a young lady of Niger
Who smiled as she rode on the tiger.
They came back from their ride with the lady inside
And the smile on the face of the tiger!

The way to remove incongruity in conflicting class interests and to secure harmonious adjustments is by conference and compromise between class organizations, each efficiently representative of the relative importance of its own class. If the farming class was as efficiently organized as the laboring class, things would get into their right places. A political merger is as unjust and cruel as an unregulated trust.

OR IS IT ONLY DIRECT TRADE?

WHEN WE first heard of the conference of representatives of the trading auxiliary of the Farmers' Union with the labor federates at Sacramento we supposed it was simply a drive on direct trade between producers and consumers, which would be a perfectly legitimate effort on the part of the farmer-traders to place more of their produce at good wholesale rates and to exclude some intermediate profiteers. But when we read accounts of the joys of the labor federates "that the coalition of farming interests with union labor may shape the future political map of California," as cited in our issue of October 6, we apprehend that direct trade was only a cover for indirect politics—which we abhor as of a kin with the secret diplomacy which has recently cost the world so much, and we wondered how the members of the Farmers' Union would allow themselves to be committed to such a scheme.

If it is simply a trade measure to promote direct trade, then it is pertinent to say that direct trade is understood to mean movement from producer to consumer without intervention. Direct trade is ideally good: within limitations it is good and practicable: as a policy for the disposition of California great specialty food products it is illusory and inadequate. Direct trade is, therefore, under certain conditions, to be diligently sought for: it is also under certain other conditions to be carefully weighed and measured. Individuals and organizations can develop it to advantage in some cases, but to rely upon it to handle our great special products would result in failure, and to substitute it for the great co-operative distributing associations of growers which we are now building up would be a colossal mistake. These great growers' concerns are using the machinery and publicity of established trade to great advantage. They can use them to better advantage than old-line local buyers ever could, because the associations have greater resources and lines of control than such buyers ever had or can have. Therefore, to commit California producers to schemes of direct trade would be to sacrifice most that we have gained by co-operation during the last two decades and to jeopardize the future. This, of course, will not be done, but to lift up a graven image of direct trade in the name of a farmers' association of much prominence might act as a diversion or a distraction and attract worship from a lot of economic idolators who are now being held reasonably loyal to what is true and practicable.

IS THIS REALITY OR CAMOUFLAGE?

IN VIEW of the foregoing considerations we wonder how to take the following declaration found displayed in one of the city dailies:

A convention of California farmers, members of the Farmers' Union, will be held in December to work out plans for the distribution of produce at wholesale prices to members of unions affiliated with the California State Federation of Labor.

This was the announcement today of Paul Scharrenberg, secretary of the federation, who has just returned from San Diego, where, in conference with officials of the Farmers' Union, tentative arrangements for operation of the plan were discussed. The convention will consist of delegates from the State Federation of Labor and the Farmers' Union. The convention city has not yet been decided upon.

This seems plain enough, but what does it really mean? Does it mean that the details of wholesaling a trainload of prunes or pumpkins to a string of local labor unions or consumers' co-operative stores is such a delicate matter that it requires a convention in a city to be chosen with a month's circumspection? It does not seem reasonable to us that a convention should be called to consummate a transaction that a committee could easily arrange details for and that Mr. Scharrenberg could set in motion by telephoning to the Farmers' Union business place at 112 Market street in this city! This official conference in San Diego leading to a December convention to be held in some city where the proceedings will do most good seems to us to have mighty little to do with prunes or pumpkins, but has another "p" deeply intrenched in it, and that its purpose is "to shape the political map of California" as aforesaid. And our notion of the unholiness of the alliance of the Farmers' Union and the labor union for such a purpose as that is just as it was a month ago. The farmer who knows the interests of himself and his associates in farming will not stand for it and the fate of the farmers who do not realize these interests and enter the combine will be perhaps not so tragic as that of the lady who rode the tiger, but rather as the political poet of the future will write—

Peter, Peter, pumpkin-eater,
Had a wife and couldn't keep her,
Put her in a pumpkin shell;
There he kept her very well!

Labor's political tally-ho will never have anything but inside seats for farmers. They will never handle the reins nor blow the horn!

THE WAR IN TURKEY.

THOUGH the British commander is rapidly driving the unspeakable Turk out of the Holy Land from Dan to Beersheba, and though it seems likely that Jerusalem may return to the possession of the Jews after their fugitive existence of about two thousand years, it still remains a fact that one of the sharpest issues impending in this country is a war in turkey. It is still a question whether we shall have a restricted or a distributed Thanksgiving in this country on November 29—the day set for the national attack on the turk by President Wilson. Just after our last issue went to press, viz., on November 7, this announcement was made from the office of the Food Administrator in Washington:

A plentiful supply of Thanksgiving turkeys at reasonable prices is promised the American people. Stocks on hand in cold storage houses is large and the Food Administration will require their sale under provisions of the food control act which prevents hoarding. "With a larger volume of the product going on the market for sale," it was announced, "consumers may soon look for an abundant supply at reasonable prices."

This is all right and we hope all the turks will be forced out of their trenches. Embalmed turks are not over-wholesome anyway and gambling in such antique remains is surely a public menace. Cold storage is an invaluable temporary expedient and a protection against much loss and waste, but to use it as a means of bringing the Ali Babas and Fatimas of the ancient poultry world upon the tables of the present generation or in competition with their remote descendants of this decade, is a hygienic and economic sin. Therefore, we hope Mr. Hoover will be able to force all these superannuated turks out of the ice-chests, down to the very last discolored cadaver. It is possible that the process may make Thanksgiving supplies more widely available and help some people to a more thankful spirit, but it does not seem reason-

able to expect that there are enough in storage to make any very great difference. It is also unreasonable to expect that turkeys will be cheap when everything else is high: nor can they be cheap without calamities to growers, for the product has cost much more than in ordinary times. Therefore, it does seem reasonable to take such action as is reported as follows:

The poultry raisers of Texas, where the major part of the turkey supply is raised, have agreed not to kill any birds before December 1. This means that the producers themselves will have forced all storage goods out into the market before Christmas. The Texas production of turkeys will be less this year than average, as conditions have been bad. This makes a heavy raise by Christmas almost certain.

We are not advising California growers to do this, for there are always dangers in refusing a round price when you can get it. People may decide to observe the holidays with "good red herrings," or other things may happen. But there is some satisfaction in the fact that the gamblers are to be brought to a show-down and to take what they can get for their antique merchandise, so that the market will be clear of it and the growers given a chance to get what their fresh product is really worth.

PIGS GOING TO MARKET.

ANOTHER PAGE of this issue records in detail the transactions of the California Swine Breeders at a recent meeting in Sacramento with reference to a fair ratio between the price of hogs and the price of barley, from which most of the grain pork is made in this State. It seems an eminently just contention. Whether action upon it by the Food Administrator is found feasible or not, the force of the contention itself should influence local pork prices toward greater fairness to the producer. The locally low price of hogs is a matter of long standing and must be corrected if the product is to increase as both opportunity and patriotism now demand. The correction does not seem to be easy and may require heroic measures. There have been concrete cases in which Eastern buyers for the packers in the Mississippi Valley have paid more for hogs for the long haul than local buyers have been willing to pay except where necessary to keep the raw material they needed from going out of their reach. If local users of hogs do pay nearer the Chicago equivalent when they have to, there must be something the matter with the reasons which are usually cited to explain why they do not always pay that equivalent. We do not claim to know all there is in this important question of non-equivalence, but one thing seems clear enough that buyers will pay more for the squeal in California than they do in Chicago and when the growers squeal or when they fix things so the local buyers have to squeal, there is more money in California hogs. And even that is well worth knowing. And when you know a thing act upon it, for knowledge is a negative and worthless asset unless made the basis of positive, useful action.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Woolly Aphis on Pears.

To the Editor: A neighbor has woolly aphis on two-year-old pear trees. He has treated them with blackleaf, 40 per cent solution, but would like to know the cause of the trouble—that is, if it is possible that they were on the trees at the time of planting or have developed since. Will they kill the trees, and if so, what length of time?—F. C., Walnut Creek.

These pests may have come from the nursery with the trees, or they may have been brought in on the feet of birds from old, infested pear or apple trees in the neighborhood. They are not likely to kill the trees, but they are likely to make them unthrifty and unprofitable. The treatment with a proper dilution of 40 per cent blackleaf is all right to reduce the pests on the top growth, but they also live on the roots and continually repopulate the top therefrom. They must, therefore, be fought also on the roots. Make an excavation or basin around the tree, for small trees a foot or two wide, from the trunk down to the main roots, and pour in enough tobacco wash (1 pound 40 per cent tobacco extract to 200 gallons of water) to wet the ground well. This will kill all the lice it can reach. In the case of a few trees, and sand is not too expensive, after the dope has soaked away, fill the ring with clean sand, which will prevent the lice on the outer roots from getting to the center because they cannot go through the soil except as they find cracks to go in. This is a good theoretical preventive, but would be very expensive on a large scale if sand has to be brought a long distance. In such case, more frequent use of the wash on the roots would be more practicable.

Red Spiders as Tree Climbers.

To the Editor: I write you for the habits of the Red Spider. I put a band of tree tanglefoot around my seven-year-old prune trees last month to prevent the moths of the canker worm from climbing the trees. Now, the red spiders have come down the tree until they have made roads over the tanglefoot. Why are they coming down the trees, and where are they going? Will they go back up the trees again?—D. J. R., Gilroy.

Red spiders are restless little beggars and probably many run down upon the tanglefoot, but we believe most of them are going back to the trees from the fallen leaves on which they dropped from the trees. They surely try to do this. The whole life of the spider from the egg to the egg again is normally passed on the bark and leaves of the tree, but they may have recourse to the ground, though for what purpose has not been stated, so far as we know. You can scratch up the tanglefoot so as to expose new sticky surfaces, but if you have spiders enough they will soon smooth it down. We would respectfully suggest that you give attention next summer to killing these spiders. If you do that you will have next fall a better chance to catch the canker worm moth and much more reason to care whether you catch it or not.

Almonds and Roots for Almonds.

To the Editor: What root is considered best for the almond on a heavy soil, and which variety is better, I. X. L. or Ne Plus Ultra? Also, what ratio of Drakes Seedling should be planted with either of the above to insure pollination? What is the difference between Drakes Seedling and Texas Prolific?—Subscriber, Novato.

The almond root is contented with quite a heavy soil if it is deep and well drained, although its chief value is on deep, coarse soils inclined to be dry. The peach root stands a shallow, defective soil better than the almond, will stand lack of drainage better, and is less subject to root knot. The almond will make a strong tree in many places where it will make a scant crop, because of spring frosts. Ne Plus Ultra is a more regular and heavier bearer than I. X. L., and is therefore often made profitable, though its price is less. Which is better depends upon local behavior. One row of Drakes to three needing pollination is enough. Drakes is smaller than Texas, but sells about as well. Texas blooms later. Drakes is now more popular than Texas.

Peas in East Bay District.

To the Editor: Can you suggest anything relative to early peas, their culture, variety, etc., for this East Bay locality?—P. H. L., El Cerrito.

Early peas from fall sowing are a large commercial product on the uplands east of the lower bay in Alameda and Santa Clara counties. Peas are hardy against frost, except in the low flats east of the bay, and they grow well on soils which are not so heavy and low as to be water-logged by the winter rains. Peas also grow well in winter on the sandier soils of Alameda and Oakland and on the slopes of East Berkeley. North of Berkeley there is rather a freer sweep of north and northwest winds, and consequently rather lower average winter temperature, but in the warmer soils, at a little elevation above the cold, wet flats, good results can be expected in garden practice, though probably in commercial growing the lower bay region has considerable advantage. The variety of field pea called the Niles pea has superior hardiness, though it has not the quality of the best garden varieties. We should plant several varieties for a try-out.

What Distances for Thompsons?

To the Editor: Will Thompson Seedless grapevines, planted eight by twelve feet, produce more per vine than those planted six by twelve feet, the theory being that the vines farther apart have more room for the roots? I understand the cultivation, pruning and care of grapes, and have always seen Thompsons set six by twelve feet, but would like to have your idea about vines planted farther apart.—Subscriber, Chowchilla.

The only dependable answer to this question must be a deduction from a careful comparative test, and we know of none. Theoretically, greater distance between vines, pruned to promote full bearing and all growing conditions being equal, ought to result in greater weight of fruit per vine, but not necessarily in greater yield per acre. In the absence of careful demonstration by experiment, the best practical guide is the collective judgment of many growers for many years, which manifests itself in the prevailing practice in the vicinity. If one has an idea that such practice is not best, he must prove it by actual trial. There is little use speculating about it, except in planning for such a demonstration.

Lime and Stable Manure.

To the Editor: I have been using as fertilizer for my garden a mixture of lime and horse manure, and a friend of mine tells me that I am a fool to use such a mixture, as the lime kills the manure. How about that?—G. J. M., Oroville.

Your friend has some good points as a kicker, but like most of his class he is not discriminating enough. Lime in the form of gypsum, superphosphate, ground limestone and other neutral forms of lime may be valuable additions to stable manure. Even caustic lime (builders' lime, etc.) may add desirable plant food and may hasten the availability of stable manure, but it is not wise to add caustic lime to manure in a pile or when spread out in contact with the air, because in the recombinations which it causes it is apt to set free ammonia, which, thus set free in the open, is largely lost. Therefore, caustic lime should not be used as an absorbent. But lime added to manure which is immediately well covered into the soil may hasten its availability and increase its efficiency. Therefore, it is possible that your friend kicks not wisely, but too well!

Grapefruit or Pomelo.

To the Editor: I am told that there is no such thing as "grapefruit," and that the proper name of that fruit is "pomelo." Please answer in your paper if he is right or wrong.—Subscriber, Chico.

Grapefruit is the accepted American commercial name for the fruit and an accepted commercial name is too valuable to disregard. The last report of the manager of the California Fruit Growers' Exchange, our great citrus marketing organization, makes several references to grapefruit and does not use the name pomelo at all. Dr. W. T. Swingle points out in the Standard Encyclopedia of Horticulture that "pomelo" and "pummelo" are contractions of the Dutch "pompelmoes" and cover nearly all fruits of citrus grandis, and he advises that we use it in this generic sense and apply it to all except the grapefruit group, which he holds to be distinct enough from the others to merit a separate name. It is therefore likely that we shall use the term grapefruit because pomelo means too much in a botanic sense and too little in a commercial way.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., November 13, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.80	3.67	5.70	72	42
Red Bluff	.46	1.74	3.49	66	44
Sacramento	.05	.69	2.02	70	44
San Francisco	.25	.39	2.26	70	52
San Jose	.32	.51	1.71	74	44
Fresno	.08	.34	1.26	70	44
San Luis Obispo	.34	.56	2.23	70	42
Los Angeles	...	.34	1.23	72	50
San Diego	.02	.23	.81	68	50

Bulls for Range and Foundation Herds

Written for Pacific Rural Press

TO PROVIDE bulls of the best blood at prices that will lead rangemen to use them to make their herds produce more meat from the same pasture, and at the same time to produce stock that is worthy of becoming the foundation of new breeders' herds, or of mingling in the best blood of older breeders' herds, is the plan carried out by T. S. Glide of Davis with his Shorthorns. The range-bred stock is of course husky, hardy, and experienced on the range, so the young bulls get no setback when put to range service. His stock has produced prize-winners of the highest quality almost ever since his father established the herd.

"KING EDWARD" IN THE RING.

An interesting bit of history was told at the State Fair Shorthorn Breeders' banquet last September by B. A. Cowen, a Shorthorn breeder for twenty-one years before he became assistant secretary of the American Shorthorn Breeders' Association in 1901. He judged Shorthorns at the Lewis & Clarke Exposition. J. H. Glide showed his King Edward bull there, in charge of his son (not T. S. Glide, who now controls the herd). The son became so anxious for his bull to win the honors that he paid an expert herdsman $20 to handle the bull in the judging ring and show him off to the best advantage. The judge learned of this, and placed all the other animals in the class before seeming to consider King Edward favorably, and the Glides got nervous. Finally King Edward was placed at the head, and later given grand championship. "That bull would have been grand champion if he had been turned loose in the ring," said Mr. Cowen. "He was easily the outstanding animal, and his descendants are winners today." The herd has been a consistent winner of championships almost every year since. Old King Lancaster, three times State Fair grand champion, is not being bred this year. He has earned a pension.

RANGE RANCH MANAGEMENT.

That is the sort of blood put into the Glide bulls raised for range purposes, as well as for foundation stock. About 400 purebred unregistered cows are usually kept on the ranges and bred to the same bulls that mate with the average of 40 registered cows kept on the home place, not far from Davis and half way between his tule and hill ranges. A "beef bunch" is herded separate from the breeding animals and includes steers, aged cows, and cull females. Steers are generally sold at two years old. All heifers are rounded up and the poorer ones culled out when they are coming two years old and before they are bred. The culls are either sold as such to rangemen who can improve their own stock that way, or are put with the beef bunch. Young bulls are all sold before they are two years old. Herd bulls are kept separate from the cows except during the breeding season. They can all be haltered, and it is safe to go afoot among them any time, according to Mr. Glide. Seldom or never is there any fighting.

Good types of Shorthorn Cattle found on the Glide Ranch.

MOUNTAIN AND TULE PASTURE ALTERNATED.

W. M. Rigdon, who handles the range cattle, gives us the following facts regarding their management: The cattle are taken to the mountains back of Winters about mid-December, when it gets too wet in the tule ranges of the bottoms. By that time green grass, mostly wild oats, is growing up through the old grass, which has gone to seed, dried, and fallen down through the summer. The cattle eat the old grass to get the new. The fall rains also start springs of water afresh. There are 6,000 acres of the mountain ranges, fenced into three pastures, with no barns. The cattle are driven from the tules to the home ranch between daybreak and 3 p. m. of the first day. There they rest and feed and drink, ready for the start at daybreak the next morning. They arrive at the hill range about 3 p. m., unless they are left on stubble for a while around Winters, as often happens. They are usually driven across in two bunches of 500 head each. Yearling bulls are kept in one of the three range pastures. Young heifers are kept in another, and cows in another.

CALVES ARE GIVEN A GOOD START.

Calves come for six or eight weeks in the spring; so there is plenty of grass for milk, and they get a good start. They are left with their mothers about three months, until the cows dry up, due to drying pastures, and the young bulls are then rounded up. In June the river overflow is pretty well off the tules and the cattle are brought down after a two-days' roundup. Green grass is at that time growing among them, and it supplies the cattle until time to return to the hills. There are ten or twelve thousand acres of tule range, and it supports large bands of sheep besides the cattle. Sheep are sometimes sent to the hill range also, but last spring, being dry and cold, they were kept off.

Bulls are turned with the cows when they come down to the tules and left with them about two months to catch those which do not breed the first time. Then the bulls are returned to the home ranch.

Calves are branded when brought down, unless that is especially late, when they will have been branded in the hills. Cull bull calves are castrated at the same time.

Mr. Glide has a "crackerjack" of a roan bull coming two years old, which promises to win at the State Fair next year.

The Official Yearly Butter Record Comes to California

Written for Pacific Rural Press by C. L. Hughes

By producing 1,167.96 pounds butter in 305 days and 1,331.64 pounds butter in 365 days, under strictly official test, Aaggie Acme of Riverside 2nd becomes the world's official record butter cow for both divisions, displacing the former title holder, Keystone Beauty Plum Johanna, a Pennsylvania cow. Aaggie also becomes the world's record cow for butter produced in two years, her total being 2,424.74 pounds against the former record of 2,403.59 pounds.

Aaggie Acme of Riverside 2nd is owned by A. W. Morris & Sons Corporation, Woodland, Cal., who also own her sire, King Mead of Riverside, and her dam, Aaggie Acme of Riverside.

AN UNRIVALED PERFORMANCE.

This record brings into greater prominence the splendid performance of the daughters of King Mead of Riverside. Famous for their splendid individuality and great yearly records, they have taken a place by themselves in records of production because of their ideal test for butterfat throughout their entire year's work. The entire group has averaged over 4 per cent butterfat on yearly test, and only one has fallen slightly below that on her individual record.

PRACTICAL AGREEMENT OF OFFICIAL AND SEMI-OFFICIAL TESTS.

The accuracy of the semi-official yearly test as conducted by the Holstein-Friesian Association of America is well substantiated by a comparison of the two yearly records of Aaggie Acme of Riverside 2nd. Last year, on semi-official test, she produced 19,577.3 pounds milk, average test 4.47 per cent butterfat, or a total of 1,095.10 pounds butter, 80 per cent fat. This year, on strictly official test, she produced 24,682.7 pounds milk, average test 4.31 per cent butterfat, or a total of 1,331.64 pounds butter, 80 per cent fat. Thus it will be noted that between the semi-official and official test, there was only a very slight variation in percentage of butterfat, which might easily be accounted for in the increase of over 5,000 pounds milk during the year of official test.

Aaggie Acme of Riverside 2nd, the world's official butter record cow, owned by A. W. Morris & Sons, Woodland, Cal.

The comparison of these two records will no doubt be of interest to breeders of all breeds of dairy cattle, for the rules governing the semi-official testing of Holsteins on yearly work are practically identical with the rules governing all other dairy breeds on their official yearly records, and the proving of the accuracy of the Holstein semi-official rec-

(Continued on page 497.)

Jack London's Ideal Hog Yard

Written for Pacific Rural Press by B. J. Morris

ONE OF THE interesting features of the Jack London ranch as a purebred stock farm is the far-famed hog yard. Visitors from all parts of the country declare the yard to be more nearly ideal than any they have seen, from the standpoint of convenience and sanitation. As a suitable location, Jack London selected a picturesque hill, with gently sloping sides, thickly covered with large oak trees. The site lends itself naturally and readily to the best possible sanitary conditions.

AN UNIQUE ARRANGEMENT.

The plan of the yards is as unique as the site is ideal. A tower-like, two-story, stone feed house is located in the center of a level plot on top of the hill. Approaching the feed house from the front is a gravel roadway which completely circles the house. Facing on this road and forming a larger circle about the feed house are small feeding pens, seventeen in number. Each of these is connected in the rear with a large open field, extending out among the oak trees. The open fields vary in size from two to five acres, and afford the hogs desirable exercise, as well as a considerable amount of feed in the way of falling acorns.

SUBSTANTIAL CONSTRUCTION.

The feed house and the feeding pens are constructed entirely of stone and concrete. Two purposes are thus served—proper sanitation and durability. The floors are flooded after each feeding and every particle of dirt is removed. The pens are thus kept nearly free from flies, one of the most prolific means of spreading disease.

A Famous and Picturesque Hog Yard Located on the Jack London Ranch at Glen Ellen, Cal.

The location of the feed house in the center, with the feeding pens extending around it, has rendered the plant admirably compact. All the pens are equidistant from the bins in which the feed is mixed. No other arrangement could have made this possible. This idea of compactness is carried out still further. The first floor contains several mixing bins, each one connected by several feed chutes with the storeroom, which is located on the second floor. In this way the various feeds are run into the mixing bin at the same time, saving considerable work. A water faucet is placed over each bin so that wet mashes can be prepared without the use of hose or bucket. This avoids the usual slopping of the floors and aids much in keeping the feed house clean and sanitary.

EQUIPPED WITH EVERY CONVENIENCE.

The feeding pens are equipped with every convenience for facilitating cleanliness. Water from the spring that supplies the family residence is piped into each pen. The watering troughs are made of concrete and can be filled by turning a faucet, located conveniently to the driveway in front of the pens. The floors slope to one corner, where a screened opening connects with a sewer. This allows all litter to be washed away by flooding the floors. Each pen is supplied with an enclosed room free from drafts, where the hogs may find shelter from the heat in summer and from the rains in winter.

WELL WORTH CAREFUL INSPECTION.

Any one contemplating the building of a hog yard would find his time well spent in a visit to this unique pig hostelry before finally adopting a plan.

THE OFFICIAL YEARLY BUTTER RECORD COMES TO CALIFORNIA.

(Continued from page 496.)

ord by comparison with a strictly official Holstein record, during which each separate milking is weighed and tested throughout the whole year, means the proving of the accuracy of the present methods and rules of the official yearly tests of other breeds.

A NOTABLE PEDIGREE.

More than casual interest is found in the pedigree of Aaggie Acme of Riverside 2nd. It is noted that her sire is a full brother to the dam of Miss Valley Mead De Kol Walker, 36.81 pounds butter in seven days as a junior three-year-old, and the present California champion of all ages in the seven-day division, while the dam of this heifer and the dam of the 34.25-pound junior four-year-old, Lady Hiske Walker, are sisters to both the sire and dam of the new champion. She also has two sisters by the same sire now on yearly test and promising at present to make over 1,100 pounds and over 1,000 pounds butter, respectively.

CASH FOR RECORDS OF ANCESTRY.

The cash value of records of production was shown recently in the sale by F. A. Heroux of Oakland to Jas. Stevens of Escalon of a junior Holstein bull calf for $650. This calf's sire has 43 A. R. O. daughters, four with records of over 30 pounds, and his sire was King Segis. The calf's dam has a record of 27.43 at four years; her dam made 24.93 and her dam 27.42. Now, who wouldn't want a calf with such sustained high production for several generations back!

How California Came to Know Beans

(Continued from first page.)

$61.75 per acre. Evidently there was something the matter with beans.

EARLY EXPORTS OF BEANS.

In the latter '50s beans disappeared from the lists of things too largely imported and exports began. The records show the value of bean exports from San Francisco as follows: 1861, $10,214; 1862, $40,507; 1863, $11,608, etc. The ability of the State to roll up a bean surplus was demonstrated, for the record says in 1867:

Every known variety of bean has been tried and all have given good yields when properly planted. The varieties of beans are so numerous that almost any one of the large produce stores in San Francisco has for sale more kinds of beans than can be found in most of the cities of the United States. Considerable quantities of beans are exported, but the greater demand is from the mining districts.

VARIETIES OF BEANS.

This reference to the early multiplicity of bean varieties in California is interesting. Undoubtedly natives of all nations brought or sent for seeds of all kinds popular in the countries whence they came and as beans are the most nearly universal of all vegetables probably California received more outlandish beans than any other part of the country at such an early date and chose from them the kinds that grew best and met a local demand. It is due to this fact that some of our commercial beans are not of varieties largely grown elsewhere and we can only conjecture as to the sources whence we received some of them.

Of course California's greatest single achievement with beans was the large field growth of the Lima bean. It was not only a fortunate demonstration of exceptional natural adaptation in some parts of California to this fastidious variety, but it was also a most fortunate commercial hit and lifted our bean exports to great opportunity and distinctive character. Stories are current that the Lima bean was brought to the southern coast counties by a wandering sailor in the latter '60s and from his pocket came the start of this great specialty. Of course it may be true, for it is surely a poor shipwrecked sailor who does not have a few queer beans in his plug-pocket and an ungrateful sailor who does not reward the beach-combing farmer who feeds and shelters him with a few beans "such as never before seen in these parts." The fact is, however, that the Lima bean did not first reach California in this smuggling way. It came in boldly through the pioneer seed trade, and John Cook of Santa Clara was awarded a prize at the California State Fair of 1856 for the best Lima beans. In early times, however, Limas were grown for green vegetables chiefly and the development of the dry product, which was first achieved in Santa Barbara county nearly fifty years ago, was a real discovery of great importance, for it led to the selection of new local varieties and to so great a product that for the last thirty years the Lima bean has regularly constituted about one-half of our total annual output of beans. It has also been the chief incentive to the development of unique culture methods and machinery which have been of great importance and influence in bean growing in other parts of the world. Besides this, the Lima bean growers have been making for a decade or more a sustained effort to realize a permanent marketing association.

CALIFORNIA GEOGRAPHY OF BEANS.

During the last sixty years comparatively few counties have largely made the California bean crop as it is known to commerce. Following are the six counties leading in this product named in the order of their relative prominence at each of the dates cited:

1856—Alameda, Santa Cruz, Monterey, Sonoma, Contra Costa, Santa Clara.

1866—Monterey, Santa Cruz, San Luis Obispo, Contra Costa, Alameda, Los Angeles.

1874—Sacramento, Los Angeles, Monterey, Santa Barbara, Yolo, Sutter.

1889—Ventura, Santa Barbara, Sacramento, San Luis Obispo, Monterey, San Joaquin.

1899—Ventura, Santa Barbara, Sacramento, San Luis Obispo, San Joaquin, Santa Cruz.

1910—Ventura, Santa Barbara, Orange, San Joaquin, San Luis Obispo, Sacramento.

During the great expansion of 1917 the crop has become great in many counties not previously doing much with it, and the relative importance of different varieties has probably changed also, but data along these lines are obviously not now available. All these facts, and others yet to be disclosed, belong to the future of a great California farm product of which we have endeavored to sketch only the beginning.

Fruit Interests Need More Abundant Labor

Written for the Pacific Rural Press

"If markets for California fruit this year had been like those of 1915, with the producing-costs of 1917, every fruit grower, with the possible exception of prune raisers, would have a red-ink balance," said F. B. McKevitt, president of the California Fruit Distributors, recently. "If there had been a big Eastern fruit crop and no abnormal demand as there was this year, California's big crop would not have netted an average of $10 per ton. The past two years have given more profit to the fruit grower than the average of the preceding ten years. The great advance in the price of labor has therefore not hurt fruit growers so much. But when normal times return and it is found practically impossible to reduce wages correspondingly, the industry will suffer. California is paying more for labor than other districts. In Missouri, the biggest crop of peaches ever raised, that of 1915, was harvested by white people from the country round about, satisfied with $1.25 for ten hours' work. They saved the whole crop without loss. But in California, now, enough labor is absolutely not available. If farmers paid wages high enough to take men from the other industries, it would only be a move in the cycle by which each industry would rob the rest of its labor only to be robbed in turn by offers of still higher wages. It is well known to growers in this State that they cannot depend upon migratory white labor, which is less than 50 per cent efficient and quits the sooner the higher wages it receives. It should be realized by labor unions that every rise in wages of food producers must raise the price of food. If there is to be any relief, it must come in the form of dependable, efficient labor imported from some place outside our own borders. This points to the importation of Chinese, Japanese or Filipinos. It is not likely that the exclusion act by which Chinese are kept out will ever be repealed. If it were, there would be complications with Japan if Japanese were not permitted the same privileges. Therefore, the only solution, at least for the present, is to bring enough from the Philippines to afford the necessary relief on the farms, releasing white men to engage in other occupations where they are so badly needed and where they can be profitably employed at much higher wages than the farmer ever can pay.

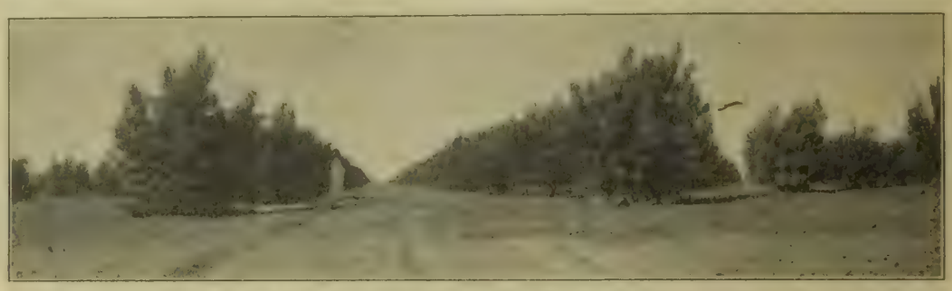
"I would have such importation of outsiders purely as a war measure, with some sort of a bond that the Filipinos would be returned to their country on the return of our soldiers, if the soldiers wish to farm. With that labor in California, now, I believe a thousand and one enterprises would be opened that would give returning soldiers occupation at better pay.

"But while the war lasts the labor situation is serious and there will be an awful chasm if several other drafts should occur for the army. Girls are now delivering telegrams here in Sacramento. Only the other day in Tulare county I saw some girls in overalls returning from the field where they had been working. That is repugnant to American ideals, but it will become common if the men are taken away and no outside labor is brought in.

"The future of the fruit business in California, as well as the many other industries subsidiary to it, absolutely depends on our ability to secure sufficient labor at lower prices than we are now paying. California is competing with the Middle West, where costs of production and marketing are much less. Their orchards are on land worth $10 to $50 per acre, their trees cost before the war about a third of what ours did, their labor costs are much lower and labor is available, they are 24 to 48 hours nearer markets than we are, and their costs for transportation are half of ours.

"Our fruit is perishable. There can be no fixed selling price by which the cost of production will certainly be returned to growers. If high cost of production could be recompensed by high selling prices, in normal times the demand would fall off, and then, unless the cost of production could be cut down, the industry would be doomed.

"Today, with the growing scarcity and higher prices of box lumber, the difficulty of getting cars which resulted this season in the loss of hundreds if not thousands of carloads of fruit, with the lack of motive power, uncertain markets, and a certain high cost of labor, growers of fruit for fresh shipment view the coming season with apprehension."



A symmetrical stand of peach trees in the San Joaquin, showing intelligent selection of stock, proper pruning, and good cultivation.

Held Desert Moisture All Summer

[Written for Pacific Rural Press.]

G. W. Wolfe had to haul water five miles to wash his dishes, yet on his acre of apple trees three years old he could find moist dirt at least three feet down after scraping off the surface six inches any time of the year. He had 320 acres of decomposed granite desert land fourteen miles southeast of Victorville in San Bernardino county. The fact that lack of capital drove him from the place four years ago has no bearing on how he saved moisture in the desert. He is going back to it now, though 74 years old. We met him at the Los Angeles tractor demonstration admiring the work of the nine-standard Killefer heavy engine chisel, which had just been pulled a foot deep by a 75-horsepower Caterpillar through the hard plowpan, which had never been plowed over three or four inches deep.

"I've been working California farm land 44 years," exclaimed he, "and this is the best way of working the ground I ever saw. It leaves the stubble on top and opens the ground deep down to let winter rains get out of reach of the sun. But it is no great advantage unless cultivated fine after every rain and at least every two weeks, to keep capillary pores broken. The ground (speaking particularly of his decomposed granite soil) should be stirred as it dries down every two inches. I made my own cultivator. Each tooth followed the one in front just far enough sidewise to cultivate every inch, and only the outside shovel would leave any trench. The shovels were curved to an arc with a 2½ foot diameter, but were flat across and facing squarely forward so dirt would slip off evenly from both sides."

Mr. Wolfe found that the soil heated only three or four inches down with the sun shining all day. It cooled off at nights enough to condense moisture presumably raised by capillarity, and here was the cause for the frequent cultivation he advocated. Very little moisture was lost from his cultivated land after the surface was dried and cultivated. Where tractors are used, Mr. Wolfe commended double disk cultivators, set so they leave the land unridged, which is difficult to do with single disk cultivators.

Oregon canners of pears have notified jobbers of Portland that they will be able to make only a 60 per cent delivery of one grade; a 40 per cent of another, and an 80 per cent delivery of the one-gallon size.

Poisoning Marauding Birds

To the Editor: Sparrows and linnets are eating our apples and grapes and in spring destroy many prune blossoms. Can they be poisoned? If so, how?—M. H., Santa Rosa.

Various ways of fighting English sparrows with traps, poison, etc., are given in "The English Sparrow as a Pest," Farmers' Bulletin 493, published by the United States Department of Agriculture, Washington, D. C. This bulletin says: "Wheat has proved to be a good bait as well as an excellent vehicle for administering the drug. A convenient method of preparing poisoned bait is as follows: Put one-eighth ounce of pulverized strychnine into three-fourths of a gill of hot water, add one and a half teaspoons of starch or wheat flour moistened with a few drops of cold water, and heat, stirring constantly till the mixture thickens. Pour the hot poisoned starch over one quart of wheat and stir until every kernel is coated. Small-kerneled wheat sold as poultry food, if reasonably clean, is preferable to first-quality grain, being cheaper and more easily eaten by the sparrows. A two-quart glass fruit jar is a good vessel to mix in, as it is easily shaken and allows the condition of the contents to be seen. If the coated wheat be spread thinly on a hard, flat surface, it will be dry enough for use in a short time. It should be dried thoroughly if it is to be put into jars and kept for future use. Dishes employed in preparing poison may be safely cleansed by washing.

"Other seeds, as oats, hemp, or canary seed, may be used instead of wheat in the above formula, but they are less economical because much of the poison is lost when they are hulled, though enough of it usually sticks to the mouths of the sparrows to produce fatal effects. As wheat has no hull that a sparrow can remove, it is ordinarily preferable to other seeds. Bread in thin slices spread with the strychnine-starch mixture may be used to advantage alternately with seeds."

GREEK CURRANTS IN SUTTER.

Three kinds of Greek currant vines about twenty years old are thriving on J. T. Onstott's ranch in Sutter county. The vines are very healthy and the fruit good, but too small to compete with Sultanas and Thompsons, which grow so freely there. White Zantes and Black Corinths are two of the varieties. They are processed the same as Sultanas.

It is expected that deciduous fruit shipments from California to Eastern markets will pass the 23,000-car mark before the season is closed.

Standardization as Applied to Oranges

[By G. H. Hecke, State Commissioner of Horticulture.]

In the passage of the fresh fruit standardization law the Legislature of 1917 performed a service for the citrus growers of California that, judging from a series of meetings just completed, is greatly appreciated and one that will be of inestimable value to the industry through the prevention of the sale of immature oranges. No oranges, under this law, can be offered for sale or shipment unless they contain eight parts of soluble solids to one part of acid, or unless they are substantially colored before being picked from the trees.

The enforcement of this law was placed in the hands of the county horticultural commissioners, who are designated as inspectors of fresh fruits. The State Horticultural Commissioner and his chief deputy are named as ex-officio inspectors in chief of fresh fruits, and as such their duties are outlined as follows: "Where there is a dispute or difference between the inspectors of fresh fruits of two or more counties, or where the interpretation of inspection standards between two or more counties differs materially, have the power and authority to settle the dispute between the inspectors of fresh fruit of such counties and to fix reasonable standards between such counties where they materially differ."

In order that uniformity in the enforcement of this law might be secured and that it might not become necessary for the ex-officio inspectors in chief of fresh fruits to be called upon to settle differences after the packing season has begun, a series of meetings were planned for Tulare, Fresno, Sacramento and Butte counties.

These particular counties were chosen because in them conditions are such that all growers cannot comply with the eight to one standard; that is to say, in certain sections fruit is fully colored and fit for shipment before it meets the eight to one test. Such sections, therefore, must rely upon substantial coloring to designate a degree of ripeness fit for shipment. Deputy State Horticultural Commissioner George P. Weldon conducted these meetings, as the standardization work of the State Horticultural Commission has been placed in his charge.

Based upon the definition of "substantial," which is given in the standard dictionary as follows: "In a substantial manner; as really, actually, solidly, in substance, essentially, materially," and considering the desire of the citrus growers to stop forever the sale of green oranges, substantially colored was defined as "practically fully colored." That is, an orange is considered to be substantially colored when the entire surface is yellow and there is a total absence of green except at the navel or the stem end, which frequently show more or less green color long after the rest of the surface is yellow and the orange thoroughly mature. In order that everyone may better understand what is meant by the definition of substantial coloring, the exact color, as nearly as is possible, of a substantially colored orange will be reproduced by color photography, and pictures will be furnished to all who may request them.

A desire on the part of the citrus growers and packers to cooperate in the enforcement of the law as it pertains to "substantial coloring" was expressed in meetings held at Porterville and Lindsay on November 5, Fairoaks on November 7, and Oroville on November 8.

The State Commissioner of Horticulture wishes to express his appreciation of the fair-minded way in which the citrus growers have treated this very important matter. In favoring a strict enforcement of the law as it relates to substantially colored oranges they have done much toward strengthening the position of the inspectors of fresh fruits.

PEACHES BORE EARLY.

Many peach orchards do not bear until they are seven years old because people prune off the ends of brush on the outside where the buds form, according to A. J. Christensen of Fresno county, whose seven-acre Muir orchard, planted since 1908, produced 15 tons dried in 1914, 9½ in 1915, and 13½ in 1916, while a good crop on the trees was frosted this year. Mr. Christensen got early bearing without sunburn by cutting out the centers and leaving a thick shell of brush around the hollow centers.

"The only way to get sunshine to the centers is through the centers from above," says he. "If you cut out the centers of old trees, they are likely to sunburn; but young trees will provide enough leafy shade to prevent sunburn.

Write for Catalog and Prices

We Are Headquarters For Fruit Bearing Trees

We have an exceptionally fine stock this year—trees are thrifty and well-rooted—grown under ideal conditions. Demand this season promises to be heavy. Get your orders in early.

Fresno Nursery Co.

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Santa Clara Valley Nursery Stock Is the Best You can Buy. Growing conditions here are ideal.

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Trees grown on new soil—thrifty, strongly rooted, free from disease—budded from orchards that have a known record for results. That's the kind of trees you get from this nursery—and there are no better trees grown anywhere.

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ELMER BROS. NURSERY

The Nursery That Helped To Make Santa Clara Valley Famous

76 S. Market St. SAN JOSE, CAL.

For Sale OLIVE and ALMOND ORCHARD

Two and a half miles from Orland on Government Irrigation Project.

On account of owner being drafted, he has for sale a 40-acre orchard, of which 20 acres are in Olives and 20 acres in Almonds, planted in Spring of 1915.

Trees are in first-class condition—no better in the country. There is also on the place a new, modern cottage, well with tank, tank-house, engine and pump and tool shed.

Will sell as a whole or each 20 acres separately. We invite inquiries and will quote prices and terms on application.

Address: Owner, R. R. No. 1, Box 158, Orland, Cal.

TREES

If you want the best trees in the West, buy stock grown in Placer County.

If you want the best trees grown in Placer County, write for price list to

UNITED FRUIT COMPANY, Newcastle, California

"Liberty Bond" Trees

We will accept Liberty Bonds as full or part payment for trees.

In buying a bond you have helped Uncle Sam. By exchanging Liberty Bonds for Silva-Bergtholdt trees you increase the return of your original investment. Silva-Bergtholdt trees in your orchard add to its productiveness and insure your future profits.

Good nursery stock is mighty scarce.

The visible supply is 50% of normal and the demand heavier than usual—that's why you will find it profitable to buy now.

Submit us a list of your wants for special prices. Do this now while our assortment is complete.

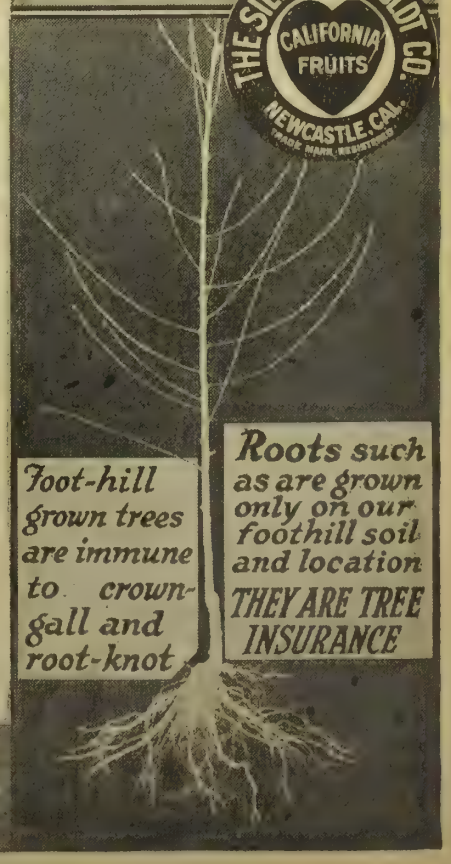
Our foot-hill trees are free from the root diseases common to other localities. Propagated from selected parentage—roots fibrous and well-branched—trees hardy and of toughened fibre—features that spell success in tree planting.

Write out your list. Mail it right now.

Send for your copy of our book—"California Fruits," written by a practical fruitgrower of many years' experience. Tells what to grow, where to grow it and how to grow it. And—it's *free*.

J. E. Bergtholdt Secretary and Manager.

THE SILVA-BERGTHOLDT CO. CALIFORNIA FRUITS NEWCASTLE, CAL.



SILVA-BERGTHOLDT CO.

NEWCASTLE - CALIFORNIA

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

PLACER COUNTY FRUIT ADVANTAGES.

Placer county's advantages for fruit growing are thus summed up by J. E. Bergtholdt, one of the most extensive growers. The climate is such that every variety of fruit is grown. This permits mixed carloads of several kinds of fruits, including cherries, apricots, plums, peaches, apples, pears, quinces, strawberries, and grapes. Small mid-western markets demand such. Two-thirds of the crop is, therefore, sold f. o. b. shipping point to small markets. This diversified fruit farming gives high prices every year from one or more kinds, and always one or more kinds has a good crop, so returns are always a good average. Enough fruit is grown close to shipping points to ship carloads of cherries, plums, peaches, or pears. Placer county is one of the earliest districts. Its soil and climate are such that the fruit has flavor and color that make it universally demanded. Olives, persimmons, and oranges also thrive.

CONVENIENT GRAPE TIE.

A convenience and safety device for holding grape trellis wires on stakes is the Beckwith grape tie. It consists simply of a flat, headless iron nail tapering to a blunt point. Near the wider end is a hole through which a short wire is inserted and fastened. The "nail" is driven into a stake at the proper height and the trellis wire laid on it. The short tie wire is passed around the stake and around the "nail" or through the hole. Even should the stake split or be too small to hold a staple, the tie wire around it will hold the trellis wire up. This grape tie is good also to hold canes against stakes, and the wires alone are better for fastening canes to trellises than are the strings so commonly used. They can be simply untwisted in pruning and used year after year.

GRAPE GROWERS' TROUBLES.

The wine output in the Clayton district, Contra Costa county, will be from 30 to 40 per cent less than normal. The shortage is reported to be largely due to the destructive work of vine hoppers. Grapes, where the little green hoppers are prevalent, do not have either the weight or the saccharine that they should. Some of the leading growers, however, think that the worst enemy of the grape industry is the labor problem. Help could not be obtained to spray the vines to get rid of the hoppers. There is a strong sentiment among the grape growers that the Government should admit Chinese labor to meet the serious conditions that exist at present. In fact, some of the growers assert that unless the Government will admit the Chinese laborers, they will have to abandon their vineyards.

LATE IRRIGATION OF CHERRIES HARMFUL.

A number of cherry orchards around Niles are blooming this fall. County Horticultural Inspector W. H. Tyson thinks this is due largely to the fact that the orchards were heavily irrigated after the trees became dormant. The irrigation with the warm weather has caused the trees to become active again, with the result that many of the buds have opened in full bloom. We agree with Mr. Tyson, although many cherries have bloomed out of season which were not irrigated at all. Cherries if irrigated at all should be given a good soaking as soon as the fruit is gathered. This postpones dormancy and largely prevents fall bloom by continuing normal growth.

SUBSOILING IMPROVED GRAPES.

It was "awful easy" to get the ground full of water in 1916 on the 160 acres of Muscats owned by M. Mathiesen in Fresno county, according to Foreman Hervey. But in 1917 it took lots more water and was much harder to fill up. The vines also have a finer growth than ever before; and a 300-ton crop was expected when seen by the writer last summer. The difference was due to subsoiling 15 to 18 inches deep last spring once through each eight-foot center. Grape roots popped a plenty and there were prophesies of failure which did not materialize. If the subsoiling were done in time to catch and hold winter rains on soils that are able to hold them, perhaps an irrigation would be saved.

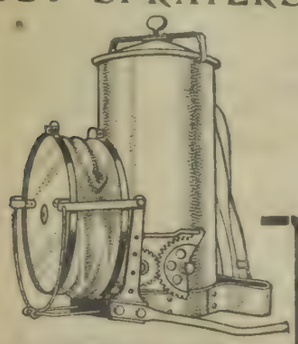
SAVES STRONG PEACH GROWTH.

In pruning peaches, cut off old weak growth first, if there is strong young growth near to take its place, says F. F. Ebert of San Diego county. Watch not to cut off too many fruit buds, if new growth is cut back, for many varieties do not bear fruit buds near the base of twigs. Leave enough sprouty wood to protect from sunburn all bark not otherwise protected.

GRAPE BARK SHELTERS PESTS.

Old bark on grapevines shelters disease and insects over winter. It may be that these troubles will cost more next season than to strip the bark and then spray. In San Joaquin county it has been found that five cents per vine pays the cost of stripping. Old bark is shed readily after Bordeaux spraying.

AMERICAN BEAUTY DUST SPRAYERS



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Apricot Trees Made Fruitful

[Written for Pacific Rural Press.]

Three years ago the Royal apricot trees on University Farm at Davis had always been pruned according to generally accepted practice, cutting back the new growth to six to ten inches, and had always made abundant tops, which had so shaded inside growth that the latter was all dead. Fruit had been scarce, too. So it was that Dr. W. L. Howard succeeded in saving a block of them from the pruning shears. Some of the tops were thinned out by cutting back to laterals and by cutting laterals back to their junctions with older wood, but not heading back any of the twigs or branches. It was believed that the trees would break down with fruit all out on the branches, and sure they would, had they not been thinned twice. At that, the crop was 100 per cent greater than on the trees alongside which had been pruned as usual.

WONDERFUL THING HAPPENED.

That crop was not the most striking result. Fruit wood grew in abundance during the same growing season as low as a foot from the ground, making an overcoat for the limbs and branches.

The second crop was 50 per cent greater than on surrounding trees pruned as usual. On the unpruned trees, fruit weighted the tops down beautifully without crowding, and exposed the insides of the trees so sunshine reached all of the fruit on those inside spurs. There were so many leaves on the spurs that there was no chance for sunburn.

WAS ALL FRUIT IN TOPS?

Figures for last season have not been cast up carefully, but it was a magnificent crop on the unpruned trees, estimated over 300 per cent greater than on the pruned trees. Were all the apricots in the tops? No. Four-fifths of them were picked from the ground. The branches that bent over to put their fruit in the hands of pickers gradually sprang back to normal position and the inside fruit also was handy.

Excessive waste wood growth has ceased. The fruit spurs are plentiful and strong. Only a few new ones have come each year since the overcoat of them grew the first year, and whether the great lead the unpruned trees have can be maintained, Dr. Howard is unwilling to phophesy. But one row will continue unpruned for a period of years to speak for itself.

THIN OUT OLD ALMOND TREES.

The idea that old almond trees do not need pruning is cheating many people out of proper returns from their orchards. A case in point is the block of about 160 trees nearly twenty-five years old which has been owned by W. E. Jones & Son of Riverside county for four years. Their first crop was 1,500 pounds. The biggest crop raised by the previous owner was 2,500 pounds. The Jones thinned out the weak overthick growth "an awful lot" the first year; enough so not only were the trees stimulated to make some new wood growth, but they made suckers which had to be taken out in the years following. Their 1915 crop was 2,900 pounds, and the 1916 crop 3,400 pounds. Over half of the trees are Ne Plus and the others are Nonpareils and IXLs.

TEST ORCHARD THERMOMETERS.

The citrus crop often depends on accuracy of thermometers which indicate when frost pots should be lighted. Dr. M. J. Sweeney of San Bernardino county is one who tests all seven of his, together, every fall before putting them out. They may be compared with a thermometer of known accuracy, or packed in chipped ice to see if they register correctly. If incorrect, allowance can usually be made with no serious error.

Orchard Trees

THERE is an ever increasing demand for dried fruit and nuts. The man who wants a safe investment that will bring good returns will plant Drake Seedling, Peerless, Nonpareil and Texas Prolific Almonds; Tragedy Prunes; Bartlett Pears; Purple Guigne and Black Cherries

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Prunes
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Our Trees Specially Grown and Carefully Selected

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This is an actual photograph taken from life of the new Selma Cling Peach.

THE SELMA CLING PEACH

The new mid season yellow Cling Peach—ripens just after Tuscan—keeps labor employed—ask the manager of your cannery about the advantages of having a peach ripen at that time—fruit of excellent flavor—fine grained—yellow to the pit, which is small.

Not an experiment—has been thoroughly tested and observed by us for several years—stock is limited. Write for prices and full information—satisfy yourself and get the early profits from an orchard of this profitable California variety.

Gower Nectarine

Earliest of the Nectarines—ripens with early Crawford peach. No fruit of this class has met with such favor as has this new early Nectarine. Ships like a clingstone peach, although a freestone. Free, strong grower—bears very heavily. A limited number of trees for customers ordering early.

More Nectarines should be planted. The demand for the fruit is rapidly increasing. Grows wherever the peach grows. Investigate profits by consulting the Nectarine growers, and if you are not already informed you will be much pleased to learn of the profits that are being made. Mr. Frank Vietor writes: "I have on my ranch 300 Nectarine trees twelve years old—this year my crop off these trees sold for $2,250.00."

This is Mr. Edwin Gower with a full bucket of luscious Nectarines which he has just picked from one of his own trees.

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Jottings from Field and Orchard

[Written for Pacific Rural Press.]

PRELIMINARY CROP REPORT FOR STATE.

The following is a preliminary estimate of crop production for the State of California, as compiled by the Bureau of Crop Estimates, U. S. Department of Agriculture, and dated November 8, 1917:

Product—	1917 Bushels	1916 Bushels
Corn	2,240,000	2,048,000
Wheat	6,534,000	5,600,000
Oats	6,650,000	6,500,000
Barley	35,206,000	33,320,000
Rice	5,125,000	3,263,000
Potatoes	15,100,000	10,575,000
Sweet potatoes	1,000,000	960,000
All hay, tons	4,627,000	4,615,000
Apples, bbl.	1,890,000	1,918,000
Peaches	10,192,000	8,808,000
Cotton, bales	50,000	43,620
Sugar beets, tons	1,660,000	1,463,000
Beans	7,500,000	4,175,000
Hops, lbs.	15,700,000	22,200,000

CONDITION OF FRUIT CROP.

Product—	1917	10-Year Average
Oranges	50	90
Lemons	61	90
Prunes	92	77
Almonds	80	73
Olives	60	83
Walnuts	85	82

PRICES.

The first price given below is the average on November 1 this year, and the second the average on November 1 last year:

Wheat—204 and 133 cents a bushel.
Corn—200 and 114 cents a bushel.
Oats—92 and 66 cents a bushel.
Potatoes—149 and 113 cents a bushel.
Hay—$17.50 and $12.40 per ton.
Eggs—50 and 46 cents a dozen.

RECLAIMED BLACK ALKALI.

A five-acre spot on A. B. Brooks' ranch in Kings county was nothing but a bare spot of black alkali in the center surrounded by alkali weeds. The first year he got ditch water he ran it over and off from this piece for a week. That season he got Indian corn all over it, but a pretty poor stand in the center. That fall he sowed barley on this and on an adjoining five acres which had not previously produced even alkali weeds. The barley grew three feet tall on the flooded and corn-cropped part; some of it sprouted on the unflooded five acres, but was eaten up by alkali. The barley was hogged down and the piece was pastured a season or two. In the spring of 1915, alfalfa was planted, but did not make a stand; so gyp corn was planted in May. This made a good stand over the whole piece, except a little spot where the water had not reached. The stalks were plowed under the following November, and barley was sowed, which would have made three tons of hay per acre in 1916. But it was hogged off and plowed in March, 1917. Barley sowed on the piece dried up, so it was again planted to corn the last week in May with irrigation. The corn made the finest stand he ever had, and promised a great crop when Mr. Brooks told us about it last July.

DATE CULTURE IN IMPERIAL VALLEY.

It is said that there are now 20,546 date trees of all kinds in the Imperial Valley. Of these, County Horticultural Commissioner F. W. Waite estimates that 4,500 trees are in bearing. A crop of a full-grown tree often weighs 350 pounds, but as there are a great many young palms it is safe to say the average yield of the bearing trees at this time is not over 100 pounds, which would make the yield 450,000 pounds and at 20c per pound makes the crop worth $90,000.

Among the commercial orchards in the Valley, A. L. Smythe of Brawley has the largest. He has thirty acres of imported off shoots, nearly all of which are bearing. F. C. Reed of El Centro has ten acres of imported Persian Gulf dates which are nearly all bearing. R. C. Williams, an associate of Mr. Reed, also has ten acres of Persian dates. He says he expects to net over $1,000 per acre from his trees in the next two years. Francis Heiny of Brawley, who has been propagating dates for almost fifteen years, has about fifteen acres in dates and some very fine ones. Other growers of dates on a commercial scale are Dr. G. A. Swan and James E. Brock of Heber, who have five acres each, and George Ballance of El Centro has eight acres.

KILLING BEAN WEEVILS.

To the Editor: How can we prepare beans to keep the bugs out? How long will they stay out? Can we use the beans for seed?—Mrs. J. G. S., Dinuba.

Leave the beans at least twenty-four hours in a covered airtight receptacle with a saucerful of carbon bisulphide set on top of them. An ounce of carbon bisulphide per 75 pounds of beans will kill the weevils by penetration. No more weevils will get into the dry beans, but if you do not kill them all, some will come out, leaving their dens wide open. Keep flame away from carbon bisulphide as you would from gasoline. Beans fumigated as above are good for seed.

GETTING READY FOR APHIS.

To the Editor: The aphis completely destroyed my garden last spring. How can I prevent it next spring? I want to be ready for them.—L. B. L., Suisun.

Spray thoroughly the under sides of leaves and growing tips when first aphis appear with four ounces of common soap dissolved in a little hot water, to which is then added three quarter ounce of Blackleaf 40 (nicotine sulphate, forty per cent strength). Boil a few minutes and then add enough water to make four gallons. Repeat the spray whenever careful inspection shows a few of the aphis alive.

SNOW POTATOES THRIVE HERE.

"Snow potatoes have been grown on the Coast ten or twelve years, and on comparison-plots in California are showing equal to any variety," says H. A. Hyde of Watsonville, who this season grew plots in thirty potato-growing sections, having planted thirty pounds of seed of each of six or eight varieties in each. He has snow potatoes in all sections.

MEASURING CRIB CORN.

It requires three cubic feet of crib room when flint corn is first stored, to make a bushel of shelled corn after it has cured all winter, as learned by C. B. Smith of San Joaquin county by experience.

FALL PLOWING FOR CORN.

"We have the best stand of corn in the community, because we prepared the ground well. None of the 60 acres has been replanted, though many of the neighbors have replanted several times," said F. S. Powell of Tulare county last summer. "Fall plowing and thorough working down in the spring with irrigation are the reasons."

The California Grape Protective Association has filed its initiative petitions to put the amended Rominger bill on the ballot in November, 1918, with the various county clerks throughout the State.

FROST DAMAGE PREVENTED

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to get in your dormant or winter spraying. If done properly—this will prevent the accumulation of certain insect and fungus enemies; will clean your trees and soften the bark; and will keep the trees in better health, vigor and fruitfulness. For this purpose there is nothing so effective as

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The Madera olive crop is expected to be about 40 per cent normal.

How to Overcome Blight of Grain Smut

Roy E. Miller Tells How Fresno is Preparing to Augment the Food Supply

FRESNO COUNTY is prepared to do more than its allotted share in the national movement to produce a million bushels of wheat the coming year, according to W. W. Mackie, U. S. grain expert, who has just completed a survey in Fresno and surrounding counties of the San Joaquin Valley. The acreage is to be multiplied over last year, and the greatest care is being taken to get good clean seed and proper seed beds. The acreage may jump from less than 5,000 to nearly 40,000, according to Mr. Mackie and Frank P. Murphy, assistant farm adviser. Uncertainty of rainfall makes it impossible to say just what the acreage will be, but the investigators are convinced it will exceed 20,000 acres as a minimum. Sowing is heavy this month and will continue through next month.

The food committee working for the Council of Defense last year found less than 4,000 acres of wheat, but large acreages of barley to be harvested. The national food control officials asked the farmers to increase the sowings 1,000 acres. This figure will be many times exceeded. One company is planting 12,000 acres in the lower reaches of the Kings River sloughs.

There is more planting in the fruit belt and on the West Side. The heaviest plantings are in the slough lands, in the belt across the county, as in the Tulare Lake region of Kings county. The semi-arid lands of the West Side are being broken in many sections. Summer fallow is being extensively planted to wheat, and some alfalfa fields in thin stand are being broken up and planted also.

PLAN PERMANENT FOOD GAIN.

Mr. Mackie's special mission among the growers of the State at this time is to promote smut eradication. There has been considerable loss in former years, much of it preventable. Not only is it a patriotic act to plant large acreages for next year's food, according to Mr. Mackie, but it is commendable foresight for all future farming in California and the nation to master the smut situation and fight this disease. A combination of methods devised by the Government men and farmers will to a large extent control the fungus.

Many fields have been showing a decreasing yield for a number of years. The farmer probably blames the lessening fertility or poorer physical condition of the soil. Very often, however, the falling off can be traced to the increasing spread of smut. There is nothing like the combined harvester to dust the spores over every part of the field, so the extent of infection increases year by year. The nature and growth of smut and the effect of the bluestone and lime water dipping, once fully understood, will lead to more effective control.

LEARNING WAYS OF SMUT.

The little smut ball contains millions of spores, enough in fact to infect a whole bushel of seed. The smut spores, liberated, attach themselves to the seeds and begin to grow and feed upon the grain and the young plant. The mycelia enter the crevices in the grain, a large part of which is cracked in threshing, and unless the plant is very vigorous it succumbs. Once the young shoot is out of the soil, it is safe from smut. Deep seeding in dry land and summer fallow and shallow seeding on irrigated land is advised.

Arid soils carry the smut spores longer than those of the humid regions. The tested treatment here is to dip the seed into a solution of 1 pound of bluestone to 4 gallons of water for two or three minutes, then drain thoroughly for half an hour, followed by dipping in a solution of 1 pound of unslaked stone lime (CaO) to 10 gallons of water for an equal time.

LIME BENEFIT MANIFOLD.

Bluestone has a caustic effect on the germ of the grain, and if the solution is too strong the grain is weakened. As a result many farmers are discouraged from using it. The lime dip neutralizes to some degree the bluestone dip, and coats the seeds as well as the smut balls with lime, forming practically a Bordeaux mixture more or less impervious to the spores and mycelia. Mr. Mackie found the germination of lime-dipped seed much higher. In one experiment the seeds dipped in bluestone gave only 30 per cent germination, while the seed dipped in both the bluestone and the lime gave 70 per cent.

The cost of seed is a big object with the farmer. If he can be positive the lime will keep up the vitality of the seed, he will use more of the preventives. Great interest was shown in Fresno county. Most of the planters made arrangements to dip. Formerly farmers mixed the water and the chemical until the water turned "sky blue." Mr. Mackie says the method is not one to be laughed at, but that proper measurements will give better results.

He approves of the work of the millers sending out U. S. bulletins on dipping in formaldehyde, but says California fields, owing to dryness, carry spores through one or two winters, rendering formaldehyde ineffectual.

Barley smut does not attack wheat. This makes it a good crop to use in rotation. To kill barley smut, 1 pound of bluestone to 5 gallons of water is used, followed by lime. Special emphasis is laid on careful cleaning of the seed. Clean seed dipping, and rotation, may practically eradicate disease. Farmers are advised to plant only 45 to 50 pounds of dipped seed per acre on dry lands. A 25-pound stand is sufficient there. Drilling is recommended to a depth of 2 to 3 inches and 1½ inches on irrigated land. Sonora wheat is giving best results in Central and Southern San Joaquin Valley.

A common sight in the great grain fields of the San Joaquin and Sacramento Valleys.

LIME QUADRUPLED ALFALFA YIELD.

[Written for Pacific Rural Press.]

Where alfalfa had been a good stand of spindly plants and the ground could be seen all over, the first year after three-quarters of an acre in the center was limed, the limed piece stood twice as tall as on adjacent manured land, and made four times the weight of feed, as estimated by Wellington H. Stewart, who carried out the experiment on his hill ranch in Humboldt county. There were only one and a half acres in all. It had been in stock beets previous to alfalfa. Half of it lengthwise was manured for the beets. It made a fine stand all over; but two years after seeding the unmanured half began to go bad. Still there were spots all over where it remained good. By advice of the farm adviser, he distributed as evenly as possible with a shovel about 1,200 pounds of air-slacked lime on the bad three-quarters acre in February. This was spring-toothed at once both ways, and several rains helped carry it into the ground. The first crop afterward was nearly knee high when cut and completely hid the ground, while on the manured but unlimed half it was easy to see the ground. Three seasons followed in which one could notice from across a ten-acre field the line between the limed and unlimed half, with the uneven edge where he had shoveled the lime farther than was intended

California FRUITS

AND HOW TO GROW THEM

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By Edward J. Wickson
Emeritus Professor of Horticulture, University of California.

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Hop Growing and Arsenic Contamination

[Written for Pacific Rural Press.]

While hop growing is practiced in a large way in the States of Oregon, Washington, and New York, California excels them all in adaptability of soil and climatic conditions favorable to the growth of this minor but unique product. This is shown in a striking way by a comparison of the yield, acre for acre, of the principal hop-producing countries of the world:

	Lbs.
California	1469
United States (average)	885
England	905
Germany	510

When California demonstrated the pre-eminence of its natural adaptability to hop culture, the hop field area was extended rapidly. Not until the curtailment of the market price, due mainly to adverse legislation, which became marked about three years ago, did the industry receive any noticeable setback. Since that time (say, 1914) there has been a steady decline in market values. Last year, while prices opened at twelve to fifteen cents, later in the season they fell to a range of five to eight cents, with the result that many of the discouraged growers plowed up their hop acreage and planted the land to other crops. This year, however, things have taken an unexpectedly hopeful turn again, owing to Federal legislation favorable to the brewing interests and to the shortage of the foreign crop, and at this writing prices for prime Sonoma county hops have gone up to thirty-four or thirty-five cents, with holders so confident of the future market that they are indifferent about selling at even this alluring figure.

ARSENIC CONTENT PREJUDICES FOREIGN BUYERS.

As the market value of hops, like other articles of export, is influenced largely by the extent of the foreign demand over and above the requirements for domestic use, the attitude of the prospective foreign purchaser is a factor in fixing values. One of the objections that have been made to exports of American hops, including Californian, is the high percentage of arsenic contained, which has resulted in some instances in the rejection of the shipment, entailing a heavy loss on the consignor and bringing discredit on the American product abroad. The limit of toleration set in England by the Royal Commission on Arsenical Poisoning is 0.01 grain of arsenic per pound of hops, or 1.4 parts per million.

Now the hop itself contains practically no arsenic—merely a trace—and sun-dried unsulphured hops are found practically free of this objectionable element, analyses revealing not more than 0.1 to 0.3 to 1,000,000. On the other hand, the arsenic content in kiln-dried sulphured hops was found to run from extremes of 0.2 to 26.0 parts in a million. The samples tested were grown in Oregon. It would appear, therefore, that the source of arsenical contamination is the sulphur used in the drying process, the percentage of debasement depending on the purity or impurity of the sulphur used, various samples analyzed ranging from ten to 450 parts of arsenic in a million parts of sulphur.

The conclusion to be drawn, therefore, from this statement is that care should be exercised in the quality of sulphur selected for hop-drying purposes, and that a minimum amount should be used.

The minute amounts of arsenic contained in beer derived from hops, even highly "contaminated," cannot be said to be prejudicial to public health, or great enough to induce a drug habit. Arsenic itself (arsenious acid) is used in medicine as a tonic, an alterative, etc., and where judiciously administered, with beneficial results only.

WHEAT ON PASTURED LAND.

The Farm Bureaus are boosting strong for the idle acreage in California to be planted to wheat. Thousands of acres are in pasture now because wheat yield per acre went too low, but it is believed that the pasturing and the absence of wheat for years have so improved the soil that it would be profitable as well as patriotic to seed them to wheat and preserve the winter moisture, as pointed out in our issue of September 29. This is opportune now, when livestock is depleted, so less pasture is needed.

WE HAVE RAISED MORE TO EAT BUT NOT TOO MUCH.

Record crops of corn, oats and potatoes are shown by the Government crop report of conditions in October. The total of five grains aggregates 5,710,000,000 bushels, or 2,000,000 bushels more than estimated in September. It is 1,007,000,000 bushels in excess of the final returns last year and 134,000,000 bushels less than the record of 1915. The corn crop, although cut down 37,000,000 bushels by frosts in September, aggregates 3,211,000,000 bushels, or 86,000,000 bushels in excess of the record yield of 1912. The oat crop of 1,581,000,000 bushels increased nearly 48,000,000 bushels last month. The increase over last year is 330,000,000 bushels and is 31,000,000 bushels larger than the big crop of 1915.

The spring wheat crop shows 243,000,000 bushels, a loss of 7,909,000 bushels last month, but 85,000,000 bushels over last year. This, with the winter wheat crop of 417,000,000 bushels as estimated in August, combined with the new figures on spring, make the total wheat crop 660,000,000 bushels, or 20,000,000 bushels more than harvested last year.

It suggests a necessity for a drastic reduction in consumption and conservation of supplies in general to enable the United States to feed itself and give the allies the supplies required. The crop with the stock carried over from the 1916 crop means less than 200,000,000 bushels available for export and carry-over at the end of the season, July 1, 1918.

The potato estimate of 453,000,000 bushels decreased almost 9,000,000 bushels last month, but exceeds the yield of 285,000,000 bushels last year and of any previous year. Kaffir corn is the largest crop ever raised, and almost double last year's.

The bean crop is also nearly double last year's, although showing a reduction from a month ago, due to frost, of 4,155,000 bushels. Sugar beets decreased 113,000 tons.

LARGER AND BETTER CROPS

With a great world food shortage and with the great war depending on the ability of this country to supply the allies, every acre of land should be made to produce its utmost. This can only be done by feeding the soil, i. e., increasing the available supply of the elements required by your crops.

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ALFALFA SEED

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It seems as though alfalfa seed would be very scarce before next spring.

We field selected quite a large stock of the genuine old Common or Chilean alfalfa seed of highest quality, which we are selling under the GREEN GOLD BRAND.

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Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

The barley crops around Tracy are reported to be light this year.

SWEET POTATOES FAIL.

[Rural World.]

To the Editor: Yellow and red sweet potatoes, set last of May, became established soon, grew luxuriantly; being dug in October, they gave no tubers at all. They were irrigated as often as they seemed to need. Soil rich, sandy loam, well cultivated until vines covered ground. They were planted almost on the level. The same field gave me a fine yield of Irish potatoes earlier. Please give reasons for failure.—D. S. T.

We can offer no certain reason. Who can? We would like to hear from any one with suggestions. You may have irrigated too often. Did you fertilize? Your crop may have started late, have been a late variety and not have had time to mature. You may have cultivated too deep, cutting off roots, which would have set tubers. There may have been a long drought some time which retarded the setting of the tubers. "California Vegetables," by E. J. Wickson, 525 Market street, San Francisco, is the most valuable book on growing vegetables in California yet published. It contains over 300 pages and is more than worth the price, $2.00.—C. L. S.

SHIPMENTS OF CELERY FROM CALIFORNIA.

[By R. G. Bisser, Assistant Truck Crop Specialist.]

Shipments of celery for the season 1916-17 were cut down materially in the northern portion of the State this season by repeated freezes. Over a large area, where actual records of production are available, the yield per acre was 79 crates in 1916-17 and 130 crates in 1915-16. The area in celery in California is as follows:

	1916-7	1917-8
Contra Costa county	1,602	2,075
Sacramento county	995	967
San Joaquin county	655	840
Los Angeles county	900	1,200
Orange county	150	200
Scattering counties	150	200
Total acreage	4,452	5,482

Included in the estimate of scattering counties are small areas in Alameda, Santa Clara, Santa Cruz, Yolo, Yuba, and San Diego counties.

WHEAT PLANTS BEAR TWO CROPS.

The second crop of wheat this year is being raised on the plants which bore the first crop, by Richard Diener of Marin county. It is one of his hybrid varieties, called the No. 1. Seed planted last February ripened heads in August. The heads were taken off, but the leaves did not die. Twenty of the straws from a stool were separated and planted in pots. Their new heads were four inches long in October. One of the old heads exhibited at the Land Show had about five kernels together. It contained 15 of these bunches up and down and thickly distributed around the head stem.

PRICE OF BEAN STRAW.

To the Editor: I see that in Southern California bean straw is selling for $13 per ton. I have quite a quantity on hand, but am unable to make either cattle or horses eat it.—Dairyman, Napa City, Cal.

They feed lima bean straw in Los Angeles to both cattle and horses, and it has a market value on the Los Angeles market of $12 to $13 per ton on track. Other bean straw is not fed, but can be sold on the Los Angeles market for fertilizing purposes at $8 to $10 per ton.

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New Book of Former Dean at University of California Out

The Californian enjoys the comforting knowledge about Professor E. J. Wickson that what the former dean of the University of California says horticulturally is as nearly right as can be. It saves the reader a whole lot of trouble. It removes the advisability of conferring with other authorities. Californians have come to understand "if it's Wickson, it's right," to be synonymous with the Eastern "if it's Bailey, it's right." The men are comparable at all points, but Wickson is specifically California's.

The newest edition of his volume, "California Vegetables," so revised from previous editions as to have the complexion and content of brand new work, has just made its appearance. It is composed in that same lightsome Wicksonesque spirit which has made his previous works readable whether one is horticulturally interested or not.

The most notable consideration about the revision of former editions is the bringing down to date of various market and production figures in which changes have been needed by war conditions. In this respect, this fourth edition is really a war book. What yield may be expected from California soils has been accessible in former editions and in numerous tables of statistics, but where these were to find sale and to what extent Professor Wickson has been able to present with succinctness most valuable to the commercial grower.

In this regard Professor Wickson has several observations to make on current vegetable gardening operations, especially with reference to the need for some stabilizing of the onion market. Regarding foreign competition, he conjures the native grower to give as much attention to cultural, climatic and seed conditions as he has to other sorts of agricultural work and promises him thereby a surcease from worries about competition.

But the volume, while devoting its major space to a consideration of vegetable gardening from the commercial standpoint, is replete with information for the domestic grower who likes a bit of this and that fresh upon his table instead of wilted or a root to pick here and there when the soup kettle is on the stove. It is to be said without fear of contradiction that no other source of information is so immediate and of so general value to the home gardener as this.

The arrangement of the volume is logical and handy. Professor Wickson devotes the first portion to climatic, seedage, cultural and irrigation questions, and has so arranged several of the chapters in this section as to make them applicable to every limited geographical division of the State. The latter half of the book is given to a detailed consideration of various vegetable crops from artichokes to turnips, as well as to vegetables for canning and drying, seed growing, garden protection and weeds.—R. H. D.

("The California Vegetables in Garden and Field," by Edward J. Wickson: San Francisco, the Pacific Rural Press, $2.) — Oakland Tribune.

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General Agricultural Review

Field Crops.

Loose alfalfa in the Manteca district is selling for $14 and $15 in the field.

J. W. Hill, near Ripon, received $4,125 for his crop of tepary beans from forty acres.

The first rain of the season in Tulare caused some damage to Egyptian corn and hay.

The sugar factory at Oxnard sliced its last beets last week and has closed for the season.

The last crop of alfalfa in the vicinity of Tracy brought $18 baled f. o. b. San Francisco.

Double cropping with Milo maize has been demonstrated to be a success in Yolo county.

It is reported that the barren hills back of Vallejo are to be fields of wheat and barley next spring.

The San Joaquin Sugar Company is launching a campaign for a greater beet acreage in Tulare county.

It is estimated that the total production of wheat in the Lovelock Valley, Nevada, will be about 80,000 sacks.

The harvest of beans on the lands of the Sutter Basin Company will bring the growers more than $2,000,000.

Wheat and flour may be imported from Australia free of duty, according to a recent ruling of the Treasury Department.

A steamer from Santa Barbara recently brought into the port of San Francisco 13,000 sacks of lima beans valued at $172,000.

F. A. Hathoway of Ripon raised a fair crop of beans on twenty acres after having taken off 53 tons of oat hay.

O. A. Knoop, Stents, Cal., irrigated and then planted thirteen pounds tepary beans and harvested 365 pounds with no more irrigation, on dry red soil.

The Mexican Government has purchased 3,000,000 bushels of corn in the New York Market; 200,000 bushels must be delivered every 20 days.

Trade in rice has practically stopped owing to the report that the Food Administration is to take it under its wing and regulate the supply.

Probably one-half of the $12,000,000 bean crop of the Sacramento Valley will be cleaned, stored and marketed through Sacramento this year.

The Southern California Sugar Company of Santa Ana closed its season last week after a run of nearly three months and handling between 55,000 to 60,000 tons of sugar beets.

In a paper on "Improving Rice Seed," issued by the University of California College of Agriculture, it is stated that the planting of impure seed is spreading many pests, the most injurious being water-grass, red rice, and rogue rices. The University urges the planting of the best and purest rice seed.

William E. Webster of Santa Ana, field manager of the Associated Sugar Beet Growers of Southern California, a co-operative association of 373 members, says it expects to have a sugar factory of its own next year. It will buy a second-hand factory and move its machinery to some point in Orange county.

A Government order was received last week by the A. & H. Levy Co. of Oxnard for 100,000 pounds of small white beans and 75,000 pounds of limas. The price fixed by the Government was 11c for the small whites and 11½c for limas. These prices are said to be 2c a pound less than the Levy company paid the grower for them.

The bean harvest has sufficiently far advanced as to get a fair idea of the bean crop of Southern California. R. L. Churchill, manager of the California Lima Bean Growers' Association, estimates the lima bean crop at 1,552,000 80-pound bags. This is about 20 per cent short of a normal crop. Blackeyes are put at 20 per cent short and tepary 50 per cent short. Of pinks there is a normal crop.

Deciduous Fruits and Nuts.

Sonoma county received the highest honors on its apples at the California Land Show.

It is rumored that the Government has fixed a price on dried apples. It is about 12 cents.

An olive compressing plant at Lindsay will handle about 500 tons of olives this season.

Spokane is preparing to stage the tenth National Apple Show in that city, November 19 to 24, inclusive.

The California Peach Growers, Inc., has just completed payment of 7 per cent as the first dividend to stockholders.

The Sebastopol Gravenstein Apple Show Association has decided to disincorporate. It has not paid expenses.

The report from Lebanon, Oregon, is that 70,000 pounds of prunes were sold there last week at 9¼@9¾ cents per pound net to growers.

Grass Valley will ship more Bartlett pears this fall than at any season of its history. Over 120 carloads have been shipped out of Colfax.

E. T. Reynolds & Son of Chico have sold 2600 boxes of prunes to the Government for $10,075. They will be shipped to New York.

Because of the shook shortage, the car shortage, and the eight-to-one test, Central California will be late in the holiday market with its citrus fruits.

Bartlett pear shipments to Eastern markets from Nevada county during the season just closed totaled 34,946 boxes, netting the growers over $50,000.

Thousands of acres of land hitherto considered of value only for grain purposes are now being planted to almonds in the Oakdale Irrigation District, Stanislaus county.

Walnut growers affiliated with the California Walnut Growers' Association have authorized the association through its board of directors to arrange for the employment of a field man to do expert work in connection with the English walnut culture for a term of five to ten years. The work is to be done in connection with the staff at the Citrus Experiment Station at Riverside.

Citrus and Semi-Tropical.

Five carloads of oranges grown at Exeter will be shipped to Australia.

It is thought the orange crop in the Oroville district will be approximately 25 per cent of normal.

Latest crop reports indicate citrus fruit shortage will be greater than predicted at any time since the June heat wave.

Yolo county's olive crop is reported at 75 per cent of normal this year. It is also announced that the new crop of California olives will bring at least 25 per cent higher than present prices.

In Woodlake many of the groves of orange fruit is rapidly coloring and showing up in pleasing style. While only a 75 per cent crop is anticipated, numerous prophets declare that it will go better in a great number of the older orchards.

The result of the discussions in the citrus sections of the State last week to determine the meaning of the phrase "substantially colored" was that solidly colored fruit was meant. State officials declare that an orange which shows any trace of green is not substantially colored within the meaning of the law and therefore cannot be legally shipped.

Grapes.

The season's grape movement is said to be the heaviest on record.

A. B. Humphrey shipped thirty-five carloads of Lady Finger grapes to New York this season from his ranch near Escalon.

Currant grape vines first planted on the Government's experimental vineyard have been tried out on a commercial basis and the results are reported to be more than satisfactory.

Because of the lack of refrigerator cars, thousands of crates of Tokay grapes which had been packed for Eastern shipment were uncrated and dumped into open flat cars for shipment to the wineries at Lodi.

Miscellaneous.

Fruit pickers' exemption is opposed by the National Food Administration.

A system of warehouses will be erected to store Sacramento Valley's great cereal crops.

Joe Daly, in the Mound section, Ventura county, has sold his ninety-five-acre bean ranch for $76,000.

The board of directors of the Sacramento County Farm Bureau opposes the exemption of tractor operators from the military draft.

Produce dealers generally support the Federal licensing system to eliminate speculation, and in conference with the food officials agree to organization of their industry so as to deliver their goods to consumer by the shortest trade route.

State purchases of cereals and cereal products are exempted from the provisions of the agreement between the Federal food administration and the millers which precludes the making of contracts for a period beyond thirty days.

According to a recent announcement, every woman worker in California is to receive an increase in pay except those employed in the dried fruit, raisin and citrus industries. Those in the fruit industries are said to be well paid now.

It is announced from Santa Ana that the sugar companies will offer beet growers such prices for next year's crop that will encourage increased acreage. They will also furnish seed at 12c per pound, though it is costing the companies 20c per pound.

Frank Shipley, a local broker of Santa Paula, has sold the United States Government a car of lima beans to be shipped to Camp Lewis, Washington. Price not given, but as he has been contracting limas lately at $13.65 it is safe to say that they brought 14c or over.

A Federal Immigration Department order issued last week authorized the Mexican laborers that were brought in to harvest the beet crop of Orange and Los Angeles counties to move to the Imperial Valley to help pick the cotton crop. The crop is said to be the largest ever raised and 5,000 laborers are needed to harvest it.

C. A. McBrian of Ripon reports that many farmers in that district have used gypsum as a fertilizer for alfalfa with good results. Mr. McBrian used a little more than 16 pounds to the acre on his field, but this proved to be too much. He thinks 10 to 12 pounds to the acre would be ample.

The beet season in the Visalia district has closed. The output was 51,000 bags of sugar, against 80,000 bags last year. This falling off is said to be due to the small sugar content of the beets when sliced. Plans are now being worked out for a larger acreage of beets next year.

Thos. Bosley, a Serrano Indian on the Morong Reservation, near Banning, brought to the Los Angeles Chamber of Commerce exhibit room recently a cantaloupe that weighed 48 pounds. He says his entire crop was of extraordinary size. He calls his cantaloupes the Pondorosa cantaloupes.

J. T. Coate, a grower of long staple cotton in the Yuma Valley, was in Brawley recently. He says the Pima or long staple cotton should be more profitable in the Imperial Valley than either the short staple or Durango. Last year his Pima cotton brought 48c per pound in Yuma and he raised a bale to the acre.

S. B. McNear, vice-president and general manager of the Sperry Flour Co., has been appointed divisional chairman of the U. S. Food Administration Milling Division by Herbert Hoover. This new division, No. 9, known as the Southern Pacific Milling Division, comprises the States of California, Nevada, and Arizona.

The San Joaquin County Farm Bureau has called a meeting of all the bean farmers of San Joaquin county to consider the justice or injustice of the accusation that the farmers are holding the bean crop for an exorbitant price. The meeting will be held in the court house at Stockton, November 17, at 2 p. m.

At a meeting in Los Angeles last week of the County Council of Defense, Dr. H. J. Webber of the University of California addressed it on the subject of farm bureaus and their importance and value. Following his address preliminary steps were taken looking to the forming of a farm bureau for Los Angeles county.

Ranchers in the Olive-West section in Orange county are becoming apprehensive about the flood waters of the Santa Ana river and are organizing for a more definite work in the case of floods. A great deal of work in the way of concrete walls has been done and piles have been put in along the Santa Ana river west of Orange.

The Food Administration Grain Corporation will exempt from its 30-day storage limitation lots of grain found to be good for use as seed. Such lots may be kept for bona fide seed purposes until the end of the next seeding season. The seed so held may be sold at not to exceed 15 per cent over the selling price of No. 1 wheat at the elevator where it is stored.

The American Beet Sugar Company are placing in the hands of growers in the Oxnard district contracts to sign for next year that will guarantee $7 per ton for beets testing 15 per cent sugar, which is an advance of about $1 per ton. The factory will pay for each ton of beets $7 for each ton of beets testing 15 per cent of sugar, the average net price it receives for the sugar. For each additional per cent of sugar content the factory will pay the same proportion additional for each added per cent of sugar over fifteen.

To help relieve the threatened shortage of qualified farm help, the University of California is going to train men who have had no ranch experience so that they can become capable milkers, teamsters, irrigators and all-around farm workers. This teaching will be given at the University of California Farm at Davis, Yolo county. There will be no charge for teaching, board or lodging. Application blanks may be obtained by applying to Professor R. L. Adams, State Farm Labor Agent, University of California, Berkeley.

Cattlemen and Slaughterers, Attention!

[By J. P. Iverson, Executive Officer Cattle Protection Board.]

It is of particular interest to cattlemen to know that the law provides that no cattle shall be branded with a brand not recorded with the Cattle Protection Board.

There seems to be a mistaken impression in some sections that recording is optional with the cattle owners, but Section 4 of the act is very definite in its language. It is also believed by some that recording with the county recorder is sufficient, but this is erroneous.

This last Legislature passed a law which required that to perpetuate marks and brands it was necessary to record them in the several counties after advertising notices in the papers. This resulted in an apparent conflict of the statutes and the question was submitted to the Attorney General, who advises that all cattle brands must be recorded with this board or they cannot be given proper recognition (except purebred cattle entitled to registration).

It is particularly urgent for cattlemen, who wish to continue using their brand, to make early application with this board for recordation, as priority of application may have considerable bearing on the board in granting permits for the use of different brands and unless so recorded their use is illegal.

The fee for registering a brand is $2. Slaughtering fees are as follows: Less than 10 head per month, $1; over 10 and less than 50 head per month, $10; and over 50 head per month, $25 per year. All fees are payable annually in advance.

Cattlemen desiring forms for recording cattle brands, or forms for application for slaughtering license and copies of the law, can address the Cattle Protection Board, Sacramento, Cal.

Second Thousand

Answered Questions

in California Agriculture

A Sequel to "One Thousand Questions in California Agriculture Answered."

By Edward J. Wickson
Editor Pacific Rural Press

First Edition—1916

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FEDERATION OF CO-OPERATIVE MARKETING ASSOCIATIONS.

[Written for Pacific Rural Press.]

A hundred million dollars per year more to California farmers and producers than they are now receiving is the prophecy of State Market Director Weinstock, if people of the United States increase their consumption of California products two cents per capita per week, and if the middlemen do not get a large part or all of the increase. To accomplish such an increase and to secure it for the producers was the object of a meeting in the Market Director's office, October 22, of representatives of fifteen of the cooperative agricultural associations of California. The increase is to be gained not wholly in the United States, but also by organization of a joint foreign sales agency to introduce and sell our products in all possible foreign countries. Joint employment of year-around Eastern sales agencies and demonstration departments to interest and help American retailers to handle California farm products more extensively, arrangement of legal, transportation, financial, labor, and other problems are among the activities proposed for the "California Federation of Farmers' Co-operative Marketing Associations."

TAKE A CALIFORNIA EXHIBIT EAST.

"California people could do great credit to themselves by getting up collective exhibits of livestock for the big Eastern shows," said Bob Hill at the California Swine Breeders' meeting recently. It takes big jobs to keep up interest in Associations. What more worthy of the temper of that splendid gathering than to benefit every member by collecting a select exhibit and collectively hiring competent men to take it to the proper Eastern shows. Get all the advertising value out of it by featuring the names of exhibitors, getting newspaper notices of the California exhibit, with little reminders of what California has done in 1916 and 1917 Eastern shows. Experience has proved that such projects cannot be creditably done in a week or a month; and it is none too soon to be laying plans. Projects long worked on are subject to much revision and improvement.

Rice paddy needs 12 per cent of tankage to balance it for young pigs and 6½ to 8 per cent to balance it for older hogs, both with alfalfa pasture, according to Haden Smith of Woodland.

California
GARDEN-FLOWERS
SHRUBS, TREES AND VINES

Being Mainly Suggestions for Working Amateurs

By Edward J. Wickson
Hon. President California State Floral Society

First Edition—1915

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This book aims to tell the beginner in California, whether he be a scholar struggling with his school-garden, or a suburbanite gazing vacantly on his residence lot, or the farm-home maker, who is puzzled to translate his experience with teams, plows and pasture fields into trowels, pruning-shears and lawns, just what to do to make garden-soils, grow plants and surround his abode with beauty under the peculiar climatic conditions of California.

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TRACTOR COURSE A "WHALER."

[Written for Pacific Rural Press.]

Tractor short course students for the term of November 5 to 15 filled University Farm and the town of Davis to overflowing. There were twice as many as last year and two-thirds more than the total of all the six-weeks short course students whose studies closed just before the tractor course opened. Among those who wanted to know about tractors were representatives from thirty-five counties, from Humboldt and Siskiyou on the north to Imperial and San Diego on the south. Mexico and Peru were also represented. Here were learned the inside workings of machines as they could not be shown at the best tractor demonstration.

As Dean H. E. Van Norman told the students, Prof. J. B. Davidson, head of the Agricultural Engineering Department, with his staff of instructors, aimed to give them a clear understanding of the principles and the why. Then each man can make his own rules to fit the occasion, for one set rule cannot fit all occasions. Principles and practice went hand in hand, with models of practically all the standard makes of accessories to illustrate with, and tractors of nearly a dozen makes to handle.

Some of the students had silvered hair; some of them will be too young to draft for a few years. Probably 35 per cent had never run tractors, but most of the 35 per cent understood a great deal about engines.

LECTURES PRECEDED PRACTICE.

From 8 a. m. to 5 p. m. six days of the week the students were busy. Each morning and afternoon opened with a lecture on fundamentals telling the most up-to-date points about the parts of tractors. Prof. Davidson gave many of these lectures; outside service men and engineers gave others. Two hours or more were spent after each lecture by the students doing the things that tractor drivers have to do. They were divided into eight groups, working on different lines each period the first week, and revolving so each group did all the various kinds of work. In the second week the groups worked the tractors one by one, pumping the tractor service men in charge of them till the service men could have spit cotton many times. In the first week's work there would have been enough separate sets of tools for each student, had there not been such a flood of them. They doubled up cheerfully, however.

The writer's work included testing horsepower and fuel consumption of a gas engine, valve grinding and bearings adjustment, carbureter adjustment on various tractors, with adjustment of clutches and differentials, making babbitt bearings and fitting them, welding iron and steel in the forge shop, where were over thirty forges, soldering, and figuring drawbar horsepower of several tractors plowing at various speeds.

EXPERIENCED MEN TOOK SHORT COURSE.

A day at the tractor short course last year revealed to the writer personally how colossally ignorant one may be when he thinks he knows something. Nor was he alone. One student who had been running engines nineteen years said on the second day of the course that he was picking up pointers right along. There were plenty of others who had been driving tractors for years. All were enthusiastic about the short course.

Next year, if such an abundance of students is anticipated, the course will be repeated two weeks later. Such an awakening interest in tractor knowledge and practice emphasizes the wide realization that in times of high-priced stock feed and labor shortage the steel horse gets the work done, at the right time, with the least labor.

POWER-LIFT PLOWS WORK FINE.

[Written for Pacific Rural Press.]

The scarcity of labor is causing a demand among tractor farmers for plows which can be operated by the tractor driver. Plow manufacturers are catering to this demand, as evidenced by the great number of power-lift plows shown at the San Jose tractor demonstration. It used to take two men to run a tractor and a gang plow, but one man does it easily after some skill is acquired. One driver in particular at San Jose and another at the University Farm tractor school would run their machines without stopping and execute a curve that would bring the plows to the proper point in line with the furrow and let them into the ground with no awkwardness at all.

FOUR-FOOT LAND LEVELER FOR TRACTOR.

[Written for Pacific Rural Press.]

The five sizes of power land levelers heretofore made by the Schmeiser Manufacturing Co. of Davis have had to be supplemented this season by an additional size, the baby of the lot. They have been all the way from six feet to twelve feet wide, but a southern dealer handling Cleveland tractors asked for one four feet wide, which has been delivered, and others are being built. Some of the eight-foot levelers are raised and lowered by compressed air. All over eight feet are operated the same way, and the method gives satisfaction.

ADVERTISED GOODS ARE THE BEST TO BUY.

The manufacturer who is willing to invest large sums of money in advertising, to establish his product, must be confident that he is offering full value to the buying public. If his goods do not have merit he is almost sure to lose his investment, because it is the repeat orders from satisfied customers that spell profits to him.

ADVERTISING AN ARTICLE DOES NOT MAKE IT COST THE CONSUMER MORE.

On the contrary, advertising by increasing the volume of business generally cuts down both manufacturing and selling costs. During the recent period of rapidly advancing prices, it has been extensively advertised goods that generally have been advanced last and least. Patronize the advertisers of the Pacific Rural Press, and when writing them say where you saw their ad.

American Centrifugal Pump
With Combination Elbow and Check Valve
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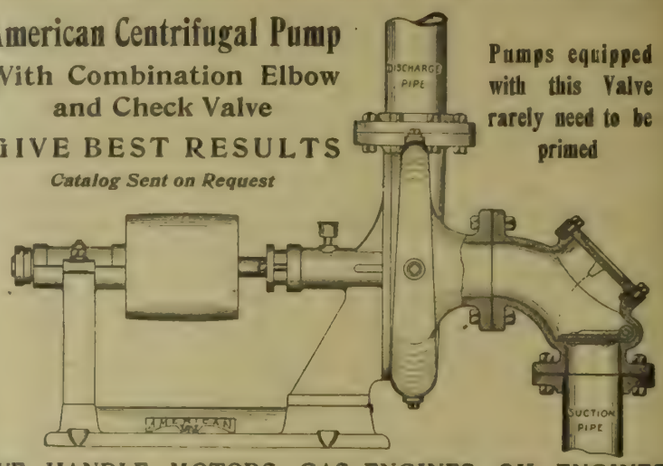

Pumps equipped with this Valve rarely need to be primed

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TRACTOR INCREASED PRUNE CROP.

[Written for Pacific Rural Press.]

The crop from about seventy-five acres of old prunes, including 3,000 non-bearing replants, was 72 tons dried for A. W. Johnson of Santa Clara county. But there was a distinct line marking off about thirty-five acres of this orchard which bore only half a ton per acre. The whole orchard was treated the same, except in one operation, though the poor-bearing part is a trifle lower. The poor part previously had been the better, when the whole orchard was plowed by horses; but last spring the part which bore so outstandingly better was plowed by tractor an average of eight inches deep and in many places a foot deep, tearing roots and plowsole alarmingly. The rest was plowed with horses as usual. There was a noticeably greater amount of moisture in the tractor-plowed soil late in summer (there was no irrigation) than in the rest, the crop was three times greater, and the trees look better now than ever before at this season.

ORCHARD SUBSOILING FAVORED.

Subsoiling orchards is becoming more and more popular. O. N. Featherston of Santa Clara county is one who recently finished subsoiling twenty acres of prunes, almonds, and walnuts with a Knapp single-standard subsoiler and a tractor with 12 horsepower on the drawbar. He went through each center twice, cutting 16 inches deep six or eight feet each direction from the tree rows. Not over three times did he have to stop for tree roots. It has been found that where roots about the size of a pencil are cut off they act like small branches in the top of a tree—they send out three or four new feeders and get the benefit of the extra water and aeration of the soil. Where the soil is reasonably heavy, opening it deep with a subsoiler in the fall stores an abundance of winter moisture deep where it does not evaporate so readily.

TWO MOWERS ON TRACTOR.

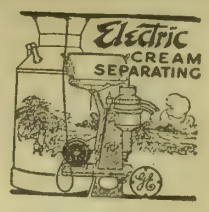
[Written for Pacific Rural Press.]

Not every man can mow twenty-five acres of alfalfa per day; but this is the practice of H. L. Clark of Fallon, Nev. He fixed a six-foot mower under the rear of a Moline tractor frame and hitched a five-foot mower behind that.

HITCHING TRACTOR TO SUBSOILER.

[Written for Pacific Rural Press.]

In running a subsoiler with a tractor some operators hitch so high that the wheels of the subsoiler press hard on the ground. This is a great waste of power, according to H. G. Knapp of San Jose, who points out that the hitch should be just low enough so that a man could stop the wheels of the subsoiler with his hands while the subsoiler is going ahead.



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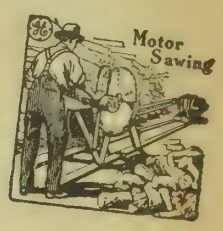

Just a glance at these illustrations will show you a few adaptations of

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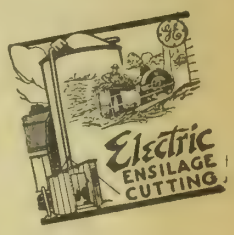

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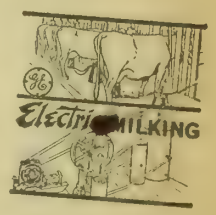

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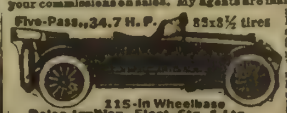

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BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

A Notable Holstein Consignment Sale

The Quality Sale to be held at Sacramento, December 5th, will be an important event in Holstein history in California. It will offer a great opportunity to secure a foundation herd of high producing females and a bull fit to head such a herd. The 80 animals offered were selected by a committee of three expert breeders from the herds of fifteen of the foremost breeders of the State. Every animal over 6 months of age will be tuberculin tested and guaranteed to be a breeder.

The Bridgford Company of Knightsen, whose consignments have been topping the recent Holstein sales, have entered 10 head, including Miss Korndyke Mercedes, grand champion cow at the 1917 State Fair, and Miss Pontiac of Springvale, who has a record of 30 pounds as a five-year-old. Both of these are heavy in calf to sons of King Segis Pontiac Alcartra, the $50,000 bull. Their consignment also includes two daughters of this great bull, one from a 31.35-pound dam and one whose first seven dams average over 31 pounds in seven days, also a high-class show bull born January 11, 1917, whose dam is a 31.70-pound five-year-old capable of increasing her record, and whose sire, Spring Farm King, is a 34-pound son of King of the Pontiacs and a full brother to the first 44-pound cow, K. P. Pontiac Lass.

From the great herd of A. W. Morris & Sons Corporation 14 head were chosen, including two of the best daughters of Prince Gelsche Walker, in calf to Sir Aaggie De Kol Acme and King Morco Alcartra; three daughters of Segis Pontiac De Kol Burke and three daughters of King Mead, in calf to Sir Aaggie De Kol Acme and Prince Gelsche Walker, also a fine white bull by King Mead of Riverside and out of a 33-pound dam with a yearly record of 1,003 pounds butter and whose full sister, now in test, promises to make better than 1,000 pounds.

The Palo Alto Stock Farm's consignment of 10 head includes Jennie Terzool Hicks, her two-year-old daughter, Alta Jennie, and her nine-months-old son by Rag Apple Imperial Korndyke. Jennie Terzool made in seven days 32.7 pounds butter, 600 pounds milk testing 4.3 per cent. This is the highest record of any cow in this sale. She is a fine individual and her daughter and son are living proof of her power to transmit her great qualities. She was bred May 22 to King Segis Pontiac Korndyke, and M. H. Tichenor, manager of the herd, says he will pay $1,000 for her calf, either bull or heifer, at weaning time. The consignment also includes Springdale Ononisvale, another big producer, with a record of 31.71 pounds; her daughter, and a young bull, Finderne Soldene Pontiac Valdessa, born February 23, 1917, sired by King Valdessa and out of Finderne Soldene Hengerveld, whose record of 35.33 pounds in seven days is the world record for a heifer with first calf.

Fred W. Kiesel will consign three heifers, two of which have records of 20 pounds, and King Korndyke Pontiac, one of his herd bulls.

Other consignors to the sale are Gotshall & Magruder, Toyon Farm Association, Alex. Whaley, W. J. Higdon, R. F. Guerin, D. J. Weldon, McAlister & Son, Santa Anita Rancho, Rosamond Farm, and Frank Hatch.

We will publish further particulars next week.

MILK WITH BARLEY FEED.

John Bernstein of Hanford keeps cows in connection with his registered Poland-Chinas. For the hogs he puts rolled barley to soak when he starts chores in the morning and at night, letting it soak three hours only. He says the hogs seem to like it better than if soaked twelve hours as many people do. Before feeding he adds fresh separator skim milk. Some shorts are given to sows with pigs. Enough grain is given to keep all animals in a certain good growing condition and not let them get gaunt in the flank. If they get too fat they do not exercise enough, especially for breeding stock; and if pigs get too fat they do not make so big a frame, thinks Mr. Bernstein. The pigs are put onto alfalfa pasture in April and rotated over the field until frost, after which they get alfalfa hay all winter.

THE MORRIS CONSIGNMENT

HOLSTEIN BREEDERS'

Guaranty Sale

Sacramento, Dec. 5, 1917

Fourteen of the Best We Own

Two of the choicest daughters of PRINCE GELSCHE WALKER in calf to SIR AAGGIE DE KOL ACME and KING MORCO ALCARTRA, whose dams are both world record cows. One of these is full sister to a 23-pound junior two-year-old that made almost 95 pounds in 30 days. They are sisters to a 36-pound junior three-year-old and a 34-pound junior four-year-old.

Three excellent daughters of KING MEAD OF RIVERSIDE in calf to SIR AAGGIE DE KOL ACME and PRINCE GELSCHE WALKER. They are sisters to AAGGIE ACME OF RIVERSIDE 2D that has just completed the world's strictly official record of 1,331.64 pounds butter in one year and 2,424.74 pounds in two years.

Three outstanding daughters of SEGIS PONTIAC DE KOL BURKE in calf to SIR AAGGIE DE KOL ACME and PRINCE GELSCHE WALKER. Their half sister, ARALIA DE KOL PONTIAC MEAD, is just finishing a record of 930 pounds butter as a two-year-old, the record for the Pacific Coast and sixth highest of the breed.

A beautiful three-year-old daughter of Aralia King out of a 32.76-pound junior four-year-old who has six 30-pound sisters. Due to calve about sale time to KING MEAD OF RIVERSIDE.

A 27-pound four-year-old that has four 30-pound sisters, heavy in calf to PRINCE GELSCHE WALKER.

A splendid daughter of ARALIA DE KOL PONTIAC SEGIS out of a 25-pound four-year-old daughter of a 28-pound cow, bred to KING MEAD OF RIVERSIDE.

TOP NOTCH HERD SIRE. A beautiful white bull by that outstanding sire, KING MEAD OF RIVERSIDE and out of a 33-pound dam with a yearly record of 1,003 pounds butter. A full sister to this youngster now in yearly test promises better than 1,000 pounds.

Every animal in this offering has been carefully selected. They are the kind we would greatly prefer to keep, the very families that we are striving to develop, and no matter what they bring their sale will mean a distinct loss to our herd. It is the first time that daughters of King Mead of Riverside and Segis Pontiac De Kol Burke have been offered for sale and they will be harder to buy in the future.

A. W. Morris & Sons Corporation Woodland, Cal.

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To make dairying pay under conditions prevailing at present and which will continue to prevail, we must breed up our dairy cows by the introduction of blood of proven production.

My premier sire, DUTCHLAND SIR PIETERTJE CREAMELLE, comes from producing and high testing ancestry and transmits these qualities to his offspring.

OF HIS 12 DAUGHTERS IN MILK and put on test 10 HAVE MADE AT 2 YRS. OR YOUNGER, RECORDS AVERAGING OVER 20 POUNDS. ONE MADE 28 POUNDS AS A 3-YR.-OLD and the other, KORNDYKE ORMSBY CREAMELLE, IS NOW ON TEST AND GOING A 31-POUND GAIT AS A 3-YEAR-OLD. ALL TEST WELL OVER 4 PER CENT.

Offering for sale at very reasonable prices a few bulls ready for service, sired by Sir Dutchland and out of A. R. O. dams. Also some fine youngsters out of his daughters, sired by King Korndyke Sadie Vale and Sir Pietertje Beets Segis.

THEY WILL BRING UP THE PRODUCTION OF YOUR HERD.

Write or call and see them.

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Have a few lumps of salt lying near where you hang the harness to keep away rats and mice.

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California Breeders' Sales and Pedigree Co.

C. L. HUGHES, Sales Mgr., SACRAMENTO, CAL.

In and Around the Dairy

[Written for Pacific Rural Press.]

SMALL BREEDERS CAN MAKE RECORDS.

If a man studies the Holstein breed, he can get cows or heifers related to high producers and at very reasonable prices. If he feeds and takes care of them right, he stands a good chance to develop record animals. One breeder at the State Fair Holstein meeting pointed out that world record Holsteins had come from a surprising variety of families. He claimed to know at least ten herds personally which had started modestly and made their owners over $100,000. That records and reputations depend much on the man as well as the animal was pointedly expressed by one breeder in saying that the King of the Pontiacs would have been submerged, in the hands of himself; while there was no doubt many animals at the State Fair destined to be unknown in the future which would become famous if they were in the hands of the developer of King of the Pontiacs. On the same line, others have noted that many rich men deprive the breed of some of its best animals by failing to develop their potentialities.

WISHES HE HAD STARTED WITH PUREBREDS.

When R. F. Guerin started in purebred Holsteins his neighbor, L. B. King, started with about twenty-three grades, near Visalia. Mr. King believed that purebreds were better, but, like many church members, his belief was not vivid enough to induce appropriate action. Now the Kings admit that Mr. Guerin is making lots of good money and has a herd worth far more than theirs. They saw the difference quite awhile ago and bought four registered heifers and a bull from Mr. Guerin. Since then they have bought other registered bulls and saved their heifer calves; so they now have fourteen head, six or eight of which are milking along with about twenty-two grades of good breeding. As Mr. King, Jr., expects to leave the farm, only the purebreds will be kept, increasing the herd only by their heifers.

BEEF BULL ON DAIRY COWS.

To the Editor: I have a mixed herd of dairy cattle—Jerseys, Holsteins and Durhams—but would like to work into heavier stock. Can you tell me if the introduction of a white-faced Hereford bull will produce the result I am after?—O. R. P., Healdsburg.

The Hereford bull will increase the size and meat production of descendants of your dairy cows, but will reduce their milk production. If you want beef, why not sell your dairy cows and buy some of beef breeds. If you want dual purpose cattle, the milking Shorthorns advertised in our columns are the best.

BUTTERFAT 160 POUNDS.

Twenty per cent of the cows in some cow testing associations fall below 125 pounds butterfat per year, and 160 pounds is about the average for the State, according to Prof. E. C. Voorhies, who has supervision of the associations. As the cow testing associations are composed of the most progressive men and presumably the best breeders, what is the wasting capacity of cows in other herds?

COW PAYS FOR SELF IN ONE MONTH.

A grade Jersey has been paying for herself every month in Arlington Smith's new dairy at Visalia. She runs on cornstalks and alfalfa. She is giving eight gallons per day of milk which sells at 40 cents per gallon straight. This makes her product worth $96 per month.

"A THIRTY-POUND BULL."

"What is a thirty-pound bull?" "One whose dam and whose sire's dam has made a record of over 30 pounds butter in seven days," answered F. A. Heroux of Oakland, the question following his statement that he had recently sold a thirty-pound bull calf to Wm. Outland of Modesto. The calf was born last December. His sire's dam made 31.32 and his own dam made 30.29.

SMALL BREEDERS NEED MARKETS.

Unless big California purebred livestock breeders work for an outlet for surplus stock raised by small breeders, there will be a dearth of new breeders working into purebred livestock and a consequently restricted future market for all, said Frank Brown of Carlton, Ore., at the State Fair banquet of the California Shorthorn Breeders' Association. The Beef Breeders' Association in the Northwestern States has provided markets for those of their members whose surplus is less than carload lots by installing semi-annual sales, which have become very popular and highly successful. At the spring sale alone, 100 to 150 high-class purebred animals are sold every year. The number is getting so high that an additional sale of the same kind is instituted this fall at Lewiston, Idaho, November 13, to relieve the one at Portland, November 22. Buyers also are benefited, because they can buy carlots without miscellaneous travel, and thus save carfare, time and freight on stock.

Supreme Holstein Quality

JENNIE TERZOOL HICKS 4th

32.07 pounds butter 7 days.

975 pounds butter 10 months.

Average test, 4.3%.

PALO TERZOOL KORNDYKE.

A son of Jennie Terzool Hicks 4th, sired by Ragapple Imperial Korndyke.

ALTA JENNIE.

A daughter of Jennie Terzool, bred to King Pontiac Segis Korndyke, a 30-pound son of King Segis De Kol Korndyke.

THIS GREAT FAMILY approaches very close to the ideal for which Holstein breeders are striving—size and constitution, combined with show quality, proven capacity for both short time and long distance record production, and prepotency in transmitting these qualities to the offspring.

The above photos of JENNIE TERZOOL and her son and daughter by two different sires show conclusively how she transmitted her type. To prove our own complete confidence in her prepotency, we are offering to the breeder who buys her $1000 for the calf she now carries by KING SEGIS PONTIAC KORNDYKE. All three will be consigned to the

QUALITY HOLSTEIN SALE

Desiring to help make this sale an unqualified success, we gave the committee of selection the utmost freedom to choose from our great herd. Their next choice is

A 35 Pound Bull Fit to Head Any Herd

FINDERNE SOLDENE PONTIAC VALDESSA, by the great sire, King Valdessa, and whose dam, Finderne Soldene Hengerveld, holds the world's record of 35.33 pounds in 7 days at first calving.

Our consignment also includes SPRINGDALE ONONISVALE, a 31-pound cow, her daughter bred to King Segis Pontiac, and a splendid young cow who is a promising prospect for 30 pounds or better.

Every individual in our consignment represents supreme Holstein quality, the result of careful selection and breeding along best blood lines and backed by great production.

SET YOUR OWN PRICE ON THEM AT SACRAMENTO, DECEMBER 5th

You are cordially invited to visit Palo Alto Stock Farm and inspect our herd.

PALO ALTO STOCK FARM

M. H. TICHENOR, Manager PALO ALTO, CAL.

Swinemen Ask That Barley Govern Prices

[Written for Pacific Rural Press.]

The Federal Food Administration has been asked by the California Swine Breeders' Association to use the price of barley in determining the price of pork produced in California, according to R. P. Royce, secretary of the association, who announced today that a resolution embodying the views of the breeders had been forwarded to Washington. This resolution follows:

"Whereas, recent press reports indicate that the Food Administrator, in an effort to stimulate pork production, contemplates establishing a ratio between the price of hogs and the price of corn, the California Swine Breeders' Association desires to direct the attention of the Food Administrator to that status of pork production in California and to offer certain suggestions. California is not producing sufficient pork to supply home demand, and annually imports $30,000,000 worth of pork and pork products. At present the swine industry of the State is not increasing, but rather it is decreasing. The shortage of all kinds of hogs is marked. Not only were 1917 spring litters below normal, but due to the high price of grain swine raisers are marketing their brood sows, and unless this practice is stopped the decrease in 1918 spring litters will be at least 20 per cent below normal. This sacrifice of breeding stock has been brought about because of the high price of grain, and a lack of courage on the part of breeders and feeders to put high-priced grain into hogs until they are assured that they will receive a profit on their feeding operations.

"We would therefore urge that the first step necessary to increase the supply of hogs should be along the line of stabilizing hog prices on such a basis that the producer will be assured a profit. This we regard as fundamental.

"This association notes with satisfaction and approval the recommendations submitted at the recent convention of hog growers held at Waterloo, Iowa, in which it was proposed that the Food Administrator, through an appointed commission of experienced men, should ascertain the cost of production of hogs (the production cost to cover the grain and other feeds consumed, labor, interest, shelter, and particularly the risk from disease and death), and those costs to be measured in bushels of corn.

"This association would urge that the consideration given the corn belt hog growers be extended to California producers, and that, in view of the fact that barley is the most important hog feed in this State, and that, pound for pound, barley is not the equal of corn in hog feeding operations, that in arriving at the proper ratio between feed and pork at least eight centals of barley be figured the equivalent of one hundred pounds of live hog, and that either the price of barley or hogs be established on such a basis as will place the California hog grower on an equal footing with hog producers of the Middle West.

"This association further urges that in the event a commission to determine the cost of production is appointed that at least one representative hog grower be named on said commission."

Feed and Care of Prize-Winning Cows

[Written for Pacific Rural Press by Iver Iverson, Arcata.]

Answering your questions regarding the herd with which I won the Pacific Rural Press prize for best monthly production by five grade cows in a herd headed by a registered bull: My herd is mostly grade Jerseys and Guernseys, headed by a registered Guernsey bull. My opinion of getting the best result out of a cow is to start when she is dry. I keep my cows tied up in the barn nights during the stormy months and also in the daytime, according to the weather. They are fed two pounds of grain and 50 pounds of beets, and hay, while dry, and are curried twice a week.

All my cows come with calf from the middle of March to the 1st of April. During that time I feed them clover pasture and green vetches in the barn twice a day and four pounds of grain for about four to five months. The "grain" consisted of beet pulp and coconut meal. During August, when I got your prize, I fed them green peas, five pounds of grain, consisting of bran, coconut meal, cottonseed meal, and pasture. From September 1st I have been feeding green corn stalks, 80 to 100 pounds of carrots and six pounds of grain a day per cow. From now on (when the corn is gone) I will feed from 140 to 150 pounds of carrots, six pounds of grain and 10 pounds of hay per cow. I do not change the ration of the feed while testing.

AN ALLURING FUTURE FOR THE SWINE INDUSTRY.

Gifford Pinchot, member of the Hoover Food Conservation Cabinet, says the hog situation is alarming, because we must have quick meat, and we must depend upon the hog growers to furnish it. The decrease in pork production will reach 20 per cent by January 1, while it should be 15 per cent above normal in order to meet the demands of the war, so this makes the total shortage 35 per cent. Pork products are the main things upon which men fight. They can be prepared so that they will keep in any climate, they are easily prepared for food, and they supply the nutriment necessary to the men at the front. Furthermore, Mr. Hoover warns farmers that after the war is over the price of grain will take a tremendous drop, because over 400,000,000 bushels of wheat now tied up in Australia and India will be dumped on the market. But the price of pork cannot drop because there is no reserve stock to be released. Instead, there is not enough pork to supply present demands, and when Germany, who has always been our biggest buyer for pork, is in the market again, the shortage will be greater than ever.

PRINCE ALCARTRA KORNDYKE

We are offering for sale a number of young bulls—some ready for service—sired by Prince Alcartra Korndyke and out of dams with records up to 30 pounds in seven days and over 500 pounds in a year. We have priced these extremely low in order to move them quickly and make room for the coming crop of young calves. Order one of them now and have the advantage of the larger records that their dams are sure to make at next freshening.

The first daughters of Prince Alcartra Korndyke are now finishing their yearly test and will average well over 650 pounds butter under ordinary herd conditions and stand well up in the list for the Association prizes.

J. S. GIBSON COMPANY

BOX 97 WILLIAMS, CALIFORNIA

Jerseys for Net Profits

You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull. Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 388 West 23rd Street, New York City

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,
GERTIE OF GLYNLLYN.
Visitors welcome. Correspondence solicited.
A. A. JENKINS, R.D. 1, Tulare, Cal.

PEDIGREED BULL CALVES
With or without registration papers. Service Bulls from cows with yearly records. Jersey females. Prices right. Tuberculin tested.
N. H. LOCKE CO., Lockeford, Cal.

VENADERA HERD
REGISTERED JERSEYS
Young bulls from dams and grandames in Register of Merit.
GUY H. MILLER, Modesto, Cal.

ACME HERD JERSEYS
Quality counts.
Stock for sale.
CHAS. M. McLOUTH, Orland, Cal.

YOUNG BULL CALVES
Fine individuals, with Register of Merit backing.
T. B. PURVINE, Petaluma.

LEONARD FARM JERSEYS
Bulls for sale from Register of Merit cows. Write for information.
W. J. HACKETT, Ceres, Cal.

FOR SALE
One of the leading Shire Stallions of the West
DESFORD BANKER
Three Imported Shire Mares all in foal.
Two Stallion Foals and one Filly Foal.
SALVADOR STOCK FARM NAPA, CAL.

Make Prosperity Permanent
Start now to build up a herd of money making, mortgage-lifting, purebred
HOLSTEINS
A Holstein Herd is a paying, profitable investment. Purebred Holsteins give the largest yields of milk and butterfat of any breed. They are persistent producers, vigorous and hardy.
Write for free information.
THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA, Box 230, Brattleboro, Vt.

Booklet, "The Home Cow Doctor," free.

Percheron and Belgian Stallions Imported and American Bred

Pion 121249

First Prize 2-year-old and Reserve Champion, California State Fair, Sacramento, 1917.

Offering a few 2-year-olds and upwards, with heavy bone and high quality, that weigh a ton or more. If you are looking for the best come and see them or write for particulars.

EVERY STALLION GUARANTEED AS REPRESENTED

Prices and Terms Reasonable

N. W. THOMPSON

PATTERSON, CAL.

"Good to the Last Drop"

Raise Your Calves on

Blatchford's Calf Meal

and Sell the Milk

More calves have been raised on Blatchford's Calf Meal than on all other milk substitutes combined.

100 lbs. makes 100 gallons of milk substitute, costing only one-third as much as milk. Prevents scouring and insures the early maturity of sleek, handsome calves. It is steam-cooked and no trouble to prepare or use.

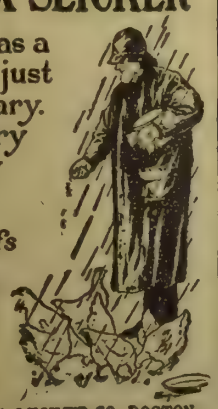
Write for Pamphlet "How to Raise Calves Cheaply and Successfully with Little or No Milk." At dealers, or Blatchford Calf Meal Factory, Dept. 117 Waukegan, Ill.

TOWER'S FISH BRAND

REFLEX SLICKER

Practical as a plow, and just as necessary. Make every rainy day count.

Waterproofs Absolute are Marked thus—



TOWER'S FISH BRAND A.J. TOWER CO. BOSTON

TAMWORTHS

(The Bacon Hog)
Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM.
W. O. Pearson, Prop. Woodland, Cal.

CITRONS AND BEETS FOR HOGS.

[Written for Pacific Rural Press.]

"It will be worth hundreds of dollars," says Will Bernstein of Kings county, "to tell breeders not to feed citrons (pie-melons) to brood sows carrying pigs. It has been proved repeatedly that citron-fed sows farrow more dead pigs," says Mr. Bernstein, who has had seven out of eight farrowed dead from this cause. He has turned eight sows into a citron field, and all of them farrowed dead pigs. A neighbor once raised only five pigs from 70 farrowed, dead and alive, the sows having broken into a pie-melon field.

Beets are wonderful producers and will pay any man for the raising, thinks Mr. Bernstein, who has two acres of them. At first the pigs are encouraged to eat beets by chopping them with a post-hole digger and sprinkling them with salt and shorts. This is not strictly necessary and is not done when other greens are scarce.

TIGHT, MOVABLE PIG HOUSES.

[Written for Pacific Rural Press.]

Cheap, convenient, comfortable, movable pig sheds and pens were seen last winter on the ranch of R. C. Richey in San Diego county. The sheds were seven feet square, the floors being tight, of 1 x 12's nailed to four 2 x 3's. The front side was four feet high and the back three feet. The roof was of two-ply roofing paper. Guard rails had been put into all but one at first, and they were put into that one after the sow had laid on three pigs. The pens were made of panels, each consisting of five 1 x 3's fourteen feet long. These could be hooked together or taken apart and moved in a minute.

PUREBRED DAIRY FROM ONE COW.

[Written for Pacific Rural Press.]

The call of the purebred took L. D. Smith from the practice of law and led him to buy a registered Guernsey bull calf and a bred cow ten years ago to add to the grade dairy in the hills back of Berkeley. Practically all of L. D.'s present herd of thirty registered Guernseys, part of which were shown at the fall fairs, are descendants of the original cow. Two of them are her daughter's twins, which were carried while their dam was making a semi-official record of 500 pounds butter-fat. The twins cut her record short by arriving seventeen days before the year test was completed.

HIGHLY VALUED COLT.

[Written for Pacific Rural Press.]

James McCord's grand champion Shire stallion Tule Patch (Snowball) at the Kings county fair is one of the rare gray or white Shires. He was sired by Dan Patch, international grand champion. Mr. McCord's champion Shire mare Goodacre Model is a black raised by himself. She foaled in October, having been bred to Tule Patch. She also is sired by an international grand champion. Mr. McCord said he wouldn't take $500 for the prospects of the colt, with the buyer taking all chances for the last month before it dropped.

CALIFORNIA HOG BOOK

"Worth Twice The Money"

The California Hog Book, by W. S. Guilford, issued by the Rural Press nearly two years ago, is winning its way among the swine breeders of the Coast. Here is what one buyer thinks of it:

He Changed His Mind

On July 4th he wrote us that he had heard of the book and to send him a copy to his address, C. O. D., at Los Angeles. On July 11th he wrote us:

"I am in receipt of a package with charges of $2.03. If this is the book I wrote about, it is too expensive for me. I have not opened it. The package is at your disposal."

Later, on the same day, he writes:

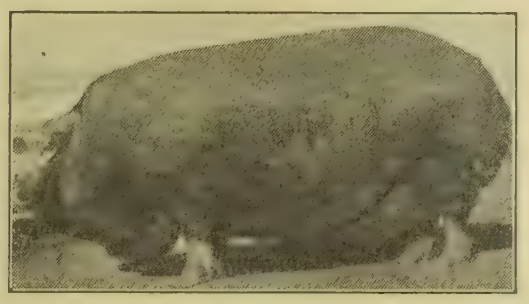
"Wrote you this morning, offered to return Guilford's book on hogs. Began reading it, wouldn't part with it now for twice the money. Many thanks.—M. McC."

California Hog Book, Price $2.00 Postpaid

Pacific Rural Press, Publisher

525 MARKET STREET SAN FRANCISCO

Bassett's Poland Chinas



Grand Champion Sow, P. P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year — uniform in size, high in quality, quickly and economically matured and finished.

$30 UP.

FAIR DEALING, UNIFORM EXCELLENCE, SATISFIED CUSTOMERS, BEST PORK PRODUCERS, RESULT FROM YEARS OF SELECTIVE BREEDING.

M. BASSETT Hanford, Cal.

Grand Champion Herd of Hampshires

COMPEER'S DESCENT 2d
One of Our 60 Matured Brood Sows.

BOARS
Big Husky Boars for November trade.

Write to

F. V. Gordon or F. A. Langdon
Llano Vista Ranch, Perris, Cal.

Champion Ram P. P. I. E.

SAN RAMON SHROPSHIRES

WINNINGS P. P. I. E., 1915

Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.

Purebred Registered Rams and Ewes.
Individuals or Carload Lots.

BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

SHORTHORNS BERKSHIRES

HOPLAND STOCK FARM

HOPLAND, CAL.

Registered bulls—yearlings and two-year-olds—bred on same lines as Grand Champion Cow at Sacramento, 1917.

Boars and gilts by Iowana Rival Majestic, a son of Rivals Champion.

Prices Reasonable—On Application.

SAN FRANCISCO OFFICE - 226 SOUTHERN PACIFIC BLDG.

Hauser's Digester Tankage

GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.

Hauser Packing Co. Los Angeles

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

Beef Cattle.

Leslie Smith & Son, St. Cloud, Minn., sold at Chicago, November 2, 59 head of Shorthorns at an average price of $1,090.

A sale of Herefords, held at Williamsburg, Iowa, October 19, by Hanson Bros., brought an average of $300 for eighty head.

It is announced that 1,000 head of Hereford beef steers from Arizona will be shipped into Tulare county and fattened for the market.

A notable Hereford sale was held at Memphis, Tenn., November 1 and 2, when W. J. Davis & Son of Vernon, Miss., sold 120 head of purebreds for an average of $901. The South is evidently awake to the purebred beef industry.

One hundred and sixty head of cattle were taken to the ranch of the Porterville Alfalfa Farms Company in the Tipton district, making about 300 head of beef cattle which the company has recently added to their holdings of livestock.

The proposition to fence in the lands around Carson Lake and to set them aside as a community pasture for the settlers of the Truckee-Carson Irrigated Project, is one that meets with favor. There are between 15,000 and 20,000 acres of this land that is now a free range.

Korndyke Ormsby Creamelle, a three-year-old Holstein heifer, owned by F. Stenzel of San Lorenzo, and by his herd sire, Sir Dutchland Pietertje Creamelle, is on test this week and promises to make around 31 pounds. Another of Sir Dutchland's daughters has a record of 28 pounds as a three-year-old.

That purebred beef cattle are in great demand by breeders was demonstrated at Chicago, November 1, when 80 head of imported Shorthorns were sold by Carpenter & Ross of Mansfield, Ohio, for an average of $1,185 per head. Sixty-four females averaged $1,210 and seventeen bulls a little over $1,000 each. The highest price for a cow was $3,000 and for a bull $3,250.

On a recent trip to the Central West R. M. Dunlap purchased for the Stanford ranch at Vina fifteen head of young bulls, also thirty-five head of young bulls for the Parrott ranch near Chico and thirty head of young bulls for James Snell of the Clark ranch at Bartle. This stock all came from the Shorthorn ranch of John R. Thompson, Dover, Kansas, and were delivered to the new owners last week.

A grand champion at the Pacific International Livestock Show, held at Portland this month, is the object of University Farm in sending there the steer that is being fed by A. McDonald under direction of Prof. G. H. True for another grand championship at the Chicago International in 1918. Three other steers, including a likely purebred Angus, will be sent to Portland. Eleven fat Hampshire, Shropshire and Southdown wethers are also being sent to Portland with high hopes. All these steers and sheep were bred and raised at University Farm.

At six sales of purebred Shorthorns, held in Iowa two weeks ago, a total of 258 head of bulls, cows and calves were sold for good prices. At the Carrier & Sons, Newton, Iowa, sale twenty-four head averaged $320; H. D. Parsons, Newton, Iowa, sold forty head for an average of $350; Rhynas & Wells, Stockport, Iowa, averaged $329 for sixty head; C. L. McClellan, Lowden, Iowa, sold forty-three head for an average of $500; A. C. Lanham, Sheldon, Iowa, secured an average of $448 for forty-three head; F. T. Pemberton, Iowa Falls, sold forty-eight head that averaged $246.

Sheep.

Sheep raisers near Dixon have netted top prices for their sheep this year.

Dogs, allowed to run loose at night, recently killed forty sheep outright and badly wounded as many more on ranches near Dixon.

Observation has shown that it is the underbrush where most of the forest fires have their origin. There is no way that this underbrush can be kept down except through goats and goats thrive nowhere so well as where they have plenty of brush.

The Western Meat Company is fattening about 30,000 head of sheep at the San Joaquin Valley Sugar Company's yards near Visalia.

Sheep shearers in New Zealand are to receive from $6.70 to $7.30 and board per 100 sheep this year, as compared with $5.45 for 1916.

The El Chivar Ranch, having the largest herd of purebred Toggenberg goats in the West, has traded its property in Redlands for a splendid property near Salinas. It is planned to install a cheese factory and make a special brand of goat cheese. The Howlands are developing a strain of Toggenbergs that will be known as the American Toggenberg.

The Dairy.

Many silos have been built in the Laton district during the past year.

Dairymen of Orange county have advanced the price of milk to 7c a pint and 13c a quart.

Coral Sequel, the first prize senior yearling Guernsey, owned by Hidden Valley Farm, has just freshened and will be put on test.

W. J. Higdon of Tulare recently made a valuable addition of nine head of purebred Holsteins to his already fine herd of stock.

George Kounias recently purchased seventy acres adjoining his registered stock farm near Modesto. His farm is equipped with a new, up-to-date concrete dairy barn.

According to an official report, there are in New Zealand 164 butter and 392 cheese factories and 19 private dairies making butter and 22 making cheese, as compared with 702 all told for 1916.

H. C. Nielson, who operates the Stockton Cheese Factory, will start a cheese factory at Hamilton City.

Luther Thompson recently purchased Lady Mary Hengerveld, a two-year-old daughter of Mercysir Pondyke, from Gotshall & Magruder.

Experts believe the organization of cow-testing associations to be the greatest factor in the upbuilding of the dairy industry. It is claimed there are now nearly 350 cow-testing associations in the United States, 135 having been added during the past year.

William Campbell, Escalon, recently purchased Prince Gelsche Walker 11th to head his herd of purebred Holsteins, which has already made a splendid name for itself. The bull's six nearest dams held records of 30 pounds of butterfat in thirty days.

Last month the Carruthers Farms shipped to the Thos. Dibblee Estate at Santa Barbara the roan bull, Hallwood Flash, and six Scotch Shorthorn cows. This makes seventeen head of Scotch females now owned by the Dibblee Estate, all furnished by Mr. Carruthers.

At the request of the U. S. Food Administrator, the Elgin (Ill.) Butter Board will be closed for the duration of the war. For many years the quotations established for creamery butter at Elgin were the basis on which creameries generally sold their butter and purchased their butterfat.

Harlo J. Fisk, formerly manager of the Pabst Stock Farm at Oconomowoc, Wis., has recently concluded the purchase of 100 head of purebred Holsteins for the Federal Government. The cattle are for the Prisoners' Vocational School at Fort Leavenworth, Kans., of which Mr. Fisk is now superintendent and principal instructor. The stock ranged in price from $275 to $1,000.

A prominent Holstein breeder vouches for the truth of this: A scrub bull broke into his herd and bred one of his registered cows. The result was a heifer calf that gives annually less than 5,000 pounds of milk, while two other daughters of this cow, one born before and the other after the event mentioned, and sired by registered bulls with production breeding, give over 20,000 pounds each, and yet some dairymen deliberately use scrub bulls.

Some great long distance records are being made on the Palo Alto Stock Farm. Roxie Pauline Burke Hengerveld has made 775 pounds fat in nine months. She shows remarkable persistency in production, having made 20.43 pounds per week in her ninth month after calving. Nannette Acme Pauline has made 552 pounds fat in 180 days. She made 32.20 pounds butter the first week after calving. May Wa Wa De Kol Burke has made 715 pounds fat in 333 days. Tichenor's Dainty Lass, a Guernsey cow, has made 613 pounds fat in 280 days.

Representatives of the State Dairymen's Association are gathering data on the dairy conditions in Fresno county. It is reported an effort will be made to establish a branch of this organization in Monterey, San Benito and San Luis Obispo counties.

The Food Administration urges the repair of dairy milk cans by straightening and retinning. Investigation has shown that these cans can be renewed at from one-fourth to one-third of the cost of new cans. Governmental restrictions upon the use of tin-plate may make it impossible to obtain sufficient new cans to fill the demand unless dairymen keep in repair those in use at the present time.

Dudley M. Dorman, who is the representative of the dairy industry war council of the Food Administration for Southern California, says the milk situation in Los Angeles is in better condition than in the large cities in the East. He is just back from Washington, where he attended a meeting of the advisory board of the dairy industry war council. Mr. Dorman says that milk in such cities as Baltimore, Philadelphia, New York and Chicago was selling at 14c, 15c and 16c per quart, with indications of going higher. In Los Angeles milk is selling at 13c per quart. The reason for these high prices is not hard to discover. The farmer today demands a higher price for his milk than ever before, and it is logical that he should. The price of feed for cattle is high and going higher and the price paid farm labor makes it imperative that the farmer gets a better price than he has been getting in the past.

Swine and Swinemen.

C. S. McBrian, Ripon, recently bought four Poland-China sows from J. S. Moulton.

Rolled barley soaked twelve hours and alfalfa hay or pasture supply the needed elements to raise the classy hogs shown at the fairs this year by John Bernstein of Hanford.

The Carruthers Farms of Mayfield recently sold two bred Berkshire sows to C. D. Badt of Wells, Nevada. Mr. Badt is contemplating going into Berkshires in a large way.

To win the war we need more meat. The imperative need of pork products for the armies has caused the United States Department of

FARMERS NOT A POISON
POWERFUL DISINFECTANT

B-K disinfecting protects live-stock against disease. Ten times stronger than carbolic, yet not a poison. Contains no acid, tar or caustic. Safe—clean—cheap. Used in barns of leading breeders.
Awarded Gold Medal at Panama-Pac. Expo. Write us, or ask your dealer for our free book "Disinfecting." Special Trial Offer. Dealers wanted in every town.
General Laboratories—Madison, Wis.
3401 So. Dickinson St.
B-K·B-K·B-K·B-K·B-K·B-K·B-K·B-K·B-K·B-K

Keep your harness oiled. Leather is so porous that unless you protect it, sweat, moisture and dust attack the fibre and your harness gives out years before its time. The preservative oils in Eureka protect your harness. Keeps it jet black.

Eureka Harness Oil

Standard Oil Company
(California)

GIVE THEM REGULARLY
ECONOMY POWDER
And they will always be in Prime Condition
And will make More Pork with Less Feed
Send for SAMPLE and FREE STOCK BOOK
SAVE YOUR HOGS Economy Hog & Cattle Powder Co. 525-527 Hearst Bldg San Francisco, Cal.

ASK YOUR DEALER FOR
El Dorado Cocoanut Oil Cake
for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address
EL DORADO OIL WORKS,
433 California Street, San Francisco

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

Agriculture to ask hog raisers to increase their production.

A. B. Humphrey, Escalon, reports the following sales recently made: A sow to Lorin K. Smith, Paia, Maui, Hawaiian Islands; another sow to R. C. Ricker, Wellington, Nev.; a boar to R. B. Canfield, Santa Barbara; another boar to A. L. Bovo, Byron. A two-year-old bull, Mayhew's Golden Jewel, the son of Don Adonis of Linda Vista and Golden Maid of Maple Lane, to the Adamson Corporation, Los Angeles. A one-year-old bull, Escalon Henry, son of Don Adonis of Linda Vista and Henrietta Mayhews, to Frank Kirch, Santa Rosa.

The Ormondale Company recently sold a registered Duroc boar to Easton & Ward, proprietors of Black Hawk Stock Farm. They also sold a registered boar to J. H. Meyer of Menlo Park. The Ormondale Company, on their ranch near Redwood City, raised 300 tons of corn silage on sixteen acres, without irrigation and without a drop of rain from planting time to harvest. A carefully prepared seed bed, selected seed and thorough cultivation brought it through. They put up a new De Laval silo and have both silos full against the coming winter.

Horses.

Farceur, Belgian horse champion, belonging to the famous William Crownover herd at Cedar Falls, Ia., sold, last month, at public auction, for $47,500, the world's record price for horses of his class. The purchaser was C. G. Good, Ogden, Ia.

Livestock Miscellaneous.

Prof. R. A. Miller of University Farm is to judge the sheep at the Arizona State Fair this month.

Stockmen are hopeful that sufficient rain has fallen to sprout the grass seeds. The dry wild grasses of the ranges were softened enough to be palatable to stock.

Land rentals in the Oakdale section have been increased since the big advance in the returns on grain. The customary rental for grain land for many years past has been one-fourth of the crop. With the increase in the price paid for grain, land owners are demanding one-third of the crop as rental.

Government regulations of the meat packing industry will be the next move of the Food Administration. A voluntary offer of representatives of the packers to put their plants under a licensing system made to Herbert S. Hoover, Food Administrator, was accepted and a plan of control will be drawn up.

Federal guarantee against losses in the livestock industry have been discussed with the Food Administration by Western stock raisers as a means of encouraging the meat supply for the next year. Small producers complain that feed prices are too high now to justify fattening or raising new animals.

The export duty from Mexico City on cow hides, either dry or fresh, has been placed at 25 per cent ad valorem, while the duties on the skins of mules, pigs and horses will be 8 centavos a kilo (2.20 pounds). The skins of alligators, crocodiles and lizards will be taxed 10 centavos a kilo. The hides of deer and goats will be taxed 20 per cent ad valorem.

Range conditions in the Panhandle of Texas and in other cattle sections of the Southwest are said to be excellent now, and winter feed is expected to be plentiful. Cattle growers predict a good winter for grazing on the prairies and in the mountain valleys, and are optimistic that the behest of the Food Administration for a large increase in the meat supply can be complied with.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

Poland-Chinas.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

MAKE BIG MONEY with our famous Whitten Ranch Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. Special sale of service boars and bred gilts. Prices reasonable; satisfaction guaranteed; everything immune. Send for free illustrated book, "Hogs for Profit," packed with valuable information. Ranch in Tulare County, but address owner, R. H. Whitten, 519A Marsh-Strong Bldg., Los Angeles.

FOR SALE—A Missouri Kid bid $6600 on a Poland China boar in Iowa. Ours are from Missouri. Send me $20 and I'll show you! July farrow. Big, long, smooth, registered, crated, f. o. b. N. M. Lester, Gridley, Cal.

POLAND-CHINAS—Size combined with quality; the big, easy-feeding kind, money-makers, prize winners; bred sows and gilts; service boars and young boars. W. Bernstein, Hanford.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

CRAWSHAW'S CALIFORNIA CHINAS are prolific and profitable. Can fill your order for weanlings, either sex, for $15.00 each. J. A. Crawshaw, Hanford, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

LARGE TYPE POLAND-CHINA GILTS, bred to Alexander; prices reasonable. G. E. Shelford, Healdsburg.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend streets, San Francisco.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRE GILTS—Rival's Champion Best and Bandmaster blood lines. D. B. Wentworth, Napa.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

FOR WELL-BRED BERKSHIRES, write Glenwood Acres Stock Farm, Paso Robles, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

REGISTERED DUROC-JERSEYS — Good stock shipped in from the East; bred sows, pigs of all ages, both sexes; some fine young boars; prices right. Nicholas G. Jesch, Northam, Nev.

DUROC-JERSEY PIGS FOR SALE from prize-winning stock. Price, $10 to $25 each. They are all in good condition. For further particulars write to W. C. Chisholm, Route 4, Santa Rosa, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC-JERSEY SPRING BOARS—Cholera immune; write for pedigree and prices; satisfaction guaranteed. Buchholz Bros., P. O. Box 246, Merced, Cal.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

DUROCS OF GUARANTEED BREEDING—Pigs $15 up, sired by State Fair prize winner. H. E. Boudier, Napa.

RANCHO DEL SUR DUROC-JERSEYS—Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13's Taxpayer. Weaned pigs and boars ready for service. F. M. Barney, Hanford, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DOS HERMANOS DUROCS—Young boars and gilts. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND — The mellow, easy feeding type; 20 bred gilts due to farrow during October and November; 50 spring pigs, both sexes, sired by Billiken; every animal is cholera immune; Billiken was grand champion boar at the State Fair; a son was reserve grand champion and a daughter was grand champion sow. Why not get started right and with the best? Write for prices and for booklet on Chester Whites. C. B. Cunningham, Mills, Sacramento Co., Cal.

HIGHLAND STOCK FARM CHESTER WHITES—Are you looking for the easy feeding, early maturing breed of hogs? Then drop a line for booklet and prices to R. L. Robinson, Box 142, Fair Oaks, Calif.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

HOLSTEIN BULLS FOR DAIRYMEN—I have to make room in my barn. It is now overcrowded for winter. I have a number of young bulls ranging from one month to one year old, sired by Prince Gelsche Walker Korndyke and King Sadie Vale Elzevere. All are good individuals, straight in back, with good bone. Have excellent records back of them. Here is an opportunity for you to get the best breeding for very little money, as I have them priced very low. Write for pedigrees, price and photos. E. J. Weldon, Box 962, Sacramento.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

YOUNG BULLS sired by Grand Champion King Hengerveld Ormsby, grandsons of Pietertje Maid Ormsby, 35.55 pounds 7 days, test 5.31 per cent. Kounias, Registered Stock Farm, Modesto.

BUENA ALTA HERD registered Holsteins, blue ribbon winners at State and county fairs; heifers and bull calves for sale. F. A. Heroux, 629 Fifty-sixth street, Oakland, Cal.

REGISTERED HOLSTEINS — Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Rigdon, Tulare, Cal.

TOYON FARM HOLSTEINS—Sons of Finderne Soldene Valdessa for sale. Toyon Farm Association, First National Bank Building, San Jose.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Calif.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

FOR SALE CHEAP—A few head of registered Jerseys. Best blood in State. Fine individuals. A few young cows, heifers, and bull calves. Tribble Bros., Lodi, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY COWS for sale. O. J. Ames, Oakdale, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS — Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

GUERNSEY BULLS, ready for service. Calla Grove Farm, Manteca, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

VERAMONT STOCK FARM — Purebred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORThorns—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORThorns, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS — Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS and ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena.

KAUPKE BROS., WOODLAND, CAL.—Breeders and Importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, Importers of Hampshire sheep.

HORSES AND MULES.

FOR SALE—Percheron horses and mares, age 4 to 10 years; weight, 1200 to 1600. Price, $200 to $300 per span. S. L. Skaggs, Madera, Cal.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

STOCKTON FOR PERCHERONS—Best by State Fair test. Winners for the last five years. H. G. Learned, Stockton.

MISCELLANEOUS.

FOR SALE OR TRADE—Registered Percheron stallion; black; age 5 years; sound; weight, 1950 lbs.; height, 17 hands; good breeder and fine action; will trade for registered Holstein cows; picture, price and pedigree upon application. Address D. B. Adams & Son, R. F. D. 1, Box 245, Modesto, Cal.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend Sts., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

D. O. LIVELY announces a purchasing trip East. He will execute orders for customers for any kind of livestock and save money for buyers. 215 Hobart Bldg., San Francisco.

FOR SALE—Sixteen head of Shorthorn grade yearling steers. R. D. Westfall, Colusa, Cal.

Range Bull Law Needed

[Written for Pacific Rural Press.]

"I feel sure that this State is destined to produce the best in the land, and it is our ambition to furnish herd headers for the older sections. We showed our ability in the steer show at the last International. There is no demand for inferior range bulls, even if they should come from the East. Every country produces some tail-enders, no matter how hard they fight against it. I am sure we have enough of them without shipping any from a distance.

The grade of range bulls generally in use in this State has been raised to a much higher standard in the past ten years than during the twenty years before that, during all of which time I have been observing them in California. Many of the range breeders who used to be satisfied with good quality of purebred bulls are today demanding registration papers. Many careful breeders on the range have better and heavier cattle by judiciously using registered bulls whose breeding shows no close line breeding. We are hoping for a registered range bull law. The comparatively small range man is invariably the progressive man and wants registered bulls, but if his neighbor fails to have them and the bulls get mixed up, the man with good bulls is cheated. Range is growing more expensive, so it is necessary to breed better cattle to use it.

Better Rams---Then Save Lambs

[By Prof. David N. Morgan, University of California.]

Mutton may be increased through the elimination of large losses at lambing time. When ewes are given shelter at the time of lambing this loss is greatly reduced. The University will send an expert sheep man into any community to advise with sheepmen. Blue prints showing how to construct a serviceable type of lambing shed will be sent free of charge. The most economical mutton is the 80-pound lamb. If ewe lambs were saved and wethers sold as lamb, more ewes could be carried and the lamb crop increased. Old ewes, when their mouths become broken and they are unable to thrive on the ranges, might well be sold to valley alfalfa farmers, who could raise lambs from them for a few more years and then put them in shape for market. The practice would increase our wool supply and would slightly decrease our mutton supply this year, with a probable increase in its price, which, however, would be compensated for a year hence when more lambs would be on the market. This is a real conservation measure. The average percentage of lambs saved in California is 76 per cent. On some ranches it has run over 100 per cent, owing to twin lambs. The cost of producing a lamb to a marketable age has been placed at $2.50, from which the value of the ewe's wool is to be subtracted. At the price some of our wool growers have received, the lamb has cost practically nothing and has sold for a price which more than makes a profit. The existence of this large margin of profit has caused a lack of diligence on the part of the larger sheep raisers. The use of better rams and elimination of losses will increase both the quantity and quality of the mutton in California.

How Idleness Improves Range

[Written for Pacific Rural Press.]

How is range feed helped by an occasional year without stock pasturing it? Not by allowing the grass to go to seed, according to Frank C. Clark, speaking largely from his experience in San Luis Obispo county. There is always enough seed. But the grass that grows on an idle range stops and holds rain, keeps wind and sun off the ground, thus saving moisture after the grass has dried up. In the fall and winter it protects young feed from cold, which is the big advantage. The extra grass also prevents erosion and adds humus.

CATTLE FATTENED ON GRASS.

[Written for Pacific Rural Press.]

We sold good, fat cattle last March that never had anything but grass, said C. N. Hawkins of the Pacheco Cattle Company, who run 1500 head of Shorthorns in San Benito county. The reason they have so good grass is that they do not overstock the range. In his country there is enough for one head per ten acres. They used to run one per five acres, but found that too heavy. One per ten acres is too heavy in many districts.

WILL FEED MORE HOGS.

[Written for Pacific Rural Press.]

"I am going to produce and feed in the coming year double the number of hogs I ever did," said E. J. Barker, who came out from Indiana to judge Berkshires at the recent California State Fair. "Big crops will lower the price of feed, while the price of pork will be as high or higher than in the past year."

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

SHORTHORNS
Herd combines some of the strongest blood lines of this country and Great Britain.
THOMAS T. MILLER
314 So. Normandie Avenue
LOS ANGELES, CALIFORNIA

LIBERTY HEREFORD
SALE SERIES - 1917
600 LOTS-850 HEAD — 250 FREE CALVES
AMERICA'S GREATEST 12 DAY DRIVE
Ever Inaugurated for the Conservation and Betterment of Her Best Cattle

Friday December 7th	at Chicago, Illinois — International Live Stock Exposition Arena		Fourteenth International Hereford Auction of the American Hereford Cattle Breeders Association
Saturday December 8th	at LaFayette, Indiana — La Fayette Stock Farm Pavilion	10 Bulls 70 Females	J. CROUCH & SON
Monday December 10th	at Millsdale, Illinois — Santa Fe Railroad's Sale Pavilion	15 Bulls 60 Females	FRANK BEITH
Tuesday December 11th	at Winamac, Indiana — Baker's Sale Barn	15 Bulls 70 Females	W. H. AMBLER
Wednesday December 12th	at Sioux City, Iowa — Stock Yards Pavilion	10 Bulls 60 Females	R. W. CHRISTIE
Thursday December 13th	at Kansas City, Mo. — Stock Yards Pavilion	25 Bulls 60 Females	WALTER L. YOST
Friday December 14th	at Kansas City, Mo. — Stock Yards Pavilion	10 Bulls 50 Females	C. B. SMITH

100 BULLS, 500 COWS AND HEIFERS, 250 CALVES GO FREE
Many of the Best Herefords Ever Put in an Auction Sale
BULLS COWS AND HEIFERS
CATTLE SALE UNDER THE SUPERVISION AMERICAN
LIBERTY BONDS PREFERRED TO CASH
EXCURSION RATES ON ALL RAILROADS 14th INTERNATIONAL LIVE STOCK EXPOSITION CHICAGO DEC. 1 TO 8
THE SOTHAMS, Mgrs. HOTEL BALTIMORE KANSAS CITY, MISSOURI

Hillcrest Stock Farm
THORNTON S. GLIDE, Prop. DAVIS, CALIFORNIA
BREEDER OF
SHORTHORN CATTLE
AND
Shropshire and Merino Sheep
Shropshires sired by rams imported by me from England
The Famous Glide Merinos
Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
First Prize Breeders Young Shorthorn Herd at Sacramento

10 2-year Bulls SHORTHORNS 10 Bull Calves
We have just received a shipment of yearlings and 2-year-old heifers, bred to a son of Cumberlands Type, the bull that won 36 Grand Championships at 36 Fairs. This is the best lot of females we have ever offered for sale.
Better look them over soon, as they will sell quick.
H. L. & E. H. MURPHY, Perkins, Cal.

SCOTCH SHORTHORNS
We have just purchased the entire herd of Shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.
FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.
CARRUTHERS FARMS, -- MAYFIELD, CAL.
City Address: Hearst Building, San Francisco, Telephone Sutter 1311

CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

A Farmer's Wife States Her Case.

To the Editor: I agree with "Not a Slacker" in regards to food economy. My husband is not well and doesn't like any of the brown or cereals, only mush; so I must use white bread. And on his account I have to take a place in the general farm work with him, as so much of the time a man is not to be hired, no matter how bad we need him. We have seventeen cows and I milk half and turn the separator, as he can't stand that, and if necessary I milk all. Then, when I go out and put in half a day in the field, come in and "do up" the morning work while getting dinner, and work in the afternoon, would you blame me if I thought I needed some meat to eat? I always was economical in food and fuel, and know of no way to save now if I keep my health so I can help raise beans and other food. At present price of butterfat they tell us it brings the hay to $21 a ton. Yes, and the one who has to buy will pay that soon; and we figure that we clear about the same as if hay was half the price and fat half the price. We handle more dollars, but have more to pay out, so it is about an even break. Then about beans. Ten cents seems to be an awful price for them, and the cry is, Make them cheaper. Last spring a plow or seeder was almost double what it had been. Seed beans went as high as 15 to 25 cents a pound. Hired help to hoe or cultivate, that had been plentiful at $1.50 and found, was then $2.50 and board, and maybe would stay or not. Now at harvest $30 to $45 is the price of bean cutters. The wives and children had to shock and the thrasher charges 50 cents a sack, and the sack costs three or four cents more than formerly; twine 55 cents a skein, formerly 20 cents, and no certainty of getting even a fair price for the beans. But I will say this: If we have to take less than 10 cents a pound, there will be about 200 sacks less raised next year, as we won't plant any, and have so much worry and cost.—M. J. D., Ripon.

Why Not Co-operative Marketing?

To the Editor: One would naturally suppose in such stirring times as these, when at one fell swoop eight farmers' co-operative associations have decided to try their luck together, that there would be plenty of articles on co-operation. Meetings are all right—we cannot get along without them—but to get at the pith of anything there is nothing like having things down in black and white. It gives one a chance, if he is unfortunate to be the possessor of an ivory cranium, to go over and over an article. Then, if he cannot make it out, he can take it to his neighbor, when perhaps between them they get the drift of things. From my experience and observation in life, the forceful man or woman never fails to have a generous streak of Kaiser Willum in their makeup. If they have been used to playing first fiddle, it goes against their grain to buckle down to playing second. Honest, now, isn't this the reason why the citrus and other associations haven't come in? There are so many advantages in all pulling together. Just think of the saving in advertising alone. A fine time the Peach Association would have had had they decided to go it alone. I make no claim to being a business man, but I am positive that in the near future, when the California farmer has thrown aside his shackles of prejudice and suspicion, that tens of thousands of stores, not only in our own land but all over the world, will give over entire windows the year around for the display of California farm and other products. Working alone, an association can afford to tackle but certain markets. Co-operatively, the expense of sending an agent to a foreign land amounts to but little.—Chas. Blom, Napa.

The Squirrel Puzzle.

To the Editor: If conservation is needed, why is not the squirrel pest attended to? The place south of my orchard is literally alive with the vermin, and though the squirrel inspector promised to have them killed long months ago, he did nothing whatever. The place a quarter of a mile south of mine yielded no almonds. The crop was all eaten by squirrels, and neighbors all say that complaints to the squirrel man do no good. Can you help us inaugurate a squirrel campaign? What is the matter with the officials who should attend to the matter? Is the squirrel inspection merely a kind of graft? Or is the trouble due to the fact that money is lacking? We understand that the United States is paying out money to have the squirrels killed. Is this a fact? If so, why are the rodents not killed? An organized effort is necessary; spasmodic and casual work is useless. Can we get relief?—E. W. Robbins, Oakley.

The Eucalyptus in California

The landscapes of California have been greatly enriched by the acclimatization here of the eucalyptus. It is not often that the presence of an imported ingredient adds a really natural element to the charm of scenery; but the eucalyptus, especially the globulus variety that has become so common throughout the State, has so truly native an appearance that it seems as if its introduction from Australia must have been more in the nature of a homecoming than of an adoption. The wide, treeless plains and valleys which once lay unrelieved and gasping under the summer sun, and inspired similar sensations in the traveler, are now everywhere graced by ranks and spinneys of these fine trees, beautiful alike, whether trailing their tufty sprays in the wind, or standing, as still as if painted, in the torrid air.

When the winter rains come there are no trees that so abandon themselves to the spirit of the time. With wild sighs and every passionate action they crouch and bend as if in the very luxury of grief, and toss their tears to the earth like actors protesting their sorrows on a stage.

The long, scimitar-like leaves are as fine in shape as can be imagined, and each tree carries a full scale of colors in its foliage—the blue-white of the new, the olive of the mature and the brilliant russets and crimsons of the leaves that are ready to fall. The bark is as interesting as the foliage, its prevailing color a delicate fawn, smooth enough to take on fine tone reflections from soil and sky. Long shards and ropes of bark hang like brown leather from stem and branches, making a lively clatter as they rasp and chafe in the wind, and revealing, as they strip away, the dainty creams and greenish-whites of the inner bark.

In early summer the tree flowers with a profusion of blossoms uniquely tasteful, and later, the seed-vessels are as quaint and curious as rare sea-shells. To crown all, the tree is as fragrant as sandalwood, and the scent a hundred times more robust than that exotic perfume. — From "California Coast Traits," by Chase, published by Houghton-Mifflin Co.

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Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

THE COMING OF THE FARM FLOCK.

There is every indication that the necessity for saving meat for our soldiers and allies is going to cause an increased consumption of poultry meats of all kinds, and this must come from the small rancher's and farmer's flock. The way to increase the flock is to hatch every available egg after the 1918 season commences, when the price and fertility of eggs are more settled, and raise them on range as much as practicable to save feed. They will make more wholesome meat and far more of it at six or seven-pound roasters than at one and a half or two-pound broilers. The broiler business is catering to appetite, and the roaster to human needs. Laboring men need meat just as do fighting men; but they don't need catering to with fancy broilers; their appetites are always whetted enough to eat decent food; and they can even get along with an old, tough hen if the cook knows her business.

So, in the conservation of meat, raise roasters of any of the heavy breeds, and the more you raise, on as little grain feed as possible, the more you are doing for yourself and the world at large. Now is the time to prepare your green feed supply for early spring use. Mustard is the best green feed for winter eggs. It is also good for young chicks, because it is warming to the digestive apparatus, but a little too laxative for an all-day feed. You would want something more like rape, green alfalfa or lettuce for the little chicks, but if your location is too cold to grow any of these things in winter you could get the same results with sprouted oats, though with more labor and expense of grain. And what we should aim at is to save the grain for legitimate needs. Egg production cannot be carried on without grain to any extent. Hens will lay a few watery eggs without grain in spring, but they will not lay enough to pay us to keep them; and the eggs would not be of the quality we are used to having. It takes feed, good feed and lots of it to make good eggs.

CHICKEN FEED IN HAWAII.

I received a letter from a poultryman in Olaa, Hawaii, the other day, and he tells me that the only feed he is able to buy there is a commercial mash, from this coast, corn and rolled barley (no whole barley, nor wheat, nor oats), and beef scrap once in awhile of an inferior grade.

Now, what is the matter with our feed dealers that they don't send over some fish meal and some oats, bone meal and such things to these people? He says corn and whole barley are too heating for that climate, but he has to feed corn because he cannot obtain anything else. Fish meal would be better for him than beef scrap, and oats that were heavy enough would, I am sure, give better results in that climate.

FEEDING THE BREEDERS.

Hatching eggs need not necessarily come from very highly fed hens, but the hens should be in good bodily condition. Then the chicks will be vigorous and hardy. Some years ago the feeding of hens that were to be used for breeding purposes was thoroughly tried out, and it was found that very highly fed hens, which means hens fed to secure the greatest number of eggs, did not produce chicks that were livable. The chicks, a great many of them, died in the shell, and more died at a few days old. Those hens that were fed normally and exercised properly laid fewer eggs, but they were more fertile, hatched better and the chicks lived. Poorly fed hens were the most fertile of all. Chicks hatched well, but required more care to raise.

This was owing to lack of constitutional vigor in the breeding stock. Not having any stamina, they could not transmit what they didn't have. We thus see that normal feed and exercise are most profitable from the breeding standpoint. Too much feed is not so much in question, because fowls should have a fairly full crop to go to bed on, especially during the winter months. The main thing is to feed what a hen would get under normal conditions, and these are a variety of little things found by exercising the muscles of the legs in scratching for them, a few seeds by using her eyes and legs both, a few insects, wild onions, and I have seen hens eat wild wormwood and things one would not expect them to touch; but they never by any chance find a trough or hopper of highly concentrated mash at which they can stand and fill up at one spell. Nature never makes such blunders as that. The moral is: Don't waste good mash on breeding stock—it injures rather than helps. Let your feed be satisfying, but not too concentrated. Cut the mash out and let the laying stock have it; they need it; the breeders need coarser feed and plenty of exercise.

PROBABLY ROUP.

To the Editor: Can you advise me in regard to a trouble I have with my turkeys? It began with a swelling around the eyes. We operated on one and found it full of pus. Quite a number now are afflicted.—G. A. S., Altaville, Calaveras county.

This is very likely roup. If it was not roup when this letter was written, it is now if nothing has been done. It suggests bad sleeping accommodations, cold, damp shelters, and poor condition. The first thing is to improve the sleeping place and see that it is dry and has plenty of ventilation from the front, but no back or side drafts. Then increase the feed; give something nourishing, rolled oats and corn meal, bran and a little red pepper and ginger in it. Give them a physic in a warm mash at night, say a tablespoonful of Epsom salts for each adult turkey, just once. If you serve water, pour coal oil on the water vessel until an inch deep. This will clear the nostrils out and so help the eyes. Nothing will help much until you stop the cause.

SOUTHERN CALIFORNIA EGG SITUATION.

The high prices of eggs here in Los Angeles during October marked a new record for recent years. The month started at 46c for case count and there was a steady advance up to the last day of the month, when the closing price was 57½c, an advance of 11½c in thirty days. The opening price the first of October, 1916, was 41c and the closing price the last day of the month 45c, an advance of 4c. Why this difference? The receipts of fresh ranch by rail as reported to the Produce Exchange for October were 2,219 cases, against 4,077 cases October of last year, a falling off of 1,858 cases. A loss of 45 per cent. It is estimated that the receipts by truck for the same time were fully 30 per cent less, making an average shortage in the supply of fresh ranch eggs of 37½ per cent. To meet this shortage the cold storage stocks had to be drawn on pretty freely, there being withdrawn from cold storage during October this year 16,290 cases, against 14,313 cases October of last year. This unfortunate situation of the market here in Southern California has been brought about by two causes: First, the high price of feed and increased cost of keeping a flock of hens; second, the selling off of many hens by the larger poultry people during the summer months and the going out of business altogether by many smaller dealers and thereby saving the cost of high-priced feed and the expense of keep.

With the number of laying hens greatly reduced and this being moulting season, and only a few of the early pullets now laying, must account for the above falling off in the receipts and the present high prices of eggs. Still poultry raisers claim that they are losing money. Considering the few eggs that are now being gathered and the high price of feed, with a big per cent of hens idle that have to be fed, egg producers claim that they are not making expenses even at the high prices that are now being paid. One poultryman with 800 hens claimed the other day that his eggs were costing over $1 per dozen. This situation, however, cannot last. With the moulting season over and this year's pullets all getting to laying, an increased production may be looked for and a lowering of present stilted prices expected. Still an appreciable advance over last year's figures may be looked for throughout the winter.

FLEAS ON RABBITS.

To the Editor: Would you kindly advise me what to do for my rabbits, they have so many fleas?—M. S., Butte City.

Get a can of good insect powder, any good make, and take each rabbit on your lap, one at a time, and dust it thoroughly. Clean out the hutches and spray with a strong-odor spray. Fleas can't stand a strong odor. Naphthalene flakes dissolved in coal oil is good, but any commercial sheep dip will do as well. After you have done this, spray your rabbits with a weak solution of creolin and water, one teaspoonful of creolin to a quart of water, and do this for a few days, also spraying the ground about the rabbit hutches, and the fleas won't stay there.

The amount of poultry kept in the Escondido district has been reduced fully one-half this year, owing to high cost of feed.

Classified Advertisements

MISCELLANEOUS.

DON'T WASH YOUR CLOTHES the old way; use Cedarwax Easy-Wash (25 washings 25c); a modern miracle; washday without work; washes anything washable; satisfaction or money back; write for free sample and special introductory offer. Cedarwax Co., 1123 Story Bldg., Los Angeles.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero St., San Francisco.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

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CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial St., San Francisco.

SECOND-HAND PIPE—Absolutely first class. Write for prices. San Francisco Iron & Metal Co., 256 North Point St., San Francisco, Cal.

ALFALFA HAY—First-class alfalfa hay for sale in car-load lots, freshly baled from the stack. Address: Quail Ranch, Pixley, Cal.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market St., Stockton, Cal.

WANTED—Hog man, capable of handling one of finest registered Poland-China herds in State. Want energetic man of sterling character and brains, thoroughly experienced yet willing to follow instructions. Give age, full experience, references and salary expected at start. Address Box 850, Pacific Rural Press.

EXPERIENCED HORTICULTURIST and general farmer desires position on large ranch; understands electrical and gasoline machinery, irrigation, etc. Box 830, Pacific Rural Press.

CULTURED ENGLISHWOMAN—32, desires responsible post. Outdoor work preferred. Thoroughly capable to fill position of trust. Understands fruit-growing, packing, poultry and dairy. Address O., Pacific Rural Press.

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COUNTRY LANDS.

VINEYARD AND RANCH for sale in Lower California—The ranch consists of 450 acres, 90,000 full-bearing grape vines in perfect condition, Zinfandel, Burgundy and Mission varieties; rest of land for farming; winery with all the necessary apparatus, fermenting and storage tanks, the latter with capacities of from 1,000 to 5,000 gallons each; the whole Pacific coast of Mexico for a market, being only winery on said coast and the protection of very heavy import duties on all foreign wines; retiring from business on account of age; will sell at reasonable price for cash or part cash and rest in good income property. Address F. Andonsegui, Ensenada, Lower California, or to M. Ormart, Bellevue Hotel, San Francisco.

CENTRAL ALBERTA FARM for sale, going concern, fully equipped, 1,142 acres in one block, clear title, 600 under cultivation, best black loam clay subsoil, all fenced, good buildings, abundant good water, ideal for mixed farming. Owner made fortune on grain. Only one mile from railway station on main line. Elevators and growing town. Cheap for cash; no agents. Address, Felix Ohberg, Amisk, Alberta.

FOR SALE—Good ranch in Round Valley, Mendocino county, in heart of dairying section, close to creamery and town; about 100 acres good farm land and 80 acres good grazing and hog pasture; good buildings, fenced and cross-fenced; price right and easy terms. Owner, Chet Leavitt, Covelo, Cal.

WORKING PARTNER WANTED—Chicken ranch—or will sell stock and rent ground. Small capital required. An excellent opportunity. Close to Bay markets. Act quick. Box 840, Pacific Rural Press.

ON ACCOUNT OF MILITARY DRAFT will sell one of the best ranches in California, situated on the Stanislaus river. A good investment at $50,000. Write for particulars and description. H. W. Barton, Escalon, Cal.

EIGHTY ACRES of Kings County land, six miles from Hanford, all under irrigation, producing corn and alfalfa. Mrs. E. Gallup, Hanford, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

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WE FIELD-SELECTED a large stock of Green Gold Brand alfalfa seed. More than half of our stock is already sold. Good alfalfa seed will be scarce. Order now, while quality is highest and price is low. Bomberger Seed Co., Desk A, Modesto, Cal.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

OLIVE TREES—Mission, Manzanillo, Ascolano. Propagated by me from trees of known bearing qualities. Guaranteed. L. T. Schwecofer, Hemet, Cal.

SOUDAN GRASS SEED—California grown and pure. For prices write undersigned and state quantity wanted. George Boock, Los Molinos, Cal.

DON'T WAIT—Buy your seed potatoes while price is right. British Queen and Late Rose. Prices reasonable. E. A. Feaks, Supt., Sebastopol Orchard Co., Sebastopol, Cal.

QUALITY TREES—Seed Potatoes. Cash Nurseries, Sebastopol, Cal.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

PROPER POULTRY BREEDING.

(Continued.)

PRINCIPLES FOR SELECTION OF BREEDING FOWLS.

1. Above all, see that the breeders have high constitutional vigor and vitality. Most of the deaths in the shell and chick mortality are due to some defect in the female. Longevity is the real test of vigor and vitality.

2. Use of females which are high egg producers. Here is where the trap nest is indispensable.

3. Use males known to be sons of high-producing dams.

4. Pen pedigree records to the extent at least of being able to tell what individual male bird was the son of any particular female.

5. Making at first as many matings as possible.

6. Subsequently restricting the matings among birds of known characteristics and ability.

The hen that lays less than ten dozen eggs per year now, with high price of feed, will bring the balance on the wrong side of the ledger. Therefore, we must hatch from our best birds and not from the entire flock. There should be two objects in breeding for layers: (1) egg production and (2) longevity. The trap nest records most effectively determine the egg production, and to accurately determine a hen's ability trap nest records must be kept at least two years on the hen. This is all very well for the large poultry breeder, but the average farmer cannot trap nest his hens the year round. It was for the man who could not trap nest that Walter Hogan wrote his book, "The Call of the Hen, or the Hogan Method." This little book has accomplished a lot of good for the poultry industry.

LONGEVITY MEANS VITALITY.

Longevity indicates the fowl has vitality and more innate resistance to adverse conditions. Breeding for longevity, builds up the stamina and vigor of the flock. The cost of bringing up a pullet to laying age is twice as much as it was a few years ago. We could then discard our hens at the end of the first laying season, but not so now. We must raise females that are strong enough to successfully survive at least two years' heavy laying.

USE HENS FOR BREEDERS.

Always use hens for breeding purposes. A pullet is an unknown quality. She may not lay a satisfactory number of eggs; she may go off color the second year; she may not have sufficient vigor to stand the molt and forcing for egg production; she may not transmit her good qualities to her offspring. But as a hen you know at least what she has produced during her pullet year. If she comes out of the molt with a good plumage, a bright comb, and starts off laying well in her second year, you have a hen that will prove very valuable as a breeder, in all probability. Use your good breeding hens until they are at least three years old.

MAKE MATINGS EARLY.

Make up the breeding pens in early winter. Mate yearling or older hens to cockerels. In selecting hens pick the best layers, with strong constitutions, good forms, and general size. "A small hen as a rule," says Tom Barron, the English breeder, "is a better layer than a large one."

(To be continued.)

WATER-LOGGED POULTRY.

"When you buy poultry which is packed in ice, you probably are paying poultry prices for from 3 to 14 per cent of water soaked up by the bird," according to a statement issued by the United States Department of Agriculture. "This means paying from 25 to 50 cents a pound for from 3 to 14 pounds of water in every 100 pounds of chicken purchased.

"Moreover, a broiler allowed to soak in water or ice will lose about 1.8 per cent of its edible substance, while roasting chickens and fowls lose as much as 1 per cent," the statement continues.

"Along with the edible material, water dissolves and washes out from the bird substances on which the fine flavor of the flesh largely depends.

INSIST ON DRY-PACKED BIRDS.

"The purchaser who wishes to avoid water-soaked chickens and to make sure that the money is paid for poultry and not poultry plus added water, will do well to insist on buying dry-packed and dry-chilled birds. It is always advisable to see the package in which the butcher received the chickens. High-grade, dry-packed, dry-picked birds are commonly sent to market in boxes, not in barrels. Twelve birds are packed in a box, which is neatly lined with white parchment paper. Each individual head is wrapped in paper. The feet of the birds are clean and the entrails are always in place. Wet-packed chickens are shipped to market in barrels holding 200 pounds or more. The birds in the bottom of the barrel soak in water that is filthy with dirt washed down from the feet and heads by the melting ice.

"Many persons who have found a bird dry and without flavor attributed this lack of quality to cold storage, whereas the probability is that wet packing is responsible for the fact that most of the appetizing flavor has disappeared. Usually cold-stored poultry which is thawed in the dry, cold air of the ice box is much superior to the water-logged, so-called "fresh chicken."

Recently 100,000 dozen eggs were landed in Wellington from California, and sold readily in that market at 54c a dozen. There is no further present demand for fresh eggs.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

OUR GEESE AND BRONZE TURKEYS win again; champion sweepstakes special for the best pair of birds in show; for size, vigor and quick maturity, ours are best East or West; stock and eggs in season; also Collie Pups; correspondence solicited. John G. Mee, St. Helena, Cal.

SPRING CHICKS—We are booking orders now; we start our run in January; Rhode Island Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. Remember, order early. Campbell Poultry Ranch, Campbell, Cal.

SPRING CHICKS—We are booking orders now. S. C. White Leghorn, only selected and fully matured stock that is bred to lay used in the breeding pens, which assures strong and vigorous chicks. $12 per 100, $100 per 1000. H. A. Schlotthauer, Route A, Exeter, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

BARRED PLYMOUTH ROCKS, Black Minorcas and Blue Andalusians; cockerels, pairs and trios at reasonable prices. Write Geo. I. Wright, R. F. D., Mokelumne Hill, Cal.

SIX FINE BRONZE TURKEY HENS and one Tom (no kin). Early hatch. Splendid plumage. Taken now, $25. S. C. Reed, Acampo.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; choice cockerels. Fairmead Poultry Farm, Fairmead, Cal.

MAMMOTH BRONZE TURKEYS FOR SALE—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

BUFF ORPINGTONS, Buff Leghorns, Bourbon Red Turkeys. Breeding stock. The Ferris Ranch, Route 2, 144D, Pomona, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.

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Mrs. Best's Letter.

PREPARE FOR THE RAINS.

My Dear Friends: The first rain of the season makes us give thought to the necessary articles for winter use. Raincoats are made now to be modish as well as serviceable, well cut, to give graceful lines and with the seams sewn and waterproofed they insure protection from moisture. There are many different styles and fabrics, so that individuality may be shown in the selection of such a practical garment.

RAIMENT FOR RAINY WEATHER.

Cravenetted cloths made in long full style, belted all round with deep pockets and convertible collars, make general utility garments that have varied uses. Then there are rubberized plain and checked silks, plain and plaid satins and the transparent oiled slickers. The prices range from $7.50 to $25.

For girls there are the cravenetted coats and also the rubberized capes made with shirred hoods lined with plaid. Some of them come in sets—a stitched rainproof hat to match the cape—the whole set costing less than $5.

RUBBERS AND UMBRELLAS.

In preparing for the rainy season, remember the rubbers or the heavy soled oiled shoes. It is the duty of all of us to keep well and conserve our strength and energy. The new umbrellas for women are in colors—both plain and novelty, with attractively designed handles at a wide range of prices.

HATS AND TRIMMINGS.

One of the stores is showing some very attractive satin hats. They are tailored and very simple, but of quite unusual lines and with pleatings and tiny tucks beautifully made. The colors are largely seal brown, taupe, navy blue, and black.

Fur hats in turban and tam shapes in variations are made of mole, seal and other like furs and are very attractive looking. One of the very newest things in trimmings is chenille flowers on hat and scarf—these are hand made and very dainty.

THE BUSTLE REAPPEARS.

The new silhouette, the bustle effect, is being shown in gowns and costume suits. It is a revival of the bustle effect of 1830 and is quite the newest thing in style.

DANCING ACCESSORIES.

Elaborate clockings upon silk hose are shown in either self color or contrasts.

Dancing slippers have bead encrusted heels with rosebuds formed from beads applied. Some of the very newest dancing frocks are of panne velvet in soft colors—made with pegtop skirt and simple surplice waists. A charming pale blue one had for its sole ornamentation a soft pink velvet rose at the waist line. ROSABELLA BEST.

A SIMPLE BUT SELFISH SOLUTION.

The "stranger" in the Blue Ridge leaned on the rail fence talking to a long, rangy mountaineer. His eyes wandered over the poor little hill farm. You know the kind—a perpendicular field of rocks and stumps and spindly corn, that is cut at the top of the hill and then picked up at the bottom. "How much corn do you raise?" asked the "stranger."

"Enough to do me," was the answer. The answer was ultimate; the mountaineer had solved his problem. Enough corn to "do him."

Corn is king in America today. There is enough corn to "do us," more than three billion bushels. Yet Europe starves while we sit in the midst of this golden plenty. We have thirty bushels apiece and eat during the year less than a bushel apiece.

THE HOME CIRCLE

SWEET POTATO SUGGESTIONS.

Sliced Sweet Potatoes with Meat.—Boil potatoes, peel, and slice. Place these around the roast fifteen minutes before removing the meat from the roaster. Baste the potatoes with the gravy several times. Place roast on platter and surround with potatoes and gravy.

Sweet Potato Trifles.—Take 4 boiled sweet potatoes, 1 cup of milk, 1 teaspoon sugar, ½ teaspoon cinnamon, juice of 1 lemon. Boil the potatoes and press through a ricer or colander. Mix thoroughly with other ingredients. Form the mixture in diamond shapes on a baking sheet and brown under the blazer or in a hot oven. Serve with chicken or turkey.

HARRISON CAKE.

The following cake is a very good substitute for fruit cake and is a very good keeper if carefully put away. One and one-half cups shortening, 2 cups sugar, 2 cups molasses, 1 cup sour milk, 2 cups raisins, 6 cups of flour, 4 eggs, candied citron and 1 teaspoon soda, cloves, cinnamon and nutmeg to taste. Cream the sugar and shortening together, add molasses and sour milk with the soda and then the other ingredients. A little cooking chocolate makes it richer and a darker color.

PRIMPING IN PUBLIC.

Our grandmothers used to think it shocking bad manners for a woman to put on her gloves after she had left her own door. They should be on and buttoned up by the time she started.

What would the gentle old soul think if she could see girls of the present day pin up their stray locks at any convenient mirror and at any time and any place powder their noses or chins with the aid of the small mirror in their bags?

Young women of finer instincts do not do these things, but the practice of primping in public is not confined to the class of women lacking in manners.

It is too bad that these young people cannot see themselves as others see them.

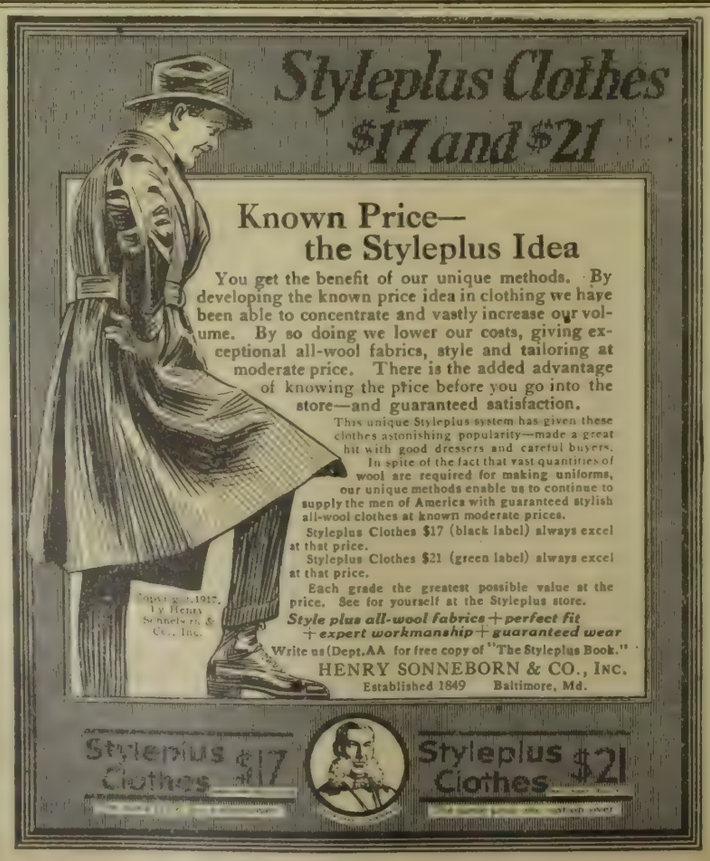
MACARONI WITH TOMATO SAUCE.

Cook the macaroni thoroughly in salt water, drain and pour over it the following sauce: Into a frying pan put 1 tablespoon butter and a few slices cut onion; when cooked a little, stir in 1 tablespoon flour and let brown; add can cooked tomatoes and salt to taste; let simmer gently ten minutes, strain through vegetable strainer over macaroni. One-half Chili pepper may be cooked with tomato and grated cheese added.

PEACH-LEAF DYE WANTED.

To the Editor: Will you kindly send directions for making a dye of peach leaves that will color yellow; also how to set the color, how long to "steep" the leaves, etc.—D. E. B., Santa Cruz.

[Can any one of our readers furnish the inquirer the information desired?]



Good Health.

[By H. E. Pastor, M. D.]

Toothpicks and Toothbrushes.

Some very intelligent people (including some dentists) are prejudiced against the use of the toothpick. Indeed, we find many people, intelligent and otherwise, prejudiced against both toothpick and toothbrush—and not always on esthetic grounds. But the opposition worth noting contends that the toothpick is unsanitary and mechanically injurious to the teeth. We have unsanitary toothpicks, where carelessness was used in the selection of wood and in packing the finished article. As for mechanical injuries, we doubt if they occur where soft, close-fibered wood is employed in their making and they are smoothly finished and properly tapered. Many of the particles of food lodged between the teeth are not removed by the use of the tooth brush, and these are the particles it is most necessary to get rid of. It is claimed by some dentists that for this purpose waxed floss silk is better. This claim may be well grounded, but waxed floss silk is not usually so convenient at hand and is more likely to cause serious injury to the tissues of the gum than is the toothpick. Incidentally, it may be remarked that where teeth are cleaned but once a day night is the preferable time, as during the sleeping hours the particles of food matter adhering to the teeth are undisturbed and thus give the germs of fermentation and acid formation a better chance to do their destructive work.

Hardening of the Arteries.

It has become a fad lately to speak of hardening of the arteries as a sign of approaching old age. It is a late fad to write or speak of it, but the fact itself is as old as the race. What is its significance? It may be briefly explained thus: When the body is young the arteries are extremely flexible and the heart's action is correspondingly easy, for when the heart-pulsation forces the blood into the arteries they immediately expand so as to receive the extra volume of blood, and thus the effort of the heart is eased up or reduced to a minimum. When with advancing age the arteries become more rigid, due mainly to the deposit of lime salts in their coating, the heart must make a greater effort to perform its work. To compensate for this the heart enlarges, its valves operate less perfectly, and so old age is accelerated.

Is There a Standard for Condensed Milk?

Yes; the Federal Committee on Food Definitions and Standards adopted the following: "Condensed milk (evaporated milk, concentrated milk) is the product resulting from the evaporation of a considerable portion of the water from the whole, fresh, clean lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and ten days after calving, and contains, all tolerances being allowed for, not less than 25.5 per cent of total solids, and not less than 7.8 of milkfat." Sweetened condensed

men!

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10 Rib

10-rib knitting brings to Mayo Underwear greater comfort. Get into a suit of Mayo Underwear. Then note that pleasant "give" to every slightest bend or twist. That's 10-rib elasticity.

warmth!

The same 10-rib knitting gives Mayo Underwear a cozy warmth that's mighty friendly to your body. For it's plain common sense to see that a closer-knit fabric is bound to be a warmer fabric.

Get 10-rib Mayo Underwear before Jack Frost *gets you.*

Mayo
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WINTER UNDERWEAR for MEN and BOYS

The only medium priced underwear that's "actually knit in the dollar way".

Men's winter Shirts and Drawers
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All dealers either have or can quickly get for you 10-rib Mayo Underwear

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Because they wear well; no hitch on shoulders, no pull on buttons—and *guaranteed.* If yours are not satisfactory—in every particular—mail them to *us.* We will repair, replace, or (if requested) refund your money. Buy a pair—any dealer *anywhere.* They're 50c. The highest possible suspender quality *at any price.*

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EUREKA, CALIFORNIA

milk must contain 28 milk solids and not less than 8 per cent of milkfat.

Draft Disclosures.

One of the unpleasant revelations brought out by the examination of men for the draft is the large proportion of young men presumably in the prime of life who are physically defective. A large proportion of these defectives are shown to be victims of tuberculosis. Among the commoner causes of this dread disease are improper nourishment and the waste of vitality in various ways. In a wealthy country like the United States these things are largely avoidable, and where practiced are the result of ignorance and recklessness. It looks as though stricter public oversight of matters pertaining to public health should be exercised, and doubtless our health departments, where efficiently manned and administered, will be broadened in scope and more liberally provided for.

AUTUMN'S GOLD.

A wraith of summer haunts the hills,
And breathes regret to silent brooks;
Its tenuous shape the valley fills
And leaf-strewn nooks.

Of all her gentle sisterhood,
One violet, wistful, palely fair,
Still lingers softly in the wood,
A nun at prayer.

June's rose is red, but autumn's gold
Proclaims the largess of the land
In leaves that slip their loosened hold,
Though winds are bland.

In goldenrod whose gleaming load
Is lifted lightly toward the sky,
Or swung upon the dusty road
To passers-by.

In burnished stems of garnered grain,
And stubble where the sunlight lies
To gild with splendor all the plain,
Ere twilight dies.

—Antony Anderson.

HOW TO COOK AN OLD GOOSE.

We have an acquaintance that is an expert at cooking game that he secures during his annual visit to the hunting grounds, and, knowing that he has had much experience in camp cooking of wild geese, we asked his advice how best to cook old geese. Here is the recipe we received: Cook the goose in water for twelve hours; at night pour off the water and roast the goose overnight; in the morning throw into the roasting pan a piece of grindstone, and when you can stick a fork into the grindstone the goose is done.

NOTHING TO DO 'TIL TOMORROW.

A farm hand had worked in the field from dawn till darkness, doing the chores by lantern light. "I'm going to quit," he said to the farmer at the end of the month. "You promised me a steady job."

"Well, haven't you got one?" was the astonished reply.

"No," said the man, "there are three or four hours every night that I don't have anything to do and fool my time away sleeping."—Success Magazine.

Black stockings that have become dingy may be restored to a good black by dipping in strong bluing water to which a little vinegar has been added.

The test of to-day is the Pocket Book test

Today home management is on a war, not a peace basis. "How much am I getting in nutriment for what I pay?" is the home manager's problem.

In peace or war Ghirardelli's Ground Chocolate makes good as an economical and appealing food. A blend of pure cocoa and sugar, two of the most nourishing foods known, it supplies energy and resupplies waste tissue at lowest cost. Use it freely as a food and you will practice food conservation.

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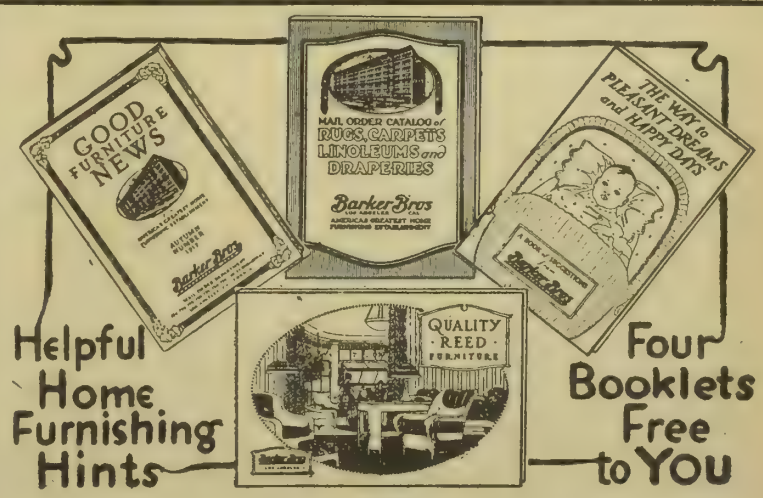

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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Produders.

SAN FRANCISCO.

San Francisco, November 14, 1917.

WHEAT.

Wheat continues unchanged. The expected demand for seed has not yet materialized.

(Federal Grain Corporation quotations for bulk grain. Sacked grain 7 cents per hundred more.)

Sonora wheat	$3.43
Northern Club	3.43
California Club	3.43
Northern Bluestem	3.50
Northern Red	None offering
Russian Red	None offering

BARLEY.

The barley market tightened up somewhat this week in shipping. Choice feed showed an advance of 5c in the high, with a range of only 2½c. There is no brewing demand.

Shipping, per ctl	$2.47½@2.50
Brewing	Nominal
Choice feed, per ctl	2.47½@2.50

OATS.

The few showers of last week stimulated the inquiry for seed, Red tightening up 10c on the low but showing no increase on the high price of last week. Red feed was slow at lower prices, while other quotations were unchanged.

White Feed, per ctl	$2.65@2.75
Red Feed, per ctl	2.50@2.65
Red Seed, per ctl	3.10@3.25
Black Oats	3.00@3.50

BEANS.

The action of the Government in stopping the canners from canning beans is having its effect on the market. The position of the Government is that beans are not perishable and therefore there is no need of canning them to save them. As long as the scarcity in tin plate lasts, this decision will probably stand. At present a dealer cannot even sell beans to the canners without a permit for that purpose. As the cannery demand in the past has been the standard on which the general market demand was based, the bean men now have no basis on which to judge the market. Bayos and Garbanzos scored an advance of 25c in the quotations this week, but all others either scored a loss or were unchanged in price.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl	$ 9.00@ 9.25
Blackeyes	8.75@ 9.00
Cranberry beans	12.00@12.25
Horse beans	5.75@ 6.00
Small whites (south)	11.75@12.00
Large whites	11.50@11.75
Limas (south, recleaned)	12.60@12.75
Pinks	8.25@ 8.50
Red kidneys	12.75@13.00
Mexican reds	8.75@ 9.00
Tepary beans	9.00@ 9.25
Garbanzos	7.50@ 7.75

CORN.

The corn market continues dull and unchanged. Very little is coming in and the demand is slight. No change in this market is anticipated in the near future.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	$4.00@4.10
California, sacked	None offering
Milo maize	None offering
Egyptian	$3.00@3.25

HAY.

The receipts of hay for the past week were 1969 tons as compared with 1334 tons last week. As has been the case for several weeks past the most of the receipts were on Government requisition, for which the Government furnished the cars. The receipts upon which the public may draw were exceedingly small. The transportation situation continues to control the market and owing to the lack of transportation and small general receipts, prices are firm on all grades and a decided advance was recorded during the week. Recent figures compiled of the amounts of hay on hand tributary to the San Francisco market on the first of November show about 125,000 tons available as against 129,000 on the same date last season. It is plain, therefore, there is no real shortage in sight. Notwithstanding the extra demand of the Government the present prices would hardly be warranted if it were not for the lack of transportation. No relief in this direction is in sight and there seems no doubt that large stocks of hay must be left until spring and possibly later before being marketed.

Wheat, No. 1	$21.00@26.00
No. 2	21.00@23.00
Tame oats	26.00@27.00
Wild oats	21.00@24.00
Barley	21.00@24.00
Alfalfa, new, first cut	21.00@25.00
Stock hay, new	18.00@20.00
Straw, per bale	.60@90c

FEEDSTUFFS.

There was little demand for any of the feedstuffs and very few sales were reported on the street. Prices are unchanged from last week and are nominal.

(Per ton, San Francisco.)

Beet pulp, per ton	None offering
Alfalfa meal, per ton	$29.00@31.00
Bran, per ton	41.00@42.00
Oilcake	None offering
Coconut cake or meal	None offering
Cracked corn	85.00@86.00
Middlings	52.00@53.00
Rolled barley	53.00@54.00
Tankage	None offered
Rolled oats	59.00@60.00
Rice middlings	None offered
Rice bran	32.00@35.00
Shorts	45.00@47.00

POTATOES, ONIONS, ETC.

The market for yellow onions was stronger and prices higher. Salinas potatoes were higher and other grades somewhat lower. The tendency of both onions and potatoes is to a somewhat lower level. Celery is now coming in in crates and is quoted at from $2.50 to $3.00. By the bunch the price remains unchanged. Peas are strong, especially large peas which scored a material advance.

Asparagus	None
Peas, small, per lb	6@8c
do, large	12@15c
String beans, per lb	5@8c
Wax beans, per lb	6@7c
Hubbard squash, per sack	75@85c
Summer squash, per box	Nominal
Cucumbers, per box	50c@$1.25
Celery, per crate	$2.50@3.00
Tomatoes, per lug box	40c@$1.00
Potatoes, Salinas	$3.00@3.15
Idahos	2.15@2.23
Oregon	1.65@2.15
Rivers, per ctl	1.75@2.15
Sweets, per lb	2½@2¾c
Onions, yellow, per sack	$2.25@2.50
Reds	None offering
Garlic, per lb	5½@6c

POULTRY.

An erroneous statement in a local paper that the Government was in the market for Thanksgiving turkeys and was paying from 37½c to 38c for them caused some comment on the street. The Government's purchases were completed over a month ago and have no effect on the present market. Quotations are under last week for turkeys. Owing to few arrivals of chickens from the East the quotations on all grades of this fowl showed an advance.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb., young	28@30c
do, dressed, old	30c
Broilers, 1½ to 2 lbs	35@40c
do, 1¼ lbs	40@45c
do, under 1¼ lbs	40@45c
Fryers	30@32c
Hens, extra, per lb., colored	24@26c
Small leghorn	23@24c
Smooth young roosters, per lb. (3 lbs. and over)	25@27c
Old roosters, per lb	17@18c
Geese, per lb	16@18c
Squabs, per lb	43@45c
Ducks	18@20c
Old	16@18c
Belgian hares (live)	16@17c

BUTTER.

Butter showed a further decline this week. Practically none of the Australian shipment of nearly 200,000 pounds was marketed in San Francisco, but a great deal of it went into the markets which are normally supplied from this center. This cutting off of the outside market caused a temporary crowding of this market with resulting lower prices.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	42½	42½	42½	40½	40	40½
Prime 1sts	42	42	42	40	39½	39½

EGGS.

Large arrivals of best grades of eggs after the first of the week depressed the market on these two grades by from 2 to 4 cents over the high of last week. With the lively dealing in these two grades pullets were not considered to any extent and their prices were unchanged. In a sense these two were really nominal in their quotations.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	59	59½	58½	57½	55	55
Extra 1sts	58	58½	58	57	54½	54½
Extra pullets	52	52½	52	52	52	52
Extra 1st pul.	50	50	50	50	50	50

CHEESE.

The cheese market was quiet with but little trading. Following the lead of butter, prices showed a slight recession.

Y. A.'s	24½c
Fancy California Flats, per lb	22½c
Monterey cheese	18@24c

FRESH FRUITS.

The demand for fresh fruits has deadened to a great extent with the exception of apples. California apples are selling at from $1.00 to $1.50 a box and Oregons somewhat higher. Some choice Oregons were sold at $2.50. Some very good malaga grapes were on the market, but the demand was not lively. Figs are again quoted at $1.00@1.25. There were not enough watermelons or cantaloupes received to establish a market quotation.

Apples, per box	$1.00@1.50
Pears, per box	75c@$3.00
Cantaloupes, per crate	Nominal
Apricots, per box	None
Peaches, per box	None
Nectarines	None offering
Figs, per box	$1.00@1.25
Watermelons, per doz.	Nominal
Grapes, Malaga, crate	75c@$1.00
do, Seedless, lug boxes	Nominal
do, Muscats, crate	$1.25@1.75

CITRUS FRUITS.

Fancy Valencias were unchanged, but there was little demand for the inferior classes and these were quoted at lower prices. Lemons scored an advance, but the bottom dropped out of the lemonette market. There seems to be no demand for this fruit and the dealers are selling it at practically any price they can get. The nominal quotation is from $2.50 to $3.00.

Oranges:	
Valencias, fancy	$3.50@3.75
Valencias, choice	2.25@3.00
Lemons:	
Fancy, per box	6.00@7.00
Choice	5.00@6.00
Standard	3.50@4.50
Lemonettes	2.50@3.00
Grapefruit, fancy	4.00@4.50

DRIED FRUITS.

The dried fruits market is unchanged, but fear of Government regulations is holding back advances which the demand indicates might be warranted. In some quarters it is believed that prices have reached the top.

(Net to growers, bulk basis, f. o. b. San Francisco.)

Apples, new crop	14 @15 c
Apricots, per lb	14 @16½c
Figs, black, 1917	6½@ 7½c
do, white, 1917	8½@10½c
California, 1917	15½@16½c
Prunes, 4-size basis, 1917	6¾@8¼c
Pears	6½@11½c
Peaches, 1917	9½@10¾c

BERRIES.

Banner strawberries showed an advance to $10 for the best, while the Nicomas are quoted at $1 more. On the other hand, raspberries showed a decided drop of $2 a chest from last week's figures.

Strawberries, Banners, chest	$8.00@10.00
Nicomas	9.00@11.00
Longworths	None
Blackberries, per chest	Nominal
Raspberries, per chest	$5.00@7.00
Gooseberries	None

HONEY.

The supply of honey in San Francisco is almost exhausted, and all prices quoted are nominal, as deliveries cannot be made in most cases. The demand, especially for foreign shipment, is very good, and one dealer had to have honey shipped in by express from the Sacramento Valley to supply some of these orders.

Comb—	
Water white	15@16c
Light amber	13@15c
Amber	11@13c
Extracted—	
Water white	Nominal
Light amber	13@15c
Amber	11@13c

RICE.

The market for rice is inactive owing to Government regulations and the embargo on its exportation. The embargoes of the Sunset, Gulf and Santa Fe railroads and the Mallory steamship line to New York also affect the market.

Paddy	$3.40@3.50
Clean Run No. 1 California	$6.55

WOOL.

Fall Clip—	
Humboldt and Mendocino	55@60c
Sacramento Valley	45@48c
San Joaquin Valley	40c

HIDES.

Cattle:	
Wet salted hides, per lb.—	
Steers and cows, all weights	19@20c
Bulls and stags	16@17c
Kip	22@23c
Veal and calf	25@26c
Damaged	6@12c
Horses:	
Wet salted, skinned to hoof:	
Extra large prime	$4.00@5.00
do, medium	3.00@4.00
Small	2.00@3.00
Colts	.50@1.00

LOS ANGELES.

Los Angeles, November 13, 1917.

BUTTER.

The weakness in this market noted last week continues. Prices broke another cent up to Monday and there was more disposition to sell on 'change. Receipts for the week ending Tuesday were 302,100 pounds against 297,600 pounds the same week last year. The withdrawals from cold storage last week were 22,600 pounds against 12,264 pounds same week last year, and the holdings in cold storage have been reduced down to 163,600 pounds, or 88,578 pounds less than this time last year. Tuesday brought no change in this market. The light receipts offset the influence of the decline in San Francisco and prices were made the same as the day before.

We quote:

California extra creamery	42c
Prime first	41c
First	40c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	42	42	42	42	42	42
1916—						
Extra	33	33	33	33	33	33

EGGS.

A firm market and fair demand was had the past week for what few fresh ranch arriving. Receipts of fresh ranch for the week ending Tuesday were 511 cases, against 528 cases the same week last year. Withdrawals from cold storage for the week were 3,861 cases, against 3,405 the same week last year. The trade drew more freely on the cold storage stocks to make up for the shortage in the supply of fresh ranch. While the market just now is firm, owing to the approach of Thanksgiving, the fact that extra pullet eggs awhile back are now hen eggs and pewee pullets are extra pullets now all point to an early break in the market. Tuesday, in sympathy with a decline in San Francisco, the market here on 'change broke 1c on both extras and pullets and demand light at the decline. Receipts coming in a little better.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	58	58	58	58	58	57
Case count	56	56	54	54	53	53
Pullets	[illegible]	53	53	53	52	51
1916—						
Case count	48	48	48	48	48	48

POULTRY.

Receipts continue light and local, hence a higher market for most everything and very good demand. The approach of Thanksgiving stimulating buying.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs	33@34c
Fryers, 2½ to 3 lbs	27c
Hens over 4 lbs	23c
Hens under 4 lbs	21@22c
Ducks	22@23c
Geese	16c
Roosters, 3 lbs. up (soft bone)	23c
Turkeys, heavy, 12 lbs. and up	27@28c
Turkeys, light	25@26c
Squabs, live, per lb	30c
Dressed, per lb	28c

VEGETABLES.

Market hardly so active as a week ago. There are but few price changes to note. The most noticeable was a break in onions, which are 25c per cwt. lower. Potatoes steady but slow sale. The same may be said of sweet potatoes. Celery coming in more freely and market slow and weak.

We quote from growers:

Potatoes, Northern, per cwt	$2.25@2.50
do, local, per cwt	2.00@2.25
do, Idaho, per cwt	1.75@2.40
do, new, per cwt	2.50@2.75
Onions, Yellow, per cwt	2.25@2.50
do, White, per cwt	2.00@2.25
Garlic, per lb	3@4c
Tomatoes, per lug	40@60c
Cabbage, per 100 lbs	95c@$1.10
Lima beans, per lb	6@6½c
Bell peppers, per lb	5@5½c
Chile peppers, per lb	3½@4c
Celery, per crate	$2.00@2.75
Eggplant, per lb	3@4c
Sweet potatoes, per cwt	$2.25@2.50
Cauliflower, per crate	2.00@2.25
Hubbard squash, per 100 lbs	$1.00
Pumpkins, per 100 lbs	75c
String beans, per lb	5@8c

FRUITS.

The market situation for fruits has changed but little since a week ago. Offerings only fair and market firm. Bellefleur apples scarcer and higher, sales slow at the advance. Other apples unchanged. Pears selling in a fair way at old prices. Grapes steady and in fair demand. Cassabas and Christmas melons slow sale but steady.

We quote from growers:

Apples—	
Bellefleur, 4-tier	$1.30
Jonathan, 4-tier	1.75@1.90
Grapes—	
Tokay, per lb	2½@4c
Cornichon, per lb	2½@4c
Pears, per lb	4@6c
Quinces, per lug	90c@$1.00
Local apples, per lug	35@50c
Cassabas, per 100 lbs	$1.00@1.25
Christmas melons, per lb	1c
Honeydew melons, per crate	$2.00@2.25
Japanese persimmons, per lb	4@5c

WALNUTS.

The Association reports two-thirds of the crop delivered and shipments are still going forward at the rate of about twenty-five cars a day. Market firm and a premium is being offered by outside buyers for all good nuts. Culls are also meeting with a ready sale at quotations.

Association prices:

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.00c
Jumbo	24c	17.50c
Culls	6@12c	.....

BEANS.

There is no change in this market from a week ago. The trade is holding back

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, Cal., November 13, 1917.

Prices in nearly all markets ruled normal during the past week. Offerings were light on account of the continuous car shortage, but the quality somewhat improved over the week previous, account of the fact that shippers had found it advisable to discontinue shipping stock that had been held over in the packing houses longer than forty-eight hours.

Favorable weather and careful culling and packing has developed an excellent Emperor market and though a few cars of inferior stock have reached the auctions and have brought only fair prices, good stock has sold exceptionally well and met with a ready demand.

The recent rains have about cleaned up the Tokay shipments. There will practically be no Tokays suitable for Eastern shipment by the end of this week. Malagas will also clean up within the next week and there remains probably but 200 cars of Emperors yet to move.

Drum packing has closed for the season and as far as shipping is concerned we look for the deciduous season to terminate before the end of the month. Drum and crate Emperors have been very much in demand in all markets, wholesalers disposing of their stock as soon as received.

Storage stock of Eastern peaches, plums and pears are still a drug on the market and speculators are losing heavily, which is due to the inability of the consumer to secure sufficient sugar with which to can the fruit.

Following are the averages for the week:

New York: Winter Nelis pears, $2.58; Buerre Clairgeau, $2.82; Emperor grapes, $1.39; Cornichon, $1.44; Muscat, $1.57; Tokay, $1.39; Malaga, $1.40.

Chicago: Malaga grapes (crates), $1.42; Malaga grapes (lugs), $1.14; Emperor (crates), $1.38; Emperor (lugs), $1.22; Tokay, $1.22; Cornichon, $1.29.

Boston: Malaga grapes, $1.52; Tokay, $1.30; Cornichon, $1.37; Emperor, $1.55; Muscat, $1.48; Nelis pears, $2.35.

Total shipments for the week ending November 9th: 8 pears, 1148 grapes.

Total shipments to date, 1917, 23,453 cars.

Total shipments to date, 1916, 17,633 cars.

BEAN MARKETING SITUATION UNSATISFACTORY.

The bean market is in a very unsettled condition owing to several causes. About a month ago, when the prices were soaring, it was announced that the National Food Commission would fix a price on beans, which caused a cessation of buying. Now it is stated that the commission will not set a price, as the market has receded. As brokers claim they cannot hold beans in warehouse more than thirty days under the storage law, they are buying only from hand to mouth. The situation should be taken up by the commission and some solution suggested as soon as possible, that growers can cash in on their season's work.

nd buying from hand to mouth, only aking such lots as needed for immediate ants. The Government has killed all peculation or investment buying.

We quote from growers:

imas, per cwt	$12.00
arge white, per cwt	12.00
mall white, per cwt	12.50
inks, per cwt	9.00
lackeyes, per cwt	7.50
epary	8.50

COTTON.

Activity continues in the speculative arket in New York, though prices are ardly so high as a week ago. In the outh the crop is being marketed more reely and stocks are accumulating in the arkets there, yet holders are not letng go very freely. Spot middlings were uoted quiet in New York last Monday 29.45c.

Cotton is selling at 27½c at the gin in l Centro. Few sales have been made at high as 28c. But a most unusual way selling cotton happened in Calexico e other day, where some grower sold me loose in the wagon at 12c a pound. wenty-eight cents is the highest recorded r short staple. Prices are claimed to be based on New York and New Orleans markets.

HIDES AND PELTS.

While good heavy hides are higher and in good demand, light hides are not wanted. Pelts also find ready sale and bring more money.

HIDES—Green Salted:

Heavy steers, per lb	18c
Light steers, per lb	17c
Kips and calf skins, per lb	24c
Bulls and stags, per lb	15c

PELTS:

California full wooled, per lb	25c
California medium wooled, per lb	16c
California short wooled, per lb	15c

HAY.

This market has quieted down the past week. Feeders having supplied their immediate wants and feeding sparingly on account of high prices. There is said to be plenty of hay in the country, but owing to the car shortage arrivals continue light and it was the light offerings that saved a decline.

Barley hay, per ton	$25.00@26.00
Oat hay, per ton	26.00@27.00
Alfalfa, northern, per ton	24.00@25.00
Alfalfa, local, per ton	25.00@26.00
Straw, per ton	9.00@10.00

Special Livestock Market Report

San Francisco, November 14, 1917.

CATTLE—Just at the moment cattle are over supply, though prices have not gged and it is not likely there will be y decline in the immediate future. The ndition of deliveries is fair; few tops.

eers—

No. 1, weighing 900@1200 lbs.	9¼@9½c
No. 1, weighing 1200@1400 lbs.	9¼@9½c
Second quality	8¾@9 c
Thin undesirable	6 @8 c

ws and Heifers—

No. 1	7¼@7½c
Second quality	6¾@7 c
Common to thin	4 @6 c

ills and Stags—

Good	5¾@6c
Fair	5 @5½c
Thin	4 @4½c

lves—

Lightweight	9 @9¼c
Medium	8½@8¾c
Heavy	7½@8 c

SHEEP—There is little change in the utton market, though the supply situaon is a little easier. Lamb stock is less entiful. Last week's quotations stand.

mbs—

Milk	15 @16 c

eep—

Unshorn wethers	12 @12½c
Unshorn ewes	9½@10 c

HOGS—There is still a noticeable shortge of hog receipts as a result of the e slump in price, but consuming deand is readily met. No change in quotions from last week is noted.

gs—

Hard, grain-fed, 100@150	14¼c
Hard, grain-fed, 150@300	15½@15¾c
Hard, grain-fed, 300@400	15@15¼c

DRESSED MEATS.

BEEF (per pound)—Steers, heavy, 14½c; cond quality, 14c; cows and heifers, 13c 13½c.

CALVES—11@16c, according to size and uality. Skim milk and other poor stock nsiderably lower.

LAMBS (per pound)—Suckling, 23c; arlings, 21c. Mutton (per pound)—thers, 20c; ewes, 18c.

PORK (per pound)—23c.

Los Angeles, November 13, 1917.

CATTLE—A steady market and fair demand was had the past week for all good steers. Offerings only fair. A good many old cows were in and they were slow sale and weak. Calves moving fairly at old prices.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs.	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt	8.00@9.00

HOGS—While prices remain steady there was no snap to the market the past week. Killers were wanting but few hogs, holding back on account of the dull pork market and the weak tone of the markets East. Prices, however, while weak have not been lowered.

Per cwt., f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs.	$13.00@14.00
Mixed, 200@250 lbs	14.50@15.50
Light, 175@200 lbs	14.50@15.50

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—Not many coming in and a steady and firm market is being had for what few arriving. Not many wanted, however, at the prices.

Per cwt., f. o. b. Los Angeles:

Prime wethers	$ 9.50@11.00
Prime ewes	10.50@11.00
Yearlings	10.50@11.50
Lambs	14.00@15.00

Portland, November 13, 1917.

CATTLE—Steady; receipts, 66; best beef steers, $9.00@9.50; good beef steers, $7.00@9.00; best beef cows, $6.00@7.00; ordinary to good cows, $4.00@5.00; best heifers, $6.50@7.50; bulls, $4.50@6.75; calves, $7.00@9.50; stocker and feeder steers, $4.00@7.25.

HOGS—Steady; receipts, 133; prime light, $16.20@16.40; prime heavy, $16.00@16.20; pigs, $14.00@14.50; bulk, $16.00@16.25.

SHEEP—Steady; receipts, 440; Western lambs, $14.00@14.50; valley lambs, $13.50@14.00; yearlings, $12.50@13.50; wethers, $12.00@13.00; ewes, $8.50@10.50.

Special Citrus Market Report

Los Angeles, November 13, 1917.

Shipments of citrus fruits from Southern alifornia from November 1 to 11: Oranges, 3 cars, and lemons, 101 cars. Same time st year: Oranges, 227 cars, and lemons, 2 cars.

Shipments from Central California from ovember 1 to 9: Oranges, 2 cars, and mons, 5 cars. Same time last year: anges, 29 cars, and lemons, 41 cars. A ore quiet and lower market for oranges as had the past week at the East. The ade failed to take hold as of late and in der to move the receipts prices had to lowered. At the decline there was a ir movement though the market at no me showed snap. A good many cars of lencias are said to be in transit and it estimated that there are still about 1100 rs of Valencias still to go forward from alifornia. Early Florida oranges, too, ay be expected upon the eastern markets pretty soon and early navels from Tulare county may be expected to find their way to market the early part of December. With this outlook it is not surprising that buyers should hold back and go slow. Locally the orange market shows no change from a week ago. While prices show no change there were a few more moving as the offerings of other kinds of fruit were lighter.

AUCTION SALES.

New York, Nov. 12.—Sixteen cars of oranges and two cars of lemons sold. Oranges easier and lemons stronger. Valencias averaged $1.90@5.60. No lemon sales reported.

Philadelphia, Nov. 12.—Eleven cars of oranges and one car of lemons sold. Market lower on Valencias, but good demand at prevailing prices. Valencias averaged $1.70@3.95. Lemons averaged $4.75@5.95.

WILL THE THANKSGIVING TURKEY FLY HIGH OR LOW?

The Thanksgiving turkey will fly high this year, but there are steadying influences that will hold it from soaring out of sight. The storage houses of the country are well filled with the embalmed article and many a family larder will be content with the frozen bird in these times of money stringency. It is believed by the best informed poultry brokers in San Francisco that prices will go little if any beyond present quotations, notwithstanding Government competition in the buying market. Turkey growers may expect from 33c to 35c for prime dressed birds.

Transplanting for Early Onions

[Written for Pacific Rural Press.]

The growing of onions in Coachella Valley requires seed to be planted in beds in October, as described in a recent issue. E. A. Miller has grown the Crystal Wax variety successfully near Indio. The young onions were transplanted about December 1, when four to six inches tall. Carrots had been planted between the seedling onion rows after the last hoeing so they would be ready to make use of the ground after the onions were transplanted. They made a thick stand and were six inches tall when seen last January.

The field for onions was irrigated twice and cultivated twice in November to prepare it for the transplants. It was ridged like the seed bed. Roots were almost entirely pulled from the young onions in transplanting, and one-half of the tops was taken off. Long roots would not have survived anyway. The onions were just shoved into the ground four to six inches apart. One man planted the two and a half acres in twenty-one days. Thirty rows were irrigated at once with the 55 inches of water, as in the seed bed. They made a fine stand and good roots but not much top-growth during cold weather. From January on the onion field was cultivated with a horse after every irrigation, which came about once in ten to fifteen days, depending on how often the plants needed it, until harvested in April or May.

Too early transplanting induces considerable growth, then a dormancy due to cold or to lack of water; then the onions go to seed when they start growth again, says Mr. Miller.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	26.65	34.91	28.16	36.90
" 16	27.83	35.83	28.10	37.00
" 23	28.85	36.91	28.50	35.00
" 30	36.33	38.48	36.66	38.87
Feb. 6	30.25	40.00	32.33	41.19
" 13	31.40	39.70	33.25	39.00
" 20	32.00	36.00	32.00	37.00
" 27	30.90	37.00	35.25	36.00
March 6	24.08	35.50	24.16	34.50
" 13	29.91	33.50	28.83	33.00
" 20	28.33	33.25	27.16	33.00
" 27	28.50	36.00	28.08	32.00
April 3	28.50	37.91	28.83	36.33
" 10	29.31	39.33	28.00	37.00
" 17	27.33	39.58	27.50	38.00
" 24	25.25	35.66	25.00	36.50
May 1	24.33	33.08	25.33	33.00
" 8	24.10	34.05	25.00	33.20
" 15	24.58	35.50	25.66	34.16
" 22	25.00	36.30	25.00	35.16
" 29	26.50	36.60	26.50	37.33
June 5	25.50	36.30	27.00	37.66
" 12	25.83	36.50	27.00	38.00
" 19	24.50	36.00	25.91	36.33
" 26	24.50	36.16	25.91	37.50
July 3	24.50	35.66	26.00	37.00
" 10	26.40	36.41	26.60	37.16
" 17	25.83	37.83	26.00	38.66
" 24	26.00	40.25	26.00	40.61
" 31	26.00	42.82	25.91	42.58
August 7	21.00	43.00	29.16	44.00
" 14	26.50	41.66	26.00	43.00
" 21	26.50	41.50	27.95	42.00
" 28	27.25	41.91	28.50	42.00
Sept. 4	30.00	42.10	30.50	41.33
" 11	30.20	42.00	32.00	41.00
" 18	30.41	45.00	31.00	43.00
" 25	30.41	45.00	30.50	45.50
October 2	31.66	44.90	32.16	45.91
" 9	32.91	44.90	32.83	46.33
" 16	33.50	46.25	33.50	47.00
" 23	32.75	45.41	33.00	46.50
" 30	32.59	43.50	33.00	44.83
Nov. 6	32.66	41.41	33.00	42.00

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	31.41	37.91	32.00	38.16
" 16	30.33	41.83	30.75	40.83
" 23	34.83	32.50	34.33	33.12
" 30	36.33	32.08	36.66	33.01
Feb. 6	35.66	34.99	35.50	34.70
" 13	28.90	33.30	28.00	31.66
" 20	23.66	32.01	20.33	30.75
" 27	20.30	29.00	18.50	27.66
March 6	18.33	24.75	18.00	24.91
" 13	19.50	25.96	18.91	26.08
" 20	20.00	25.66	19.08	25.91
" 27	21.41	27.16	20.83	28.00
April 3	21.75	28.58	21.00	29.25
" 10	22.00	29.66	21.00	30.41
" 17	21.16	32.33	20.91	32.08
" 24	21.83	32.91	22.58	32.83
May 1	21.00	32.00	22.58	31.83
" 8	21.20	32.75	21.41	32.00
" 15	24.58	34.20	20.83	32.50
" 22	25.46	33.40	22.50	34.00
" 29	25.00	33.80	22.50	33.50
June 5	25.00	33.20	24.51	34.66
" 12	25.00	31.16	24.16	33.00
" 19	24.83	31.41	23.75	33.10
" 26	24.66	30.16	24.58	32.16
July 3	24.60	31.90	24.00	34.25
" 10	26.10	33.50	24.00	36.00
" 17	27.16	33.66	27.00	34.41
" 24	28.20	35.25	28.00	35.91
" 31	28.50	38.00	28.00	36.91
August 7	26.16	42.58	26.00	40.16
" 14	33.08	41.41	31.00	37.08
" 21	33.09	43.33	31.83	42.25
" 28	33.50	43.50	32.00	43.50
Sept. 4	36.13	43.80	32.00	43.58
" 11	37.90	45.08	36.00	44.91
" 18	38.83	47.33	37.00	47.83
" 25	39.75	47.58	38.66	49.50
October 2	39.75	47.00	40.50	50.83
" 9	42.25	47.10	43.16	51.50
" 16	48.50	52.59	49.32	54.50
" 23	47.01	54.83	46.50	56.16
" 30	47.09	56.16	43.33	58.00
Nov. 6	47.66	57.41	45.50	57.80

Publisher's Department.

In a letter from V. V. Allen, Patterson, he says: "It is useless for me to say how much I appreciate your paper and how much good I get out of it, for you hear this every day. But I surely do appreciate it and am not going to be without it as long as I can dig up the $1."

In another column we print an advertisement of the new edition of "California Vegetables," in which last week as well as this appear excerpts of what the critics are saying of the book. The early sales of this edition are very flattering and indicate a large demand for just what Prof. Wickson has furnished in the book.

Readers and friends can help us very materially in the expense incident to subscription getting if they will send their renewal dollar promptly, and when the opportunity occurs, speak to a neighbor about subscribing. Do this now, as the paper will be of most value during the winter season when the evenings are long and the rush of farm work is over.

At this season of the year we have many subscriptions expiring and are very much gratified by the number of renewals being received. We believe our readers understand the heavy expense that is incurred each week in publishing the Rural Press under war conditions, and we feel that this journal is more than ever justifying the generous support accorded it, without which the subscription rate would have to be increased or number of pages reduced.

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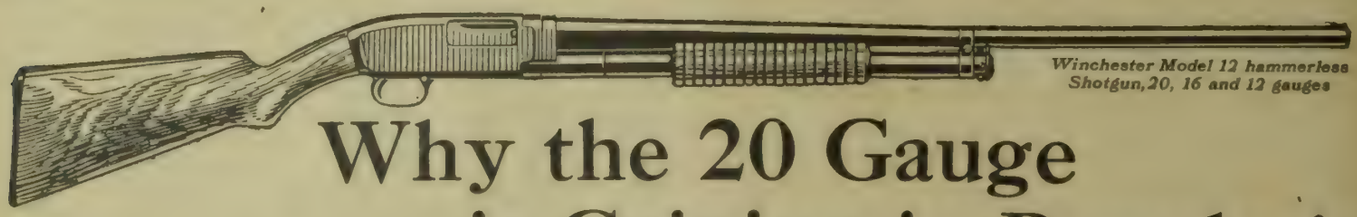


Winchester Model 12 hammerless Shotgun, 20, 16 and 12 gauges

Why the 20 Gauge is Gaining in Popularity

Back in the '90s the 10 gauge was the weapon that had the call among American sportsmen.

But as the game became scarcer, there came a better sense of sportsmanship. The 10 gauge yielded to the 12 gauge.

Today, hunters who are in it for "Sport's Sake" are taking to the light 20 and 16 gauges—the true sportman's guns.

When you carry a 20 gauge, you're *playing the game* and you *earn* every bird you bring down.

Quicker action and better pattern with the 20 gauge

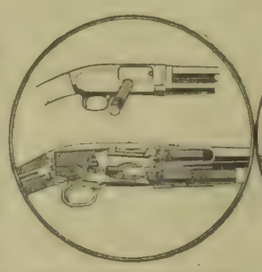
In the hands of a good shot, the 20 gauge has proved almost as effective a field gun as the 12 gauge. This is because in the first place, being lighter, it permits of quicker handling; you get onto your game faster.

Then, too, if you're quick, most of your shots at quail, snipe and prairie chicken will be at from 15 to 25 yards; at these distances the properly bored 20 gauge makes its best pattern, while the 12 gauge does not open up so as to give the shooter the full benefit of its larger load of shot until close to 40 yards.

The 20 gauge then can give you as good a bag as a 12 gauge if you handle it fast and get onto your game quickly. It's a sportier gun to work with.

A gun that few sportsmen can resist

The nicely balanced Model 12, Winchester 20 gauge with its slim, graceful barrel is a beautiful weapon and has a fascination about it few sportsmen can resist.



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Dense, even, hard hitting, quick opening pattern of the Winchester 20 gauge.

It works smoothly in whatever position it is held.

A man who has used this Model 12, 20 gauge Winchester; or its duplicate in the Model 97, 16 gauge—for those whose prefer a hammer action gun—for a few days of shooting, finds it hard to go back to his heavier 12 gauge.

The barrel *is* the gun

Men who know guns realize that the accuracy and durability of a gun lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard of quality of the barrels on the highest or lowest priced Winchester guns. With Winchester the barrel *is* the gun and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel.

The Winchester barrel

The barrels of the Winchester Models 12 and 97 have been scientifically bored to micrometer measurements for the pattern they are meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until the pattern proves up to Winchester standard, the guns cannot leave the factory.

The Nickel Steel construction preserves the original accuracy forever. The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that, with proper care, will last a lifetime.

What (P/W) means

This mark on the barrel means *Viewed and Proved Winchester.* This stamp stands for Winchester's guarantee of quality, with fifty years of the best gun-making reputation behind it.

Every gun that bears the name "Winchester" and that is marked with the Winchester Viewed and Proved stamp has been fired many times for smooth action and accuracy, and with excess loads for strength. At every stage of Winchester manufacture machine production is supplemented by human craftsmanship. It is a *test and adjustment process.*

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Ratio of Product Value to Feed Cost

By Dean T. F. Hunt, University of California

[The contention of the California Swine Breeders' Association, as set forth in detail in our last issue, that the local minimum price of pork should be based upon the local value of barley, which is the grain chiefly used in producing it, is eminently sound and practicable—so long at least as the pork supply is scant. It is a conspicuous fact that the local price of hogs in California is neither up to the proper ratio of feed-cost and product-value; nor is it up to the proper ratio between prices paid for raw material and prices for which the product is locally sold; nor can it be explained by any ratio between cost of material and price product which prevails in the Mississippi Valley. Why all these things are true has never been satisfactorily explained. The California Swine Breeders' Association, as representing the whole body of pork producers of this State, is eminently justified in making its contention that hog prices shall be established on some rational and intelligible basis. In view of the prominence which we give to this contention, our readers will be interested to consider some fundamental relations between feed-cost and product-value as recently sketched by Dean Hunt and which are presented herewith.—Editor.]

WHAT SHOULD BE THE PRICE OF ANY COMMODITY? Obviously, it should be sufficient to cause its production. What are the factors which influence the price of barley? Discussion is here limited to the standpoint of its value as a food for domestic animals. There are three crops in the United States that are more or less interchangeable. The average annual production in the United States for the decade ending December, 1916, has been as follows:

	Bushels
Indian corn	2,705,348,000
Oats	1,115,956,800
Barley	183,451,300

As a finished product, which is the more profitable for the farmer to send to market?

The average December farm price of these three crops for the same decade has been:

	Bushels	Centals
Indian corn	$ .609	$1.09
Oats	.415	1.30
Barley	.619	1.24

It is wholly possible, and indeed quite probable, that the United States will produce this year the largest crop of Indian corn in its history. The yields of oats and barley may be above normal. Since it is the net deficit or the net surplus that causes the great fluctuations in prices, the question arises as to whether a considerable decrease in price may not be anticipated when these three great crops, or at least the greatest of the three, Indian corn, begins to find its way to market.

Without passing any opinion upon the future prices of these products, a number of factors involved may be stated. Their aggregate exportation is fairly considerable, but it constitutes a relatively small portion of the total. The prices are therefore largely a domestic matter. Chicago, and not Liverpool, controls the price of these commodities. This statement is wholly unscientific, but represents the popular conception. It is perhaps more accurate to say that Chicago, and not Liverpool, offers the best evidence of the demand. In passing it may be stated that this is a factor in their favor, since they will not be as violently affected by foreign conditions, nor as likely to be influenced by governmental regulations.

It requires about 500 pounds of Indian corn or an equal amount of barley meal to produce 100 pounds of growth in hogs. Hence, when hogs are worth five cents a pound, either food will return one cent a pound when fed to them; if hogs are worth ten cents, two cents will be returned per pound of food; and if fifteen cents, as at present, three cents will be returned per pound. Under the conditions named, a farmer would not be justified in buying barley meal at three cents a pound, or $60 a ton, to feed to hogs, because he is entitled to some return for the capital invested, and for the labor and the risks incurred from cholera and other causes, unless it is thereby possible to make use also of cheaper foods, such as alfalfa pasture. It is evident, however, that as long as hogs are fifteen cents a pound or higher, corn and barley must have some rather definite relation to that fact.

The factors affecting the price of pork are important, therefore, in determining the price of Indian corn and of barley, and hence the acreage of the 1918 crop of wheat. For simplicity of statement, hogs are used in this discussion, although the same principles apply more or less fully to all other domestic animals, and particularly to such animal products as butter and eggs.

Aside from the general rise in prices due to the increase per capita of money and instruments of credit, the chief factors in the increased price of pork are due to:

1. Augmented foreign demands for pork products, including lard.
2. Increased cost of production.

The increased cost of production is due partly to the increased price of Indian corn and barley. The increased price of Indian corn and barley is due in part to the increased value of pork. Each reacts on the other. With Indian corn at $1.68 per bushel the food cost of producing 100 pounds of increase in weight is $15 on the basis heretofore explained.

During normal times an abundant crop of Indian corn is followed by an increased production of pork, culminating in the following August and September, when the spring crop of pigs begin to mature. This seesaw between the price of Indian corn and the price of pork has been going on for several generations and is perfectly well understood. Other factors, however, due to the unprecedented war demands, will doubtless bring about a disturbing element. What the net result will be no one can, of course, accurately foresee. It is, nevertheless, interesting to observe that there is a very direct relation between the demand for

(Continued on page 549.)

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EDITORIALS

FRUIT GROWERS' WEEK.

WE GO TO PRESS with this issue in the midst of Fruit Growers' week at the State Capital. This year's hebdomadal has been planned with variety and fullness which have never before been attained in this long series of fruit growers' field days; which is very fortunate and fitting, as it is a semi-centenary celebration of events covered in thirty-six years of time. This is not surprising because it is quite Californian to live half a century of action in three-fourths of half a century of earth-whirling around the sun. It is rather more surprising perhaps that California has done in fruit growing in this sequence of events which leaves time at the distance-post, what no other State or country has ever done and perhaps may never do. However that may be, it is beyond question that the chief agency in such attainment by California fruit growers has been their week-long popular assemblies, which have manifested democratic freedom and fearlessness, initiative in thought and action and continuity of purpose throughout, which no other co-operative undertaking in fruit production has ever realized. From these assemblies of fruit growers has sprung, directly or indirectly, all horticultural laws which are now in operation, all the special organizations which have regulated production, transportation, trade and public opinion in such a forceful and genuine way that leadership for fruit growing among California's agricultural industries was achieved nearly thirty years ago and has since that time been maintained. It is therefore very fitting that the fiftieth assembly should celebrate its own semi-centennial in series, by being itself the best of all of them!

THE TWO CONVENTIONS.

FRUIT GROWERS' WEEK at Sacramento began with two days of convention by County Horticultural Commissioners which were full of applied science and scientific practice; continued with four full days of concrete thought and outspoken action by the Fiftieth Fruit Growers' Convention and closed with one day of executive transaction by the County Commissioners to the end that the collective will of the growers should be immediately embodied in the State policies of which our State and County Commissioners are the constituted executors. This was the direct and comprehensive plan of growers' censorship and actuation which was set forth at the first convention and we must congratulate State Commissioner Hecke upon his swing-back of the assemblies to their old line which was departed from, through misapprehension of their spirit and function, a few years ago. It was a great error to look upon these conventions as a horticultural intake: they are primarily for outpouring.

We give on other pages of this issue some items of the convention's proceedings which happened to be first available for printing. With reference to our own historical reflections we may say that early printing throws them into the background of the convention, where they belong, and sets the stage for action upon present issues, which will appear, as is our custom, in our columns later. The central fact of the convention was the report of State Commissioner Hecke to those who are at the same time his judges and constituents, the fruit producers of the State. It is our duty, then, to give our readers relief from the literary antics which we usually cut up in these columns and address ourselves to concrete exposition and consideration of the policies to pursuit of which the State Commissioner gives his heart and hands.

COMMISSIONER HECKE'S REPORT.

MR. HECKE'S report very properly opened with a glance backward over the course along which fruit growers' conventions have come to their serial half-century. He alluded appreciatively to his predecessors, Elwood Cooper, J. W. Jeffrey and the late Dr. A. J. Cook, and credited them with distinguished public services in these words:

It is due to my predecessors in this work that California may claim the honor of having inaugurated a strong and adequate system of control measures for the suppression of fruit pests, which is the natural vindication of her position at the head of the list of fruit growing States. At first the viticulturists and horticulturists of the State had practically to fight their battles alone. The College of Agriculture was a struggling institution in its infancy. The United States Department of Agriculture had not yet made operative its beneficial work in California, and I am glad to have this opportunity of paying a deserved tribute to the energies and activities of the first Board of Viticultural Commissioners, which blazed the way for early legislative work so beneficial both to the pioneer viticultural and horticultural interests of the State. The State Board of Viticulture was the first official body established in California for the promotion of these interests, but with the growth of the deciduous and citrus industries its work was absorbed by a new organization, the State Board of Horticulture, consisting of nine members. Its duties were manifold. It was instrumental in establishing a county horticultural commission in many of the agricultural counties of the State; it worked constantly toward better methods of eradicating and controlling insect pests, and last but not least established the first and most effective State plant quarantine system in the United States.

PRESENT SCOPE OF THE HORTICULTURAL COMMISSIONER.

IT WAS EVIDENTLY fortunate that such great and unique things were done while the executive horticulturists had a narrower field than the present commissioner is required to cover. It is interesting to note Mr. Hecke's sketch of the way the work expanded:

The officials with this State organization were originally charged only with the eradication of pests and plant diseases, but they were soon called upon to investigate marketing conditions and to teach and advise fruit growers on the many subjects connected with the welfare of the industry. The tremendous growth of horticultural interests in the State, and the demand for special service caused a division of these duties in 1913; hence we find that the Legislature in that year again created a special Board of Viticultural Commissioners, and in 1915 the important office of State Commission Market was also created. In addition to this the success of the county agent work, connected with the United States Department of Agriculture and State Universities, had become so pronounced that our own University of California, in co-operation with the Federal Department, introduced the county farm adviser and charged him with the duty of disseminating agricultural and horticultural knowledge.

The establishment of new commissions and the transferring of certain advising functions gave us the opportunity of enlarging our economic service by entering into new fields of activity connected with the police duties of the State Commission of Horticulture. The Legislature of 1917, recognizing the fact that increased protection of the economic plant life of the State was a necessity, greatly strengthened the powers of both the State and County Horticultural Commissioners. In addition to the duty of controlling and quarantining against insect pests, the control of weeds and squirrels was embodied in the law.

FRUIT PROTECTION EXPANDS TO FIELD PROTECTION.

UNTIL THE STATE reorganizes its agricultural executive service on a broad plan, it is evidently very desirable that the county officers charged with fruit protection should work also for field crops, and Mr. Hecke cheerfully accepts this duty. It is manifestly impossible to show results in the same year that a law is enacted if the subject is obscure and complex. Our readers who complain to us that the squirrels are still in their trenches and dug-outs must be patient and hopeful. Mr. Hecke gives them this encouragement:

It is estimated by the United States Bureau of Biological Survey that the damage by rodents in the State of California amounts to thirty-five million dollars annually. There is absolutely no reason why we should not reduce this annual cost of maintaining squirrels and gophers to a minimum. The campaign against rodents has actually and vigorously started in a number of counties, and I believe that before spring practically every county horticultural commissioner in the State of California will be busy in the work of rodent control.

The same argument, that of decreasing the enemies of economic plant life, applies to the weeds found in the State. There has never been any effective campaign inaugurated by which practical results have been accomplished in preventing the spread of weed pests, neither have statistics been compiled of the damage done by weeds, though various estimates have placed it as high as 25 per cent in agricultural field crops. In many instances, however, the damage may have exceeded this amount, as in the case of water grass in rice fields. This pest has completely eliminated over 4,000 acres of rice plantings in the last four years. Losses by other weeds are known to all. With the passage of the laws of 1917 for weed control the Legislature took the first step toward the ultimate accomplishment of such work, the power being vested in the State and County Horticultural Commissioners. We expect to make a careful investigation of the weed situation during the coming year, and to place before the next Legislature a definite recommendation regarding weed and pure seed legislation which will greatly benefit the agricultural interests of the State.

PROGRESS IN STANDARDIZATION.

WITH THIS very difficult and still indispensable proposition Mr. Hecke is proceeding reasonably and conservatively. Everyone ought to see that to reach our fullest and freest distribution of fruit it must be done and the measure of it will probably be the measure of the volume and distance to which our product-sale will attain. But how shall it be done? How shall the officials proceed? Not as martinets surely, but as reasonable men. On this subject Mr. Hecke says:

The present horticultural statutes of California include also new amendments to the fresh fruit standardization act of 1915, and a new apple standardization act. The first season's work under the amended standardization acts is practically completed, and a survey of what has been accomplished is convincing evidence that standardization pays. While now in its infancy, the movement is growing and we expect in the course of time that every branch of the fruit industry will be covered.

The Fresh Fruit Standardization Act names the County Horticultural Commissioners inspectors of fresh fruits. In this capacity they are entrusted with the enforcement of the law. As ex-officio inspectors of fresh fruits the State Commissioner of Horticulture and his deputy are empowered to settle difficulties and disputes between County Horticultural Commissioners of two or more counties, who might not agree in their methods of enforcing the act, or where the interpretation of inspection standards between two or more counties differs materially. We shall endeavor to work toward the end that ultimately all counties will adopt uniform methods of enforcing this law. A campaign of education is necessary to precede the active, energetic enforcement of any law, and, recognizing this fact, we have been lenient many times when the best interests of the industry might possibly have been better served by more drastic action. In the face of a war situation unparalleled in history, when we are called upon to conserve all foods, we realize that the greatest care must be exercised so that nothing may go to waste. We have, therefore, attempted to uphold and enforce the spirit of the law rather than the letter, and I believe that our efforts will be rewarded. The growing of standardized fruit necessitates much attention while fruit is developing in the orchard, consequently there will be more effective spraying and better cultural practices than ever before.

PESTS AND PATRIOTISM.

IN ADDITION to such declarations as we have indicated, of his desire and intent in the discharge of his duty to the State, Mr. Hecke outlines the work of the chief branches of his outfit—the insectary and quarantine divisions of which we can only say at this time that they are working well and scoring successes. His closing paragraph is an exhortation to patriotism which is very good, but it pleases us rather to teach patriotism by a few words which are found much earlier in the report, which say: "The principle for which Matthew Cooke and his disciples con-

tended in the initiation of our pest laws is contained in the quotation, 'So use your own as not to injure others.' Their interpretation of this injunction was to the effect that there should be no neglect of methods for preventing the spread of injurious insects and plant diseases from one's own property to that of others."

This is the principle which constitutes world patriotism at this day and if the Kaiser's subjects had studied and applied it as thoroughly for a generation past as Californians have done they would have abandoned the traditions of their vandal ancestry and the splendid orchards and vineyards of Belgium, France and the Balkans would still be showering their blessings on mankind.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

No Absent Treatment for Failing Trees.

To the Editor: Three years ago I planted a prune orchard and I find on one flat the young trees have not made nearly the growth the other trees have made and are covered with gum that is, or has in the past season, oozed out of them. They were from another nursery in the first place. The bark is a crimson purplish tint; this is not the case with the other trees. Can these trees be saved and under what conditions? How deep would you advise planting: above the graft or bud or how, in a hot climate? Is it possible that trees heave out of the ground to some extent in hot climates? I notice many of these trees seem to have been planted shallow. Quite a number of large trees have died without any apparent cause. They seemed perfectly healthy.—Owner, San Francisco.

This is a case in which sight of the patient is necessary to diagnosis. The young trees which have not done well and show signs of distress may have been injured in the nursery or they may have been nearly killed by ill-treatment or delay between the nursery and the planting. There should not be such difference between them and other trees planted in the same ground and presumably treated about in the same way. Of course there may be a difference in the soil or in the moisture present in the place they occupy; that is one of the things which can only be judged by sight of the trees—both the good ones and the bad ones. What you say of their appearance indicates lack of moisture for growth, accompanied by sunburn, which is aggravated by drouth in the soil. The failure of the older trees also indicates lack of moisture in the summer; following, perhaps, lack of drainage in the winter. Shallow planting increases danger of drying out; too deep planting may also cause failure from other reasons. In medium soils, trees should be planted about as deep as they stood in the nursery and the budding point should not be covered. In sandy soils this point may be covered an inch or two. Trees do not heave out of the ground except by deep ground-freezing, but the soil may be shifted too much away from them in cultivation. There are many other things which a good-looker might see to be the matter with the trees or the place where they are.

If the young trees seem to have considerable life in the bark, they may pull through. That is another thing one can only judge by seeing. Cut them back short on the new growth, whitewash them and give them good cultivation and irrigation to keep the soil properly moist.

Most Profitable Intercrop.

To the Editor: What is the most profitable field crop to plant in a young walnut orchard where there is ample water? I thought, perhaps, beans would fill the bill. How many years could the orchard be cropped to beans, or, in other words, would the shade of the trees interfere with the growth of the beans after a few years?—Subscriber, Stockton.

It surely looks like beans at present prices, providing you get the beans. It is no fool job to get beans under walnuts, and of course the more shade you get the less beans you can expect. The number of years you can grow beans depends, therefore, upon how close your walnut trees are and how fast they grow. The game would surely be up in a few years. As for the chance of profitable price for beans, you had better look the situation over again in the spring, for you cannot plant beans until next May or June in your section.

Ratio of Cob to Corn.

To the Editor: At the prevailing price of shelled corn, what would average field corn be worth on the cob?—D. D. E., Wrights.

There is extreme variation and an average or a common practice in buying might lead you far astray. To be reasonably accurate in any particular case, it is worth while to select five ears of equal size and weigh them: then shell and weigh the cobs: deduct weight of cobs from gross weight: divide weight of kernels by gross weight and you will have the percentage of kernels. This will give you an approximation of what you may expect from that lot of corn if it is all of the same variety. It may be added that the legal standard of a bushel in some States is 70 pounds of ears and 56 pounds of shelled grain. This is on the assumption that cobs should weigh one-fourth of the weight of the bushel of ears. But the Mississippi station found that 70 pounds of ears may yield all the way from 53 to 63 pounds of grain—so there you are!

No Nurse Crop with Alfalfa.

To the Editor: What proportion of seed should be planted when mixing alfalfa and barley to be assured a good stand of alfalfa after cutting barley?—Reader, Simi.

A few may cling to the old practice of sowing about 40 pounds of barley with 20 pounds of alfalfa, but it is the almost universal conclusion nowadays that no nurse crop should be used. The way to get a good stand of alfalfa is to prepare the land well and sow it alone when the ground is warm and moist enough to start the seed and grow the plant a few inches before needing irrigation. It should be sown when it can be reasonably expected to make that much growth without frost. If you pursue conditions which may give you a good start of barley, you are likely to find mighty little alfalfa when you cut the barley.

Choosing a Name for the Farm.

To the Editor: I want to find a name for my dairy. Where can I find a list of names of the dairies or farms which have been registered, so I do not choose one already used?—P. B., Lancaster.

Under laws passed in 1909 and 1911, the Secretary of State at Sacramento is instructed to register names chosen by farmers for their places for a fee of one dollar. He is also instructed not to register for anyone a name previously registered by another. Therefore, if you have a name which you wish to appropriate, try it on the Secretary of State and see if he will accept it. If he does, it gives you priority. This is about the only way to be sure, for any published list would cease to be complete the day after it was published.

Employer's Liability.

To the Editor: Will you please publish the law on employer's compensation and liability act which is to become effective next January?—A Subscriber, Vacaville.

The new law is so long that it would swamp an issue of this journal. Its exact relation to farmer employers was clearly stated by A. J. Pillsbury, chairman of the board, in our issue of October 13—that is, employers of farm laborers are not compulsorily subject to its requirements, but, as shown by Mr. Pillsbury, it is advantageous to them to come under its provisions. Anyone interested can get full information by applying to the Industrial Accident Board, 525 Market street, San Francisco.

Natural Crossing of Vegetables.

To the Editor: How far will beans mix? I mean how far apart should different kinds be planted to insure pure seed? How far will cucumbers, water and muskmelons mix?—S. F., Chino.

Beans and peas are practically self-fertilizing and there is exceedingly little danger of natural crossing. The blossoms are of a mechanical character, which excludes pollinating insects, and though they have been observed to break in and become covered with pollen, self-pollination is probably previously accomplished. Therefore, you may plant for seed with practical assurance that they will not mix. The other plants you mention should be kept as widely separated as the limits of your domain permit, when grown for seed purposes.

Fertilizing Alfalfa.

To the Editor: Is fertilizing alfalfa practical?—Reader, Pomona.

It surely is: alfalfa likes easy eating as well as any other plant and though it has the power to angle for nitrogen from the air (as all the leguminous plants have) it catches more fish from the atmosphere when its ground tackle is well equipped. Alfalfa fields are refreshed by dressing with stable manure during the rainy season. They are also benefited by applications of ground limestone and other forms of lime during the winter and later in the rainy season or at summer irrigations, the use of ground gypsum, about 300 pounds per acre, usually produces a marked improvement in growth.

Beans for Hogs.

To the Editor: In feeding hogs, are cracked lima beans a substantial feed? And should same be partially boiled before feeding? What other grain or shorts are advisably fed with the cracked beans?—F. J. P., Simi.

They surely are a substantial feed—inclined to be rather too much so because of their richness in protein. They should be fed sparingly in connection with corn, barley, milo or starchy millfeeds to get advantage of their contents. They should be finely cracked, not simply broken, unless you wish to go to the trouble of cooking, which makes them more digestible. Cracking and soaking is, however, generally easier and cheaper than cooking.

Caustic Soda Spray.

To the Editor: I am thinking of using caustic soda for a dormant spray this fall for scale and aphis. Do you think six pounds to fifty gallons of water is too strong?—F. W. O., Forestville.

Your formula makes a weak wash—good to kill moss and clean the bark, but it is not much of an insecticide for scales and aphis eggs. It will not bite hard enough nor keep at it long, for it dries quickly and becomes inert. If you make it very strong so as to burn scales, you will injure the bark also. Lime-sulphur or distillate or crude oil emulsion is safer for the tree and surer at the bugs.

Was the Fill Too Tight or Too Loose?

To the Editor: In response to my letter, you still maintain that the filled-in land is too loose. I wish to say that I have a check which was leveled and planted under the same conditions as those of your inquirer. The soil was dry when it was filled in. A few days ago I dug down with a shovel and found that where the land had been scraped off, the soil was comparatively mellow, but where it had been filled in it was so hard I could scarcely dig through it.—Reader, Modesto.

All right; you take the cake. When a reader speculates we try to match him up. When he tells us straight what he has seen, farther argument makes us tired.

Sunburned Onions.

To the Editor: I do not wish to pose as a critic, but I followed the advice given in your paper. I spread my onions in the rows to cure after pulling. The next morning I noticed that very many were cooked on the upper side. I only mention this to save others from losing their onions the same way. In common weather it would be all right.—S. F. D., Chino.

We ought to have warned you, but we supposed it was generally known that you cannot cure even icecream cones in full sunshine in interior parts of this country without danger of sunburn.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., November 20, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	3.67	7.10	62	38
Red Bluff	...	1.74	4.25	74	40
Sacramento	...	.69	2.67	72	40
San Francisco	...	.39	2.98	72	50
San Jose	...	.51	2.29	74	36
Fresno	...	.34	1.65	72	40
San Luis Obispo	...	.56	2.76	86	36
Los Angeles	...	.34	1.68	88	50
San Diego	...	.23	1.03	86	48

Development of New Labor During the War

Resume of paper read at the Fruit Growers' Convention this week at Sacramento, by M. F. Tarpey, Fresno

FOR A PROPER consideration of the all-important question of a dependable labor supply I deem it necessary to make a short excursion into the past experiences of America in war times, and will deal particularly with the farm phase of the question. Due entirely to our Civil War, foods, at its close, were about as scarce and dear as they are today; although at that time we were feeding only our own people and our own army and navy. Upon the disbanding of our army and navy our soldiers and sailors settled back into the avenues of production and manufacture, with the result that food production immediately increased and automatically commenced to fall and soon reached a normal level.

With the close of the Civil War the tide of immigration from Europe widened and broadened and that tide was continuous and ever increasing until 1913, when the enormous number of nearly one million immigrants landed upon our shores and entered into our civil life and its activities. A very considerable proportion of these annual immigrants settled upon our farms, keeping food production equal to every call upon it from our own people and providing an ever-increasing surplus for exportation. Upon the opening of hostilities in Europe that tide turned and great numbers of our immigrants soon returned to their native land. The stoppage of immigration weakened our man power on the farms and the reflux tide carried away great numbers of our farm hands.

RAPID CONTRACTION OF LABOR SUPPLY.

But a few months since, our country entered into the war, and immediately withdrew from the ranks of peaceful industries a large number of our men for the army and navy, for ordnance factories, munitions factories, chemical factories, powder works, and other activities incident to the war. Our first draft was a million men, with the expectancy of millions more to follow. A very considerable proportion of all of those who left their other occupations to enter into the army and navy, or munitions factories, etc., came from our farm man-power; a much larger proportion than people generally appreciate. For instance, immediately after the President's call for volunteers, eleven clerks enlisted from the banks of Fresno in one day. The banks, to supply their places, enlisted eleven men from the commercial houses of the town. The commercial houses, to supply their loss of clerks, commandeered from their sidewalk men and delivery drivers eleven men to fill their places, and the places of the sidewalk men and delivery drivers were filled by young men from the farms in the neighborhood, so that while the eleven volunteers were taken out of clerks' positions originally, farm man-power was drawn upon to supply their deficiency.

HAMPERED BY ACTIVITIES OF I. W. W.

In California in 1916 there was a very considerable loss of farm products due primarily to the insufficiency of farm hands to harvest the crops promptly, and partly to unseasonable weather delaying the harvesting. In 1917 that condition became still more acute. Early in the year the propagandas of the I. W. W. organization incited an uprising in Fresno county, which proceeded to the fields in all of the surrounding country and compelled the men there working to leave their work by threats of bodily injury and by the showing of arms and deadly weapons to intimidate them. Of course that organization has been creating trouble and threatening industries for several years, but the American people, with a tolerance unequalled, have, outside of the zones where the disturbances actually occurred, taken little general notice of their operations.

With the breaking out of the war in Europe in 1914, the call for our products of every character, ordnance, munitions, and food, heavily taxed our carrying capacity by land and the capacity of all the neutral powers and some of the warring powers by sea. Under the rules of international law our country was justified in selling its products and commodities to all nations, belligerents and non-belligerents alike; but as Germany was unable to avail itself of any share of the privilege, because of the domination of the British navy, loud and continuous complaints of our actions in supplying their enemies came from that country and from its people. During this year the activities of that destructive I. W. W. organization have become more and more intolerable and spread over practically the whole area of our country.

FAVORED BY PROVIDENCE.

Our farm products in California for the present year, thanks to the unusual favorable climatic conditions which have allowed our harvest season to continue uninterrupted up to the present time, have practically all been saved, although at a very much increased cost. Had we had a normal season, it would have been entirely different, and we would have lost a very considerable percentage of our crops, because of our inability to harvest it in season, owing to the lack of man-power. However, we can look forward to no such providential interpositions in our behalf as a rule, and inasmuch as we aim to greatly extend our planting this coming season, it behooves us to look thoughtfully to our man-power to do so and to provide for harvesting it during the next crop season, and the question that we are here to confer upon is how we may best accomplish that purpose.

OUR OWN BOYS SIDESTEP FARM LABOR.

As our men are withdrawn for the army and the navy, our shortage of farm hands will intensify in ratio. We cannot, and I hope we never will, expect our women to take the place of men on the farms, and where else are we to procure our help? Our boys do not take kindly to farm work. It is, admittedly, the least inviting of occupations to them. As an evidence of this, we have a high school in the neighborhood in which I live with which nine grammar schools are affiliated. That high school has graduated a large number of boys during the past five years and it is a lamentable fact that none of those graduates returned to work with their fathers upon the farm, but sought more congenial lines of employment in other occupations. And this is a true statement from a purely farming community where proprietary farmers largely predominate and where every farmer has a Ford machine, singing machine and baths, and all home comforts, and mothers and sisters of the boys to do their washing, mending, etc.—everything to make life on the farm inviting to them. The boy's reply to the question of why he does not go back to the farm is, "I did not need to go to school to learn how to clean out stables, wash harness, grease wagons, feed pigs and calves, milk cows and plow. Having given several years of my life to acquiring an education, I desire to put it to better uses than following such a life."

Therefore, we cannot look for a replenishment of our farm help in any general sense from our women and from our boys. The situation is serious enough to demand our best thought and the wise and prompt action of our Government to meet the situation.

ONE SOLUTION OF THE PROBLEM.

In a recent address before the members of the Commonwealth Club at the Palace Hotel, San Francisco, Ng Poon Chew, one of the foremost Chinese of the United States, editor of Chung Sai Yat Po and Chautauqua lecturer, said:

"If the allied nations were prepared for or cared to train, equip, maintain and transport them to Europe, China can furnish millions of men for the fighting line. Yes, we can spare two million, five million, ten million, any number of millions, so far as that is concerned, and we would never miss them if they never came back. China is furnishing a large number of laborers for France today. At the present time it has been estimated that there are at least 250,000 Chinese laborers on French soil today. Thousands are being shipped to France every month. The number of Chinese workers in France released a like number of Frenchmen for the front.

"These Chinese laborers are being shipped to France by way of the Suez Canal and by way of the Pacific across Canada and the Atlantic. These Chinese are going to France under contract with the French Government. The contract calls for a term of employment for three years, but the French Government reserves the right to cancel the contract after the expiration of one year of work in France.

"On the other side of the Pacific Ocean there is an inexhaustible supply of skilled farm labor awaiting your call and employment to bring forth what God intended that it should for the support of men and beasts. A million Chinese farm hands can be utilized with great advantage on the farms of your country, and then the question of the high cost of living would be solved at once, so far as the necessaries of life are concerned, and Mr. Hoover would lose his job and Hooverization would be under the ban."

READJUSTMENT OF LABOR CONDITIONS AT END OF WAR.

Supposing that we could (which we cannot) fill our farm labor ranks from within our own boundaries and thus secure a sufficiency of labor to insure us the extensive planting and harvesting that we are obligated to undertake, what then would be the result of the ending of the war and the return of our millions of men from the front, and the shutting down of our munitions factories, and other war-providing industries? What place in our civil life would then be open to receive those millions of additional hands released by the war, and what would be the effect upon our country?

IMPORT LABOR FOR THE DURATION OF THE WAR.

Farm work is, as a fact demonstrated, the least inviting to our youth, the least followed from choice. Our farm help must be sought from some other source. If, then, our own boys will not do the farm drudgery, and drudgery it is, and we have no European immigrants to help out and our food requirements are increasing beyond expression and sure to intensify while our man-power on the farm has greatly decreased and is sure to continue to decrease, what are we to do to meet our greatly altered conditions? My only guide to a solution is the experience of England and France and other European countries actively engaged in war. Import for the duration of the war a sufficiency of dependable farm laborers to do farm work only. Even our present abnormal production of food products can be easily doubled by such a course and were it trebled there will be need for it all.

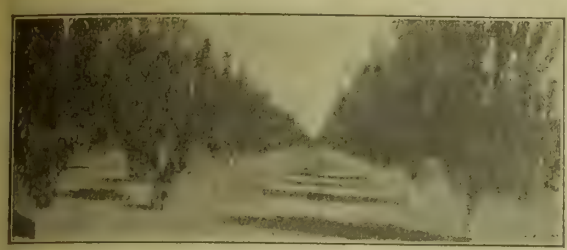
With the conditions facing us and with the example of France and England before us—and England is reported to have several hundred thousand Chinese now working in her fields—would it not appear the part of wisdom for this Government to provide for the importation of a sufficiency of Chinese or Japanese farm laborers to do our farm drudgery during the war, with the express agreement that they are to enter into no other line of industry and that they are to be returned home at the end of the war?

LOYAL LABOR UNIONS CANNOT OBJECT.

It is asserted that the labor unions and the working men's organizations will most determinately set their faces against any such a move upon behalf of the Government. I can hardly credit that as a whole truth, for of all the classes most nearly touched by an insufficiency of food and soaring prices the artisan, the mechanic and the professional man are the greatest sufferers.

Can we produce a sufficiency for both ourselves and all our allies? Most certainly we can, to the full of our own and their requirements; for we have the lands, the water, the climate and the disposition, and we are only hampered with the lack of man-power to utilize our splendid resources.

Sixty Years of Organization of California Horticulture



By E. J. Wickson at Fruit Growers Convention, Twenty-second of the Editor's Series of Historical and Analytical Sketches of California Farming

WAVES of organized effort have moved California horticulture forward ever since the American occupation. They have been alternating waves of promotive and of protective purpose—each necessary to the attainment of the other. It may be rather a fanciful conception and yet these waves may seem reasonable if defined in this way:

First Promotive Wave, 1850 to 1865: Organization for fruit fairs and discussion of fruit exhibits to make known the adaptation of California to the growing of fruits great in world commerce but not previously produced on the western hemisphere, and to demonstrate that California should not depend upon importation for supplies of fresh and cured fruits.

First Protective Wave, 1865 to 1875: Organization for development of distant markets for large surplus production and to secure fair treatment for producers from commercial and transportation interests.

Second Promotive Wave, 1875 to 1885: Organization for development of quantity and quality of product to serve a newly conceived idea of the greatness of opportunity in world-markets, and the application of the idea that fruit products should displace common staples, such as wheat, wool, etc., in California farming.

Second Protective Wave, 1885 to 1900: Organization to stabilize values in fruit products, to prevent private dealers and shippers from securing the lion's share of receipts from sales: to secure more careful and rapid transportation at more reasonable rates: to demonstrate the truth of the idea that fairness and safety in production depend upon regulation of marketing by co-operative organization of producers.

Waves of Associated Promotion and Protection, 1900 to 1917: Wonderful practical demonstration of the fact that successful protection promotes and that reasonable and warranted promotion protects. Wide realization that sound development requires the fullest organization, involving both protection and promotion and that this can only be achieved by producers' co-operative effort. Recognition of such organization as a State function and duty, by the State Marketing Law of 1917 and crystallization of this truth in the affiliation of all co-operative marketing associations toward which a start has been made this year.

SIGNIFICANCE OF SUSTAINED EFFORT.

Thus nearly seventy years of effort toward organization has finally arrived at organization which embodies the proper mutual relations of the State and the horticultural industry, proper relations of producer, distributor and consumer, and thus has laid the foundation for the future of fruit production in California, of which present achievements will ere long be looked upon as only a beginning.

Horticultural Ornaments on the California Landscape.

This brief outline of phases of organization in American horticulture in California suggests that there has been a continuity in development of this industry from its beginnings to the present time and that such continuity may be expected to project itself into the future. We should never forget that in human affairs Present Time is the offspring of the Past and the parent of the Future. Faith in the race commands us to believe that each generation must surpass its parentage and that the achievements of each must be better and more abundant. To realize this advancement it is essential that each generation should see as clearly as it can whence it came and whither it is going. It is my present purpose, however, not to prophesy but to look backward and sketch in briefly a few facts about past times and methods which it may be useful to remember in connection with the general phases of organized effort in the advancement of California horticulture of which the foregoing is an introductory outline.

PIONEER EFFORTS AT ORGANIZATION.

Almost as soon as the pioneers began to act individually they also began to act collectively. The organizers of the State Agricultural Society in 1853 were chiefly fruit growers and the society's first displays were largely of fruits. They soon recognized, however, the wonderful diversity of California's agricultural capacity and they welcomed the co-operation of growers of stock, of grain and other field crops, and the State Fairs of California's first decade were more thoroughly agricultural and more truly representative than any held for about forty years afterwards —or until the existing State Board of Agriculture lifted the character of California State Fairs to the high educational standard which has prevailed during the last ten years. But good fairs for general agriculture did not satisfy the distinctive purposes and special ambitions of the pioneer horticulturists. They organized the first California Horticultural Society in 1856, and it held frequent meetings, made pomological investigations and held several large exhibitions of fruits and ornamental plants. The first distinctively floral fair was held in Oakland in 1859. Several county horticultural societies were organized. A plant garden was established by popular subscription in the Sonoma Valley in 1859 for introduction and trial of fruits and plants—the first organized effort in California for experimental horticulture which has now attained wide dimensions. It was a time of broad vision and definite purposes. It was written in 1859 that "the time is rapidly approaching when our population can consume only a moiety of the pomological abundance which is already smiling around us," and in another place that "the time is not far distant when California will supply herself with fresh fruits and need not import the dried: in fact, we think our dried fruits will be known ere long in the world's market." And yet promotive effort needed to continue, for in 1864 the record showed that California, even with her population at that date of only about half a million people, was importing semitropical and cured fruits in various forms to a value of a million and three-quarters dollars annually. And to appreciate the blessings of California consumers of the present day in their varied and delicious diet of cured fruits it is only necessary to note that in 1863 California imported 1,863,800 pounds of Eastern dried apples—and some of us are old enough to remember what dried apples were fifty-five years ago.

But Californians learned to produce large quantities of fresh deciduous fruit before they began to seriously attack the problems of commercial canning and drying and therefore there was large surplus of fresh fruits, while dried fruits were still being imported with an annual expenditure of a quarter of a million dollars. An outlet for fresh deciduous fruits to distant markets was fondly anticipated through the opening of the overland railway in 1869 and new promotive effort was made on that basis during several preceding years. At first these anticipations seemed likely to be realized speedily, but it was only the beginning of a long period of trouble and disappointment, which will be mentioned later.

BEGINNINGS OF CO-OPERATIVE PROTECTIVE EFFORT.

The first organized effort to secure a fair share of product-value for producers was not made by fruit growers but by the wool growers, who formed an association on Sep-

(Continued on page 532.)

Limits to Profitable Orchard Planting?

[We take pleasure in reproducing here a summary of an illuminating paper on the above subject prepared for the Fruit Growers' Convention, meeting at Sacramento this week, by H. C. Dunlap of the California Prune and Apricot Growers, Inc.]

This question naturally resolves itself into many more concrete and elemental questions pertaining to the many branches of our orchard and vineyard holdings. But in this paper I shall confine myself to the two or three general questions involved with reference to available acreages, markets, and labor.

SHOULD FERTILE ACRES LIE IDLE?

First, have we planted all the available, favorable orchard acreages? We all know that we have many thousands of acres, ideal for the production of orchard and vineyard products, still unplanted, and I do not believe that in the nature of things it was ever intended that California soils and climates, so favorable to the production of practically all fruit products, should languish in obscurity.

THE OLD ORDER PASSES AWAY.

Not many years ago in this country, as in all others, thousands and thousands of acres were devoted exclusively to the grazing of herds and flocks, and the production of cereals. As in the case of the wooden ships, increased cost of marketing and of production in producing these lines, and the development of various suitable and attractive substitutes at attractive prices, has quietly replaced the old line. The thousands of acres originally held in large tracts have become divided and have been developed to such a high state of productiveness that the old methods are no longer profitable nor economic. One cannot afford to buy, pay taxes and otherwise maintain an acreage in the State of California as a pasture for beef, or a wheat field, when his neighbor over the fence takes off many tons of a fruit product at a profit on one acre equal to that of ten or twenty handled under the old plan.

NATURAL READJUSTMENT OF LABOR AND ECONOMIC CONDITIONS.

Is it in the scheme of things that all this progress has a limit that cannot be overstepped? There will come about a natural adjustment of every evil that results from the development of the world's resources and productivity. In the last fifty years many labor-saving devices have been invented and operated in all fields of man's endeavor. How many men have been put out of jobs by these inventions? What has become of them? In the natural course of events, other inventions of a creative nature have developed industries, and the men who might today be operating scythes and flails are manufacturing automobiles, flying machines, phonographs, and operating them. Some fifty years ago fruits and nuts—cured, canned and fresh—were luxuries in the produce markets of the world, and some few years ago automobiles were likewise. Observe and draw your own conclusions. One make of automobile may over-produce. Nevertheless, new uses and wider fields are opening, and an increased production has been, and will continue to be, required. Just so with horticultural and viticultural products. Some lines will be overdone. Some lines, lacking proper business handling, will go through periods of depression; but new fields will eventually be opened and other fruits, now produced in very small quantities, will come forward.

GOOD JUDGMENT A BIG FACTOR IN SUCCESS.

I have taken the trouble to correspond with many men and organizations in touch with the situation confronting the many different branches of the California fruit and nut industries, and whereas I found some a bit dubious as to the possibilities of future development of markets, I found for the most part optimism and confidence that a demand can be stimulated by proper methods to take care of a greatly increased production. It will not do for us to plant all prunes or all walnuts or go in too extensively for any one product, but if we will plant and produce from increased acreages of all our many varieties we may look forward to profitable markets for far greater yields of fruit. Through scientific handling, with the improvement of the finished product bound to come, we need have no fears of the future in general. I do not advise the indiscriminate planting of orchard and vineyard, but I do believe that agricultural interests are good investments, and California fruit and nut producers are going to prosper as a whole.

A MERCHANDISING PROBLEM, LARGELY.

New plantings of orchard can hardly be expected to participate in the present world-wide shortage of foodstuffs. After the war it will be a survival of the fittest—the best products marketed in the most attractive and scientific manner will win. The future of the California orchard, then, is a merchandising problem, and as such, with proper handling, will maintain as profitable a future as the production of other demands the consumption of the world may make.

In the old days, when commodities were few and production meant largely the result of individual effort, competition meant the life of trade. Today, with the development of myriad commodities and the many varied processes required to evolve a finished product, competition is still the life of trade; but competition today stands for the competition of excellence—not price. Competition in the old sense means the death of trade today. Co-operation does not stifle opportunities of the individual, but opens to him a reward for excellence.

SHADOW AND SUNSHINE.

The grape producer who has planted and tended his vineyard in the favorable climates and soils of many California valleys, and built and operated his wineries, all with the apparent sanction, fostering advice and assistance of the State and National Governments, certainly has some reason to rebel at the order of things. You do not, however, need to look forward to any such dire possibilities in the future of the prune, walnut and other industries; and although the raisin industry has increased so marvelously of late years, having received the excellent assistance of a co-operative marketing organization in the development of markets, I do not doubt that even greater markets will be developed and new products evolved to take care of increased production.

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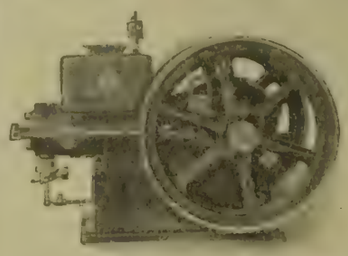

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If you want the best trees grown in Placer County, write for price list to
UNITED FRUIT COMPANY, Newcastle, California

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

PREFERS TALL MUSCAT VINES.

The biggest Muscat vines and one of the biggest Muscat crops ever seen by the writer was that on H. W. Bennett's seven and a half acres in Kings county in July, 1917. According to Mr. Bennett, they bore 30 tons of raisins in 1915 and about 23 tons in 1916. The vines are three and a half to four feet to the top of the old wood—designedly high off the ground for several reasons. There is more chance for fruit to avoid mildew both by being well spread out and by being high off the ground. In the first year, while fruit was low on the vines, big bunches rotted on the ground. Being so high now, the vines do not make so much brush, though they make enough. Practically all canes are cut to spurs for fruit next year. They are all short jointed and crooked, showing good fruit tendency. There is very little suckerwood and it has been cut off close when it did start. A special advantage of high vines now is that it is easy to get help to pick the grapes, especially with such heavy crops.

SATSUMA PLUMS BEAR WELL.

Satsuma plums are supposed to be shy bearers in Southern California, according to W. E. Sanborn of San Bernardino county. But he has a five-year-old tree 15 feet tall and 15 feet in diameter which required a dozen props last summer. Mr. Sanborn sold 200 pounds of fruit from that tree, besides what the family and neighbors used. The reason for general shy bearing, believes Mr. Sanborn, is that people prune off the fruit wood. He does not cut back usually, except where he can cut just above a lateral or where he cuts off the entire branch.

APRICOT ROOTS FOR ALKALI.

Brooks Bros. of Kings county have found by replanting that myrobalan roots are not good on alkali. Peach roots replanted twice on one corner have died, but apricots followed them and grew satisfactorily. They infer that apricot roots stand alkali better.

RABBITS LIKE GIANTS.

Jack rabbits bother Giant plums worse than any other plum varieties, according to Ed Ames of Placer county; but they do not care for Grand Dukes, with which he is replacing damaged Giants.

LEAN TREES TOWARD WIND.

In planting fruit trees where there is a strong "prevailing wind," lean them toward the wind and turn them so the most promising bud is toward the wind, advises F. F. Ebert of Poway Valley, San Diego county, several of whose trees are leaning to the northeast because he was not told in time.

VINES WIDE APART NORTH AND SOUTH.

In vineyard planting of all raisin varieties the latest practice is to put the vines 8x12 feet and not closer than 8x10, with the wide space running east and west to let all the sunshine possible to the ground for faster drying.

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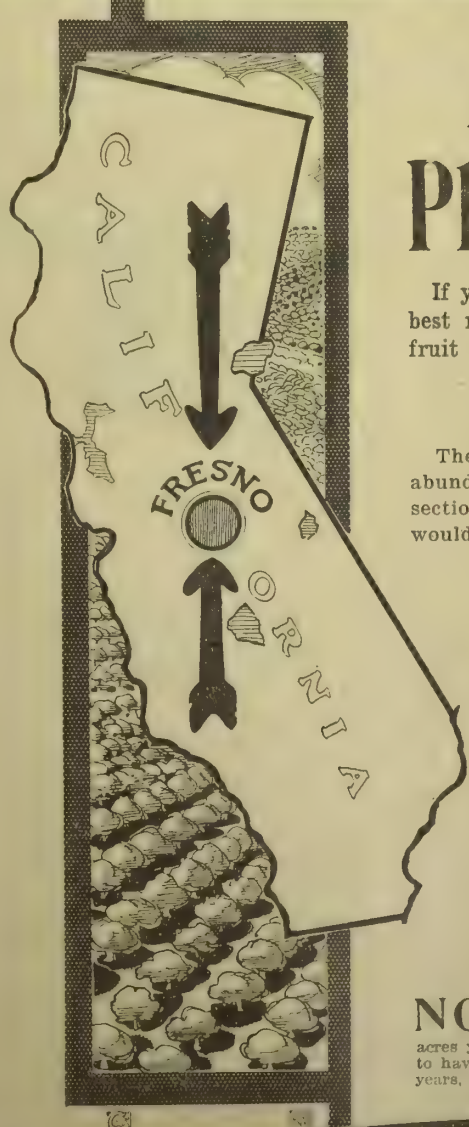

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OUR NEW CATALOGUE CONTAINS FULL AND COMPLETE INFORMATION ABOUT ALL VARIETIES OF FRUIT BEARING TREES—SENT FREE ON REQUEST.

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Fresno Nursery Co.

Organization of California Horticulture

(Continued from page 529.)

tember 24, 1860, "to provide a remedy against efforts to establish a monopoly in the wool markets of the State," which wool buyers had in good working order at that date. The first public announcement of the need of organization of producers which included fruit products was made in a "memorial to the people of California" in January, 1867, by I. N. Hoag, secretary of the State Board of Agriculture, in which it is said: "California is exporting a large number of agricultural products: her grains, wines and wools are quoted in the markets of the world. Our farmers must make themselves familiar not only with our productions and home markets but with markets in which our surplus may be demanded. The channel through which such information may be obtained, to be reliable, should be created and controlled by the farmers themselves. * * * Unless the farmers do so, they are at the mercy of the world and its multitude of sharp, unscrupulous tradesmen, instead of being the independent men they might make of themselves."

The result of this movement was the passage of a bill which was intended to promote the formation of co-operative industrial associations in the different localities of the State for the purpose of holding local fairs and collecting information under their auspices. Evidently the pioneers indulged in camouflage to conceal their ultimate purposes, as set forth by their memorial, intending to realize them in the operation of the local societies for which the State should furnish an amount of money equal to that locally contributed. The bill passed the Legislature but failed to receive the signature of the Governor, who was probably frightened by the financial possibilities it involved.

Five years later J. Ross Browne, a distinguished engineer of that period, who was promoting a plan of securing foreign capital to reclaim overflowed lands for agricultural purposes, found his plans blocked by the poor chance he found producers had of selling their crops at a profit and he wrote strongly on the subject in 1872, as follows:

"The truth is the grain merchants, the hucksters, the middlemen, the shippers, the railroads, the sack makers, the law makers, the assessors and the tax collectors manage to hold the agricultural classes in a condition of servitude unparalleled in a free country.

"I have seen wheat selling for more than 100 per cent more than the farmer got for it: wine retailing at hotels in San Francisco at $1.50 per bottle while it sold in Los Angeles for 40 cents per gallon, or 8 cents per bottle: grapes sold at 8 and 10 cents a pound for which the producer got only 75 cents a hundred.

"It has been said that these things always regulate themselves. I question if anything regulates itself. The farmers and fruit growers must combine for their own protection, as the grain dealers and hucksters combine for their own profit—otherwise they will continue to labor for the benefit of those who, however useful as a class, produce nothing."

Such declarations as the foregoing resulted in a meeting, during the State Fair of 1872, of delegates from various farmers' clubs and other local agricultural societies then existing for the avowed purpose of organizing a State-wide association to "serve as a medium of communication between the local clubs, to canvass the condition of the agricultural interests and their relation to the other industries of the State and, if possible, to devise some means for the better promotion and protection of those interests in the future." Thirteen California counties were represented and an address was issued to the farmers of the State "setting forth the disadvantages under which the agriculturists as a class are laboring, the grievances which they are suffering and showing the importance of strong and permanent organizations and early and united action." John Bidwell was chosen president of this organization, which was named the "California Farmers' Union"—the name having of course no relation whatever with the existing Farmers' Union, which was organized over thirty years later. This original "California Farmers' Union" was surely what we would call at this date a "hot one," for in its "address to the farmers of the State" we find these two declarations, which will sufficiently indicate the temperature of half a dozen others which were made:

"When the farmer is so fortunate as to produce a surplus and desires to send that surplus to the best markets, whether at home or abroad, he finds that not only the carrying facilities within his own country but even those of the high seas are as effectually united and combined against him as if owned and controlled by one man, and though the article he has for sale bears a high and remunerative price in those markets, the exorbitant freight demanded and forced from him for moving it leaves no profit.

* * *

"The customs of these men have grown so burdensome and exacting that in many portions of the State large quantities of perishable products, such as fruits and vegetables, are annually allowed to go to waste rather than send them to market, and the producers are unwilling losers of millions."

It is also interesting to note the fact that though several pages of this hot stuff were spread in the Report of the State Agricultural So-

UNPRUNED TREES HAVE GREATER DIAMETER.

[Written for Pacific Rural Press.]

That cutting back the branches of young fruit trees does not make them stockier is a direct contradiction of the teachings of most farmers and scientists we have heard express opinions. But the young fruit trees at University Farm, Davis, are pretty sure to know what they are doing. Over 100 pear, prune, apricot, peach, cherry and Japanese plum trees now three years old have been all their lives in an experiment that would actually show the facts. Some were cut back according to the familiar directions. An equal number similarly situated and treated have never been pruned. The trunks of the unpruned trees are uniformly of greater diameter, according to Dr. W. L. Howard, than the others, whose energy was dissipated by growing tops which were cut off and wasted every winter.

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Get the Right Kind of Powder for Stumping

"The farmer needs to know that he is getting *quality* in the powder that he is purchasing," says the *Western Farmer*. "If he secures the right kind of powder, the cost of removing stumps is greatly lessened."

The right powders to use for stump blasting are

GIANT FARM POWDERS
STUMPING — AGRICULTURAL

made especially for stump blasting and other work on Pacific Coast farms. "What the farmer should do," says Prof. G. E. Bailey, "is to use an explosive *especially prepared* for his work; one that stands all ordinary shocks of handling and does not easily freeze. He should not use expensive nitroglycerine explosives."

The Giant Farm Powders—Eureka Stumping for dry work and Giant Stumping for wet work—meet these requirements. They save work in land clearing because they lift and heave over a wide area, and get out roots and all. They save money because they go further than dynamites that merely shatter. Write us if your dealer cannot supply you with the genuine.

Five Books Free

Mail the Coupon

We issue five illustrated books, every one of them worth dollars to farmers who have stumps or boulders to remove, trees to plant, ditches to make, or fields to subsoil. Mark in the coupon the subjects that interest you and the books will be sent *free*.

The Giant Powder Co., Con.
Home Office: San Francisco
"Everything for Blasting"
Distributors with magazine stocks everywhere in the West

FREE BOOK COUPON
The Giant Powder Co., Con.
216 San Francisco
Send me your illustrated books on the subjects which I have marked X.
☐ Stump Blasting ☐ Tree Planting
☐ Boulder Blasting ☐ Ditch Blasting
☐ Subsoil Blasting
Name
Address
Write below your dealer's name

ciety in 1872, not a word about it ever appeared afterwards, and the Report for 1873 shows changes in the list of officers. Even now, forty-five years later, we can still see clearly "who struck Billy Patterson."

But the spirit of 1776 was not knocked out of the farmers of 1872 by the disaster to their project for a State-wide protective organization. Their "California Farmers' Union" only lived long enough to send a warm memorial asking Congress "to regulate freights and fares on overland railways and protect the people against impositions and oppressions by railroad monopolies." In 1873 the projectors of this Farmers' Union joined with many others of the same kind and organized the California State Grange—branch of the national order of Patrons of Husbandry, which was then valiantly attacking the old order of things against the farmer in nearly all the States east of the Rocky Mountains.

Organization was active from 1873 to 1875 both in the grange and out of it. The currant growers of San Lorenzo formed a local association to fix the price of currants sold to the trade. A Fruit Growers' Association of general scope existed for a year or two and fathered a plan for grading and standardizing fruits for sale in its own established markets under its own name, but does not appear to have actually tried it. In 1874 a "Fruit Growers' Convention" was held in Stockton, at which growers from many localities took part in discussions. This was probably the first meeting under that name, but it is not a part of our present series, which began later, as will be noted.

In 1875 the field was taken by the "Grangers' Fruit Association," which held several meetings. In October, 1875, it decided to open its doors to all fruit growers and it appointed a committee to report upon the feasibility of organizing a new association. This committee called a meeting on January 11, 1876, and reported in favor of a "mammoth joint stock concern of growers and manufacturers to preserve fruits on the co-operative principle." The meeting adopted a name and a constitution and collected $10 each from twenty-nine signers. The records do not show that anything else was collected from the undertaking, which called itself the "Co-operative Fruit Association of California." It died at birth.

It was a time of depression and pessimism in the fruit industry, but it was the darkest hour before a new dawn. Californians are always looking for the sunrise and they generally find it. The first rays of new light were caught by G. C. Pearson of South Vallejo, who, in April, 1876, after he had investigated conditions at the East, wrote as follows:

California is noted for the variety and excellence of her fruits. We can claim a monopoly of the apricot, nectarine, prune and plum. Our pears and peaches are scarcely equalled and never surpassed. The apple, quince, cherry, fig, orange,

(Continued on page 534.)

TREE PROTECTORS FOR WINTER USE

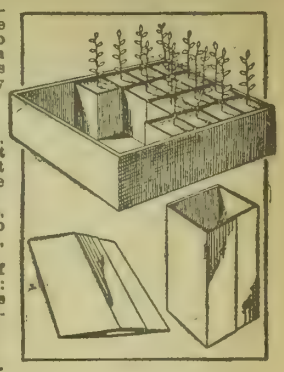
Why let rabbits bark your trees at this season of the year when for about a penny apiece you can save every one of them. We also have a heavy one that will save your tree from moderate freezing. If it's squirrels, tell us your wants. We have protectors for every need that will save your tree.

COLLAPSIBLE PLANTING POTS

Are you going to raise some Olive Cuttings, or Eucalyptus, or Rose Cuttings? Why not grow them in these pots and have every plant a single root system, and be assured every one will grow?

Why not plant your early Cabbage, Chilis, Tomatoes, and have good healthy plants to set out that will not stop growing a single day, for you can plant both pot and plant?

These pots are the up-to-date method of plant growing. Don't take our word for it: try them yourself. Write for samples of pots or protectors. Tell us which you are interested in.



THE EXPAN PROTECTORS CO.
935 E. Central Ave. Redlands, Calif.

The Difference Shows

Let's suppose that four years ago you and your neighbor each planted an orchard—same time, same soil, same kind of trees—only one difference. You planted with Hercules Dynamite. He used a spade.

Today the difference shows. You are gathering your first crop of fine fruit. Your neighbor is still waiting for his.

HERCULES DYNAMITE

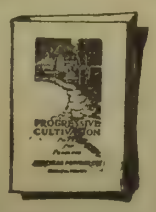
always proves a money-maker and a time-saver for the man who uses it.

When a tree is planted in a dynamited hole it starts life with a silver spoon in its mouth. All the chances of fortune are on its side.

To begin with, instead of having to struggle for existence, forcing its tender roots through tightly packed soil, it has a chance to grow and expand in a natural way. Its energies are not expended in an effort simply to live. This difference in its start shows throughout its life in its strength, its size, in the fine fruit it bears. The man who owns it profits accordingly.

Write today for the 64 page book "Progressive Cultivation." It tells how to plant trees with Hercules Dynamite, also many other uses for dynamite on the farm. It is sent free on request. The coupon below is ready for your name and address.

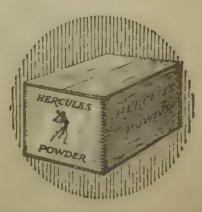
HERCULES POWDER CO.
Chronicle Building
San Francisco California



Hercules Powder Co.
Chronicle Building, San Francisco, Cal.
Gentlemen:—Please send me a copy of "Progressive Cultivation." I am interested in dynamite for _____

Name _____

Address _____



"THE BOSS" TREE PROTECTOR

Made of Yucca Palm.

Is cheap, durable and quickly put on the tree. It prevents rabbits from destroying your trees. A sure protection against frosts, sunburn, grasshoppers, or dry winds. Can be easily removed, will last for years. Send for samples.

Prices

	Per 1000
10 in. long, 7 in. wide	$10.00
12 in. long, 7 in. wide	11.00
14 in. long, 7 in. wide	12.00
16 in. long, 7 in. wide	13.50
18 in. long, 7 in. wide	15.00
24 in. long, 7 in. wide	18.00
30 in. long, 7 in. wide	21.00

YUCCA MANUFACTURING CO.,
1380 Willow St., Los Angeles, Cal.

SIXTY YEARS OF ORGANIZATION OF CALIFORNIA HORTICULTURE.

(Continued from page 533.)

lemon and olive are grown to perfection in the proper locations and soils. The grape luxuriates in our valleys, plains, hillsides and mountain tops. (!) With such a patrimony, with wealth unbounded, we are compelled to rely on France, Spain, Italy and even Turkey for many of the necessaries and most of the luxuries we enjoy. Imports of cured fruits alone into the United States for 1875 were worth twenty millions of dollars. Even California imports raisins, figs, prunes, etc., at the cost of $100,000, and brings apples, pears and plums from Oregon, dried peaches, apples and berries and canned fruits from the East; oranges, lemons and limes from the southern coast and islands —all of which can and should be raised at home. Let those who are hacking down their orchards and pulling up their vineyards "because they don't pay" reflect a moment. If there is a thorough understanding among fruit growers—a concert of action, a determination of purpose—no more orchards will be cut down and vineyards uprooted, but thousands of acres now worthless will be brought into production.

THE SECOND PERIOD OF PROMOTION.

The second promotion wave in California fruit growing resulted from a wider and truer conception of California's opportunity and ability to supply the United States with home-grown fruit and to displace imported fruit products. This was being gained from the increased overland shipments of fresh deciduous fruits, from increased confidence in the commercial curing and canning of fruits, from recognition of citrus fruits as a promising basis for colony establishment in Southern California and from many other tributary convictions and demonstrations. But the great central influence in the propaganda for greater fruit products and increased population sprang from what the world saw of California at the Centennial Exposition of 1876 in Philadelphia and from what Californians learned of the susceptibility of Eastern people to the inducements which this State offered in the way of delightful home-making and of profitable investment in lands capable of producing unique and profitable fruit products. The decade 1875 to 1885 saw the greatest demonstration of California optimism and patriotism because the basis of it was the first wide recognition of the State as a place for homes and not merely a mine of wealth to be seized and removed.

The characteristics of this promotive period were several. There were systematic efforts for immigration through colonizing enterprises and advertising. There was organization of voluntary societies for discussion and demonstration and other similar private promotive undertakings. There was a Southern California Horticultural Society organized in Los Angeles in April, 1877, and a State Horticultural Society in San Francisco in September, 1879: the latter holding monthly meetings for fifteen years and exerting wide influence. In 1879 also began the series of citrus fairs at various points in Southern California, which for several years were strong promotive enterprises. There were also in all parts of the State innumerable fruit growers' clubs, which increased local wisdom and rallied local pride.

But the particularly notable achievement of the period was the successful enlistment of the State itself in organization for the promotion of fruit growing and in generous appropriation of public money for the uses of the new executive branches of the State Government which the Legislature created. The first of these was the State Viticultural Commission created by the Legislature of 1880 and authorized in 1881 to appoint an advisory board of Horticultural Commissioners, which in 1883 was given separate and autocratic existence which has continued to this day. The first of the present series of Fruit Growers' Conventions was held in Sacramento in December, 1881. Though both the Viticultural and Horticultural Commissions came into existence for the particular purpose of warfare against pests attacking trees and vines, and though practically all our protective work in that line dates back to the transformation of Matthew Cooke from a box-maker to an entomologist in January, 1879, these commissions were a strong factor in the promotive line also and are to be credited with notable influence in the advancement of fruit interests toward their present industrial leadership in this State.

It was a wonderfully interesting and important decade, full of confidence and enthusiasm and of real horticultural achievement. The rapid expansion of subdivision and planting enterprises created new problems involving some reactionary disappointments and losses which were themselves a strong force toward organized effort as the only means of realizing anticipations which had been so freely indulged in.

THE SECOND PROTECTIVE PERIOD.

The stimulation of the greatest promotive period following the Centennial Exposition of 1876 necessitated the sequence of unusual protective effort. Fresh fruit shipments had largely increased, but fruit packing and loading were unorganized, and uncertain; overland freights were exorbitant and time schedules too slow and irregular; distribution by dealers was inadequate and conducted on the plan of making the greatest amount of money from the least amount of fruit. Whenever money was made the dealers made it: great losses were incurred, which caused growers to insist upon f. o. b. sales to shippers, and such purchases in turn wrecked the shippers and soon wiped out most of the dealers who pioneered large Eastern shipments, though a few managed to survive early difficulties and pulled through to great profits later. From the point of view of growers the business was altogether unsatisfactory and frantic efforts at organization were made. The "Orange Growers' Protective Union" was organized in Los Angeles on October 22, 1885, and the "California Fruit Union" in San Francisco on November 10 of the same year. A strong but unsuccessful effort to merge them was made at the Fruit Growers' Convention in Los Angeles on November 19 following. Though they agreed upon the great principles of co-operative selling by producers, neither desired to trust the blind to lead the blind and it was probably just as well, for they might have fallen into the ditch sooner together than they finally did separately. Both had great ideas at the beginning, many of which were realized twenty years later, but when first announced the growers had neither commercial experience, nor capital, nor development of co-operative spirit to embody their own dreams in realities. Still the declarations of the citrus growers at the South and of the deciduous growers at the North in 1885 must stand historically as the conceptions and inceptions of organized effort in co-operative fruit distribution, the outcome of which justifies us in claiming today the

Wagons That Stand Up

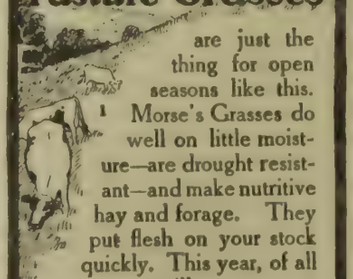
BEAR this point in mind the next time you buy a wagon—**Columbus and Weber wagons are guaranteed to stand up under capacity loads.** You don't have to be a wagon expert to buy a **Columbus** or **Weber** wagon safely. All you really need to know is the weight of your heaviest loads. Buy a wagon marked to carry that load and we guarantee safety and satisfaction worth more to you than all the talking points of all the wagons in the market put together.

Ask any dealer who carries **Columbus** or **Weber** wagons to show you just what we mean by this statement, or write to us for full information. Our wagons have many good features —the International fifth wheel, the sandboard wear plate, link end rods, folding end gate, superior material—more features than you will find on any other wagon. All these help to give the good service, long life and economy that you get with **Columbus** or **Weber** wagons. See the wagon or write to us before you buy again.

International Harvester Company of America
(Incorporated)

Crawford, Neb. Denver, Colo. Helena, Mont. Los Angeles, Cal.
Portland, Ore. San Francisco, Cal. Spokane, Wash. Salt Lake City, Utah

MORSE'S Pasture Grasses



are just the thing for open seasons like this. Morse's Grasses do well on little moisture—are drought resistant—and make nutritive hay and forage. They put flesh on your stock quickly. This year, of all years, meat will mean money to you.

Plant Now

Brome Grass is particularly suited for dry hill sides. **Australian Rye Grass and Orchard Grass** thrive almost anywhere. All are heavy yielders. Write today for prices and planting directions.

Also—ask for your copy of *Morse's 1918 Garden Guide.* Tells all about the best vegetables for your winter and spring garden. A complete handbook of Morse's Seeds—garden, farm and flower. Send for it today—it's free.

C. C. MORSE & CO.
729 Front Street San Francisco

Kirkman Nurseries

Established 1888

Wholesale Growers of

High-Grade Nursery Stock

DECIDUOUS AND CITRUS FRUITS

OLIVES AND GRAPE VINES

SHADE AND ORNAMENTAL TREES

Twenty-nine years of continuous and consistent service to the Western fruit growers.

There is a shortage of trees this year. To make sure of getting just what you want, place your order now.

Address Main Office

2522 Tulare Street
Fresno, Cal.

greatest attainments in that line in the world.

It is not possible in this connection to undertake any analysis of the economic considerations in accordance with which our fruit distributing organizations have evolved, nor even to sketch the progressive steps in this evolution. It will be enough to impress the fact that our greatest organizations, which by their example have made more recent organizations quickly attainable, were really the outgrowth of sustained effort and triumph over all kinds of counter-attacks by adverse interests and over inertia and distrust among those whose prosperity they have safeguarded and insured.

It has required about twenty years of such sustained effort to establish upon a permanent basis our organizations which are now leading, viz:

Orange Growers' Protective Union, 1885, resulting in California Fruit Growers' Exchange, 1905.

California Raisin Growers' Association, 1892, resulting in California Associated Raisin Company, 1913.

Santa Clara County Fruit Exchange, 1892, resulting in California Prune and Apricot Growers' Association, 1917.

California Fruit Exchange, 1893, resulting in incorporation in 1901 and still active under the same name.

Los Nietos and Ranchita Walnut Growers' Association, 1887, resulting in California Walnut Growers' Association, 1912.

Davis Almond Growers' Society, 1899, resulting in California Almond Growers' Exchange, 1910.

WISDOM BORN OF EXPERIENCE.

Only a few instances are given. It would require a large volume to cover the trials, tribulations and problems which organizers of California horticulture have encountered and through which many of them have succeeded and made our present attainments in fruit growing possible. The clearest lesson of the last sixty years is that success in organization can only be attained by keeping everlastingly at it—with growing faith in the principles of co-operation and growing wisdom in pursuit of their application to the production and distribution of California's products, until skill in handling them in the world's trade shall match their unique character and intrinsic quality and desirability.

The duty of the present is to gain wisdom and inspiration from the past and to carry efforts to full success, and it is a great duty, for from those to whom much has been given much will be required.

TRAGEDIES HELP ROBE DE SARGENTS.

Planting two rows of Tragedy plums, alternating with every six rows of Robe de Sargent prunes, accomplishes several objects for Arthur Swall of Tulare county. The principal object is to make the Robes bear, as they do not when planted in larger blocks. Both varieties bloom at the same time and, alternately planted, both bear heavily. The Tragedies are ripe and the fruit is off in July. They grow upward and make a good avenue through which to drive in distributing boxes for the Robes. The latter, though 24 feet apart, lap branches from one row to the other and drop prunes all over the ground. If Mr. Swall had to drive under them to distribute boxes, he would mash many unless they were previously picked up or thrown out of the way.

Seed Wanted

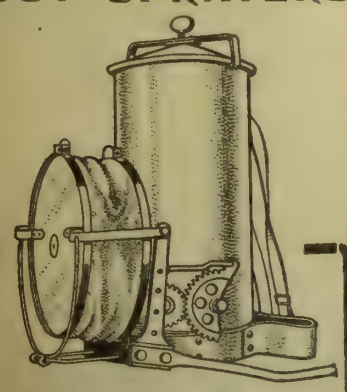
We are large buyers of

SUDAN GRASS
ALFALFA
WHITE BLOSSOM SWEET CLOVER
JIMSON SEED
WILD MUSTARD, Etc.

When writing send samples and state quantity

Aurora Seed Mill
48 N. Aurora St.
STOCKTON

AMERICAN BEAUTY DUST SPRAYERS



AT YOUR DEALER'S
or we will send it to you for
Standard size $16.00
Junior size 13.50
The California Sprayer Co.
6001 Pasadena Ave., Los Angeles

Grow Tulips Indoors

It's easy to grow Tulips, Hyacinths, Daffodils, and other Bulbs indoors with Morse's Bulb Fibre. A little fibre, Morse's bulbs, and a bowl are all you need. Morse's 1917 bulbs, imported direct from Holland, are here. Now is the time to plant them—indoors or out.

Our special $1 assortment includes 1 lb. fibre. A dozen beautiful Ranunculus bulbs free with each $1 order, if this advertisement is attached. Write today for complete Bulb catalogue and 1918 Garden Guide.

C. C. MORSE & CO.
729 Front Street, San Francisco

The Fate of the Unprepared

Among the remarkable events of this war no fact stands out more startlingly than the tragic sacrifice of Russia's unequipped soldiers.

The army has been victimized by intrigue and treachery. Guns were sent to the front without ammunition and ammunition without guns. Supplies were provided that when unpacked proved to be rubbish. Left stranded by communications that broke down under slight pressure the brave Russian troops hurled themselves again and again against foes perfectly prepared.

From the very verge of victory they doggedly fell back fighting with stones and clubs and iron bars, resisting heroically but ineffectively.

No thought can be more abhorrent to Americans than that of our boys ruthlessly slaughtered because of lack of equipment or support which it is the first business of us at home to supply.

Our Government, never before so powerful, is working prodigiously in the preparation of armies and means of warfare. Throughout the nation there is a unity of purpose that is piling on the altar of liberty every personal ambition and corporate gain.

Mines, factories, farms, shipyards, the counting houses and shops of every industry are laboring day and night to supply the sinews of war.

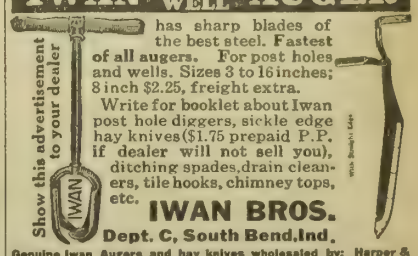
The Bell System is co-operating to mobilize production, transportation and communication, and is using its every energy to speed up American defense.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES
One Policy One System Universal Ser

Specialists in Specimen Stock for Landscape Work.
Hardy Rhododendrons, Azaleas, Boxwoods Hollies and a complete line of Coniferous Evergreens.
WRITE FOR PRICES
COTTAGE GARDENS NURSERIES, INC.
EUREKA, CALIFORNIA

SYMMES & MEANS
AGRICULTURAL ENGINEERS
Agricultural Investigation, Drainage. Legal Engineering and Water Right Reports. Alkali and Marsh Land Reclamation. Appraisal of Irrigation Systems. Management and Development of Lands. Ranches and Irrigation Projects. Soil Surveys.
58 SUTTER ST., SAN FRANCISCO, CAL.

IWAN POST & WELL AUGER



has sharp blades of the best steel. Fastest of all augers. For post holes and wells. Sizes 3 to 16 inches; 8 inch $2.25, freight extra.
Write for booklet about Iwan post hole diggers, sickle edge hay knives ($1.75 prepaid P.P. if dealer will not sell you), ditching spades, drain cleaners, tile hooks, chimney tops, etc.
IWAN BROS.
Dept. C, South Bend, Ind.
Show this advertisement to your dealer
Genuine Iwan Augers and hay knives wholesaled by: Harper & Reynolds Co., Los Angeles; Thompson-Diggs Co., Sacramento; Baker & Hamilton; Dunham, Carrigan & Hayden Co.; Pacific Hardware & Steel Co., San Francisco; Western Metal Supply Co., San Diego, California.

"NONPAREIL" AUTOMOBILE TRAILERS

Capacities:
A—1000 lbs.
B—1500 "
C—2000 "

Prices:
A— 85.00
B—100.00
C—115.00

TIMKEN BEARINGS
SOLID TIRES

Prices F. O. B. San Francisco knocked down and crated

Complete Stock for Immediate Shipments—Write for Catalog

ARTHUR H. HERTZ MANUFACTURER'S REPRESENTATIVE 112 Market Street, San Francisco

Field and Garden Suggestions

[Written for Pacific Rural Press.]

MULCH REDUCES ALKALI DAMAGE.

One of the Brooks Bros. of Kings county mowed and shocked barley on ten acres of alkali ground and left the shocks there to be worked over by hogs until fall. The whole ten were plowed in the fall and barley planted. Next year the barley on those spots was "three or four times as big" as that surrounding them, which was less than a foot tall.

Winter rains had distributed the alkali through the soil. Summer sun and wind had evaporated all of that moisture which rose to the surface by capillary action or otherwise. That water had dissolved the alkali and carried it to the surface but could not take it away when the water evaporated. But where the shocks stood wind and sun had not taken away the rising moisture and the rest of it had to stay down, keeping its alkali distributed through the soil so weak that it did not harm plants, as did that which collected at the surface when water evaporated through the summer.

That kind of a mulch was not much more effective in preventing evaporation than a dust mulch. In an experiment at University Farm at Davis a dust mulch carried over summer one-third of the previous winter's rainfall more than similar soil not mulched. Now, why not prevent evaporation by extra working, especially of fallow land, to keep a real dust mulch all over it, reduce evaporation, keep alkali harmlessly distributed, and get enough more grain to pay the cost and a profit?

BARLEY POOR ON SPRING-PLOWED STUBBLE.

J. W. Benoit of Modesto is a great booster for Sudan as a pasture crop. He found it better than his expectations in 1916; but after plowing the field and putting it into barley the following spring, he was doubtful about its further culture because he found that his barley did not do nearly so well on the ground that was seeded to Sudan as on land directly adjoining it which was in other crops. In April this difference was very apparent on all of the check that had been plowed when Sudan growth was still rank on the field. One spot which was too rank to plow under, though, had been burned off, and the barley on that spot was almost as good as that on adjoining checks. This would indicate that too much stubble was plowed under too soon before planting the remainder.

Another conclusion which Mr. Benoit arrived at is that it is more profitable to plant a crop of grain on the land in December and cut it for hay, planting the Sudan grass as a second crop on irrigated lands.

EARLY TOMATO PLANTS.

Sixty-five dollars' worth of tomato, cabbage, etc., plants were sold from a hothouse 8x12 feet square and 6½ feet to the peak, by P. M. Anderson of Humboldt county last spring. There was no digging for the hotbed, nor were the roots of his plants disturbed in transplanting to the field. The house is covered with building paper on a 2x4 frame. A bin was built to hold fresh horse manure around three sides, leaving only a narrow alleyway to work in. From bin to eaves the sides of this house were made of window glass to prevent plants from getting spindly. A little dirt was sprinkled over the manure just to keep it from the shallow boxes in which seeds were planted about Christmas. These boxes were set on the manure, which kept them and the house warm. When the seedlings had four leaves they were transplanted to second-hand strawberry boxes, about 3½ inches each way, one per box. They were sold when 6 to 12 inches tall at 50 cents per dozen, and the local demand far exceeded the supply. In transplanting to the field the bottoms of the boxes were cut off with a knife, so practically every root and leaf was saved. A few of the tomato plants kept in the hothouse were 3½ feet tall the first of June and had tomatoes already set.

BOTANY OF CROP PLANTS.

Those who desire to know the proper botanical classification of the crop plants they are growing will find the path open to such knowledge through a neat book on the subject just published by P. Blakiston's Sons & Co. of Philadelphia. The book is by Dr. W. W. Robbins, professor of botany in the Colorado Agricultural College, and is a model of clear and accurate statement and breadth of information covered. The opening chapters treat of the characters and service rendered by the different parts of plants, leaves, stems, roots, etc., and they are particularly enlightening to those who are growing plants. Such knowledge is fundamental in understanding cultural operations and will expel the confusion and ignorance on these subjects which now prevails. Then follow chapters on the different botanical groups of crop plants, which one readily breaks into by means of the index, which gives all common names by which the plants are popularly known. It is a clear way by which a plant grower can get the elementary botany he needs without being a botanist. The book is fully illustrated and the price is $2 per copy.

VENTILATED CRIB DRIES INDIAN CORN.

The value of Indian corn to the miller depends partly on how dry it is. Also, too much moisture in it when picked makes it spoil during storage. C. B. Smith, one of the large growers of San Joaquin county, has been able to sell corn shelled out of the crib in April with the low moisture content of 13½ per cent. This is due not only to the ventilators recently described in Pacific Rural Press, but also to the crib he uses. It is 234 feet long, 8 feet wide and built to hold corn 8 feet deep. It has a solid floor and A roof projecting over the sides, which are of 1x3's with inch spaces between. Windows are placed every 20 feet on one side to throw grain into the sheller; while on the other side is a space at the top to throw corn in. It cost $525 in 1915.

LARGER AND BETTER CROPS

With a great world food shortage and with the great war depending on the ability of this country to supply the allies, every acre of land should be made to produce its utmost. This can only be done by feeding the soil, i. e., increasing the available supply of the elements required by your crops.

GOLD BEAR FERTILIZERS

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

Let our Fertilizer Department help you solve the problem of bigger and better crops.

Send for Our New Fertilizer Booklet

WESTERN MEAT CO.

SAN FRANCISCO, CAL.

Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

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429 DAVIS STREET SAN FRANCISCO

The Best Powder Costs the Least Money

[Written for Pacific Rural Press.]

Contrary to popular belief in many neighborhoods, the high explosives which are most expensive are not the most effective in getting stumps out of the ground or in blasting ditches, or even in blasting soil. Leaving aside the old-fashioned black blasting powder, which has many disadvantages for the purpose and the use of which is not economical, the most satisfactory powder for land clearing is today the lowest priced high explosive on the market—the ammonia type farm powder.

This explosive not only costs less than others per pound, but actually delivers results for less money. The reason is that it has a more pronounced lifting and splitting action than the old straight dynamites, with less of the violent grinding and pulverizing action. It is very low freezing, is made insensitive so it will be safe, and will stand loading under water if the sticks are not broken, for a reasonable length of time before firing.

This year the powder supply is especially important, for to a considerable extent explosives can be substituted for the work of men. The increased acreage demanded by the President and by farmers themselves (to cash in on high prices) had better come from land now idle and in stumps. It is this land that will produce the biggest yields with least work and fertilizer after it is cleared. Its native richness never has been depleted. It requires neither coaxing nor resting.

There is a great deal of money to be made by farmers who actually can increase their production without at the same time increasing their expenses a like amount. To accomplish the net increase, they must get more raised from the work of every man engaged. Wide implements are therefore important. Rich land is important, as it takes no more time to cultivate a fertile acre than a poor one, while the crops may be double on it. Powder is important for saving time in clearing, but of even greater importance from the fact that its liberal use will clean the land up in short order so the big implements can be used without breakage and without delays.

A brief study of powder, therefore, is time well spent by a great many farmers. It is foolishness to pay too much and to get explosives not well suited for the purpose.

OATS YIELD WELL.

A picture of Texas red oats planted in the winter by G. F. Smith of Kings county is furnished us by E. C. Lynn. The picture, taken about June 1, shows oats almost high as horses. They yielded over four tons per acre last year; the land was then pastured, and three tons per acre were cut from the same field this year.

NEW LAND FALL-PLOWED.

Tepary beans yielded over two tons on two acres of entirely new desert land for H. M. Sheehan of Antelope Valley, Los Angeles county, in 1916. He plowed about 14 inches deep in November and allowed the ground to weather until summer before planting.

Uncle Sam counts on you

to serve the nation by getting the *most feed value out of your crops.* Without increasing acreage or yield, you can get 25% more cornfeed by husking ears and making fodder of stalks, leaves and husks—besides saving labor over hand husking.

The Appleton cuts or shreds stalks and leaves, while husking ears. The *original* successful husker; so strong and simple that first models, made years ago, still give good service.

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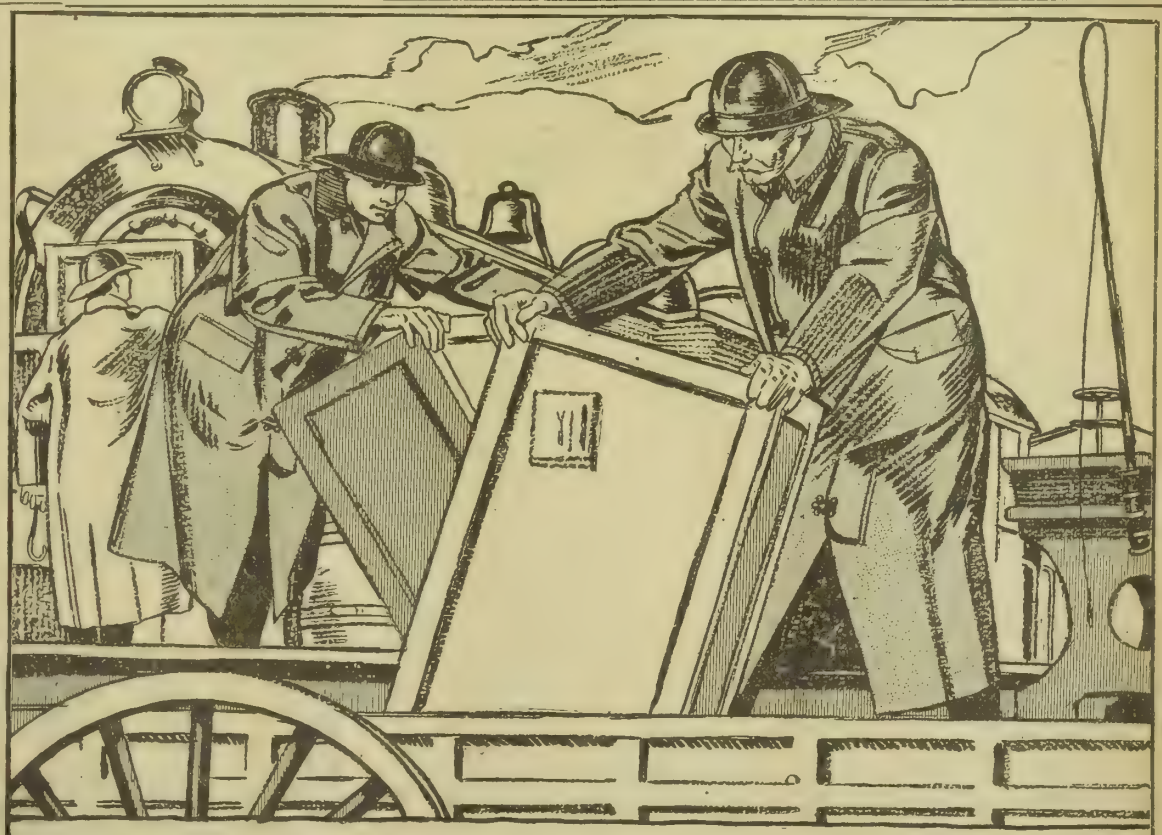

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Raynster

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The hustle and bustle of farm and freight station never stop for rain. Men must be outdoors in the worst of weather.

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This new word "Raynster" is the name of the United States Rubber Company's entire line of weatherproof clothing. And to make sure that you *get* a Raynster when you buy, each coat is labeled.

The Raynster label is your assurance that you are getting a waterproof coat that is serviceable and comfortable and made of the best of materials. Buy by this label—it's your protection.

These practical storm-coats are made with ample room to work. They're made strong and durable. They're made to fit every purpose and person.

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The rigid main frame makes the forged disks double cut, pulverize and level the ground. Close hitch. Light draft. All sizes.

Write for book telling how to raise better crops with less cost, "The Soil and Its Tillage," it's free, also new catalog. Ask for name of nearest dealer.

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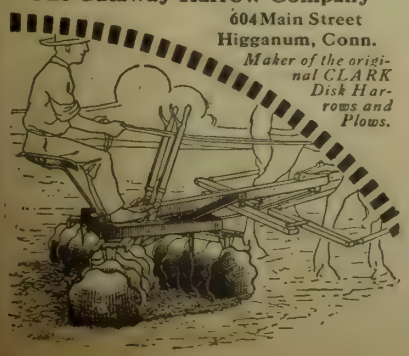


General Agricultural Review

Field Crops.

According to the United States Crop Reporter, there were 9,000 acres planted to onions in California in 1917.

Rice growers in the Glenn county district have appealed to the State Horticultural Commissioner to aid them in fighting the water grass.

Bean crops throughout the world are so enormous that Great Britain is figuring on sending millions of pounds every month to Belgium.

Bean growers at Patterson are still pulling bean vines by hand, due to lack of help. Sled cutters are not used because the vines are so long, thick and full of pods.

Thomas C. and Milton F. Daily of Oxnard have purchased 120 acres of bean land near Owensmouth, Los Angeles county, for $60,000. They will plant the entire tract in beans next year.

A bale of long staple cotton was sold last week at Clarksville, Texas, for 65c a pound, breaking all records. This price was exclusive of seed, which was valued at $3 per bushel.

The State Council of Defense recently undertook to market 100 carloads of potatoes for ranchers living near Alturas. The Council fixed a price of 1½c a pound laid down at the depot at Alturas.

A 40-acre field on University Farm at Davis yielded 10.3 tons per acre of alfalfa hay last year; and when the 1917 crop is all in it will total a little more than that, according to Dean H. E. Van Norman.

The largest carload of sweet potatoes ever shipped from California left Livingston, Merced county, recently, bound for Portland. The load contained 600 crates, totaling in weight 74,000 pounds. Growers of sweet potatoes are receiving twice last year's price.

Many of the imported Mexican laborers that had been employed in Los Angeles and Orange counties in harvesting the beet crop are returning to their homes in Mexico instead of going to the Imperial Valley and help harvest the cotton crop there, as hoped.

The hop buyer is in the field for the 1918 crop yield, and in Mendocino county and adjoining counties contracts for next year's output are being signed up. The price announced is above that offered at the time hop-picking began this season.

H. O. Jacobsen, general manager of the Dodge Rice Company, declares that the company lost $60,000 by reason of the depredations of ducks. He estimates that at the average annual consumption of rice per capita the ducks on the Dodge plantations alone ate up the rice quota of 160,000 people.

In an effort to increase the beet acreage of Tulare county, officials of sugar companies there have started solicitors for the purchase of beets on the basic price of $7.50 per ton, the contract to remain in force for two years. In case of a further rise in the Federal Government price of sugar, a bonus is to be paid.

Deciduous Fruits and Nuts.

San Diego county will give some attention to almond raising in the future. About 2,000 acres around Jamacha is now being opened up for this purpose.

Santa Barbara's walnut groves escaped the excessive heat which injured the nuts in some sections and consequently the quality of the crop is excellent.

E. P. Southworth, secretary of the Yucaipa Apple Association, has estimated this year's apple crop at about 18,000 boxes. This district is about 4,500 feet above sea level and now has planted 6,000 acres to apple trees ranging from one to seven years old.

Using the orchards themselves as their laboratories, orchardists of Fresno county will make a study of all the common diseases of orchard trees and the methods of control at a series of meetings to be held under the auspices of the Fresno County Farm Bureau.

A special hull spout has been used this year for the first time commercially on the Schmeiser Sure-Pop almond hullers. The spout runs far enough horizontally before rising so that a picker may take from among the hulls whatever small or cracked nuts have gone through the screens. The saving more than pays for the cost.

Citrus and Semi-Tropical.

San Diego county reports a full olive crop this year and they are meeting with a good demand.

Chas. P. Grogan, the Los Angeles olive packer, has purchased of C. W. Fletcher his 20-acre bearing olive grove at Lindsay for $1,500 per acre cash.

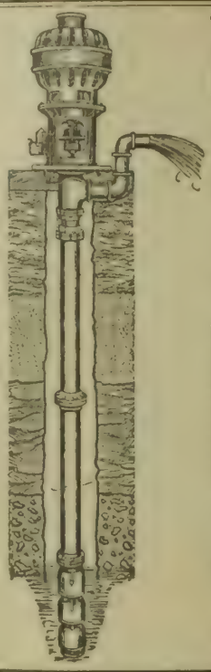
Orange shipping from the Lindsay district began this week. The fruit is already testing well up to the eight to one standard, though it is coloring rather slowly.

Heavy trucks are being used to haul olives from Shasta county to Oroville, where they are being pickled and converted into olive oil. The trucks are being used to relieve the car shortage.

Four date palms, heavy with fruit, were shipped from the "Garden of Allah" on the Timken Ranch, Imperial Valley, to San Diego and appeared in the pageant of freedom there last Saturday.

Two carloads of grapefruit, consigned to San Francisco from Isle of Pines, West Indies, have been seized by the State Commissioner of Horticulture. The report says that the fruit was infected by scab, anthracnose, dry rot and apparently melanese.

The shipments of oranges from Southern California from November 1 to 14 were 945 cars, against 132 cars same time last year. These were all Valencias. There is said to be still over 600 cars of Valencias to go forward. These oranges will not only supply the Thanksgiving trade but will help out the Christmas supply and will help the shortage in the navel crop. A few navels from the Tulare district are expected by December 1, but nothing like the offerings of previous years. The shortage in the supply on the Eastern markets, however, is being met to some extent by liberal arrivals of oranges from Porto Rico, about 20,000 boxes a week.



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Food Administration Meets Bean Growers

[Written for Pacific Rural Press by B. J. Morris.]

A very important meeting of the bean growers of San Joaquin county was held at Stockton Saturday, November 17. The meeting was called for the purpose of bringing the bean growers of the San Joaquin Valley into personal touch with the Food Administrator of California, Ralph P. Merritt.

Farmers from all sections of the valley, representing 19,000 acres of beans in Sacramento, San Joaquin, Stanislaus and Merced counties, met in the forenoon to summarize the reports on the actual cost of bean production. Statements were read giving the actual cost of this year's bean crop by a number of farmers. As a typical example of these statements we give the following:

"We carefully itemized," said Mr. Bigger, "all cost on No. 1 bean land, and it cost us at least a general average of $40 an acre under the most favorable circumstances. Rental was not allowed in the figures. No account was taken of the past losses due to frost, late rains, and other causes."

Some statements showed that the actual cost on some farms was as high as $60 per acre. No satisfactory average could be determined, and the preliminary meeting adjourned after passing resolutions to be read at the afternoon meeting. One of the resolutions was as follows:

"Resolved, that in view of the high cost of production that a price to the grower of not less than 8 cents a pound for pink beans not carrying more than 4 per cent waste for Stockton and Sacramento delivery is necessary in order not to curtail the much-needed production."

After the reading of the resolutions at the afternoon meeting, Ralph Merritt addressed the hundreds of growers and dealers that packed the large room to overflowing. Mr. Merritt discussed the various problems concerning the bean situation. The points of his address may be summarized as follows: First, the Food Administration has no authority to fix the price which the growers may receive for beans. This must be determined by the law of supply and demand, which in turn will depend upon circumstances due to the war that cannot be controlled even by the Government.

Second, the Government will protect the grower against speculation and unfair treatment.

Third, the farmers must square the prices which they ask for beans with their conscience. Patriotism demands that they be content with a fair profit above actual cost and not hold out for unreasonable prices.

Fourth, statements showing the itemized cost of production—including interest on land and necessary machinery investment, the actual outlay in the form of labor, seed, etc., and a small amount for risks and hazards—should be presented to the Federal Food Administration Board.

Fifth, the Government would need, in addition to the 40,000,000 pounds of beans bought in October last, about 37,000,000 pounds more to meet the demands for the year.

Sixth, no beans will be exported to the allies, for the reason that they can buy all they need from Manchuria and South America cheaper than from the United States.

Seventh, the Food Administration would do all within its power to get the railroads to move the crop and the bankers to finance the handling of the crop.

In conclusion, Mr. Merritt called attention to the fact that up until a few years ago food was considered a personal affair—one could eat what he chose and not be accountable to the Government or anyone else. Now, food is a national affair, and the Government is vitally concerned about what and how much one eats. In other words, food has ceased to be a mere material thing and has become a spiritual thing—a vital means of determining whether or not democracy shall still remain upon the earth. The problem of the price of beans is no longer what profit can the grower make, but rather how many people in France who are fighting our battles for us can be fed.

To the question raised by George Turner of Union Island, If the supply of beans is too great for profitable production, what other crops could be raised that would meet the demand of the allied nations? Mr. Merritt replied that sugar beets and wheat were the only crops more needed for export than beans, and that it was an individual matter as to which crop could be most profitably raised upon any particular farm.

A lengthy discussion followed Mr. Merritt's address, with the result that Frank S. Boggs, president of the San Joaquin County Farm Bureau and chairman of the meeting, was instructed to select eight representative bean growers who would constitute a committee to gather accurate itemized data concerning the cost of growing beans on average land in the San Joaquin Valley, the data to be gathered as soon as possible and placed in the hands of Mr. Merritt, who will present it to the Federal authorities at Washington.

The general impression seemed to be that the meeting had greatly cleared up the confused situation that had obtained for several weeks past and that the growers now know what they can do to insure themselves a fair profit for this year's crop. Similar meetings should be held frequently.

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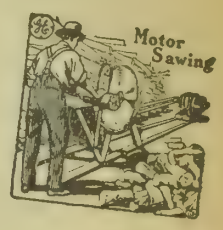

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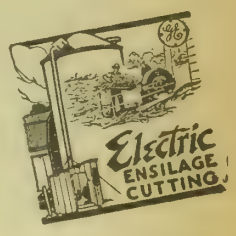

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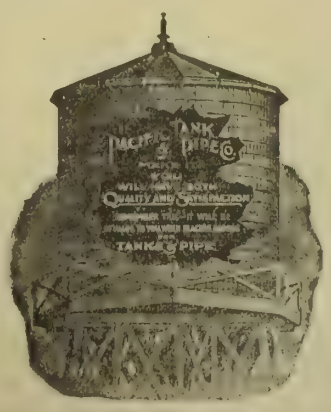

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TRACTOR SHORT COURSE TO BE REPRODUCED IN PACIFIC RURAL PRESS.

Every farming community is feeling the loss of its young men. Those who remain must do more work. That wouldn't hurt some of them, but, as a whole, those who actually work on the farms are giving their country probably greater service in proportion to the compensation they get than any other class. If they do more work, it must be by means of labor saving machinery. This is being recognized by farmers so much that tractor manufacturers are far behind their orders. But tractor operators are getting scarce. We know one farmer who runs five tractors. Three of his drivers were drafted. Another farmer refuses to make definite plans for the increased wheat acreage which the Government needs because his tractor drivers are subject to draft. While there are indications that vocational reasons will hereafter be accepted to some extent to exempt farmers and tractor drivers from military service, such exemption is by no means certain. It therefore behooves every farmer and farm worker who now operates a tractor or who may need to in the future to know as much as possible about what his machine is made of, what makes it go, what makes it stop, how to avoid trouble, and how to fix trouble without waiting for a service man or for parts which may arrive after the season for work is over. If a doctor knows how the human body works, what its parts look like, where they are, and how they act, he can treat each individual intelligently with relation to his symptoms. When the tractor driver knows every part of his machine and why it is there, he can avoid trouble or remedy it with common sense.

EXPERIENCED MEN FOUND IT VALUABLE.

It was for these reasons that a splendid short course on tractors was carried out November 5 to 15 at University Farm, Davis. Most of the students had already much real experience. All were enthusiastic in commenting on the new ideas they received. This does not include perhaps half a dozen who went to the short course knowing all there is to know about mechanical engineering nor to the very few who filled each others empty heads with audible emptiness while the lectures and demonstrations were going on.

If the short course itself be likened to a tractor, it may be seen to promise an effect similar to the tractor in making increased crops possible. Its motor (Prof. J. B. Davidson) was a personification of the smooth running, quiet, well oiled, efficient engine that never knocks except on utmost provocation. This motor was co-ordinated with various other essential parts of the machine (the instructors) with such precision of organization that, though carrying a 50 per cent overload (184 students instead of the maximum of 120 planned for), there was scarcely a suggestion of "laboring."

The machine had to plow up the ideas of students with as varied experience as the varied soils of California. Then, all within ten days, the seed was sown in fertile, enthusiastic, experienced minds.

It would be folly to expect the crop to be grown in ten days; inexperienced men were not transformed into fully experienced engineers; but it would be equal folly to discount the crop that will come from this seed sowing. Because a farm hand may multiply his crop producing power by becoming a tractor operator, the patriotism is well shown of all connected with the course, teachers, students, and tractor companies who furnished nearly a dozen machines for the students to drive around the fields. Their patriotism was further shown by subscription of nearly $1,000 to the Y. M. C. A. war fund, by the maintenance of a military drill company, by some who have sons in the army, and by students who will go.

WILL REPEAT SHORT COURSE.

It is to extend the benefits of this short course to our 28,000 farm subscribers and to their families and hired workers that Pacific Rural Press proposes to publish the notes carefully taken by our representative and by no other publication. Answers to questions fired at the speakers so freely are included in the notes. Much in these lectures is already known by many people, but we venture to say that the most experienced tractor operators will pick up ideas from the notes that will save hours of exasperated enforced idleness awaiting repairs. Much that is elemental and funda-

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Read What These Sheldon Owners Say

I and my hired man laid a feeding floor for my barn, 32x64, in one day, also put floor in my cow barn. My neighbor liked it so well I am not able to keep it at home—ANDREW CHRISTENSEN, Hancock, Minn., Rt. 1.

We have used the mixer during past year for pattons in cement foundations for a complete set of farm buildings, including silo, and liked it very much—DANA WRIGHT, Jamestown, N. D.

Last year I bought a cement mixer from you with which I am well satisfied. It did not take long for it to pay for itself and I surely can recommend it to anyone needing a *big mixer at a small price*—WM. PARKS, Martinton, Ill.

I am more than busy with my Sheldon Concrete Mixer. Have more work than I can do. *I get $10 a day when I work out*—JESSE L. WITTER, Wellsville, N. Y.

The machine works fine. Have already *put the job* of moving concrete for the bridges in this township—JOHN ROSS, Spartansburg, Pennsylvania.

Last spring we purchased of you a set of castings to make a concrete mixer. It was constructed per the plans furnished and it *surely worked great*—D. M. BRUBAKER, Freeport, Ill.

FREE PLANS

Make your own concrete mixer. You can do it at a cost so low you can not afford to mix concrete by the shovel method. Along with our iron parts we send Free Plans and permit for making your own machine. A good way to get a practical mixer at a small expense. Or, we will sell you the complete machine, ready built.

Make Big Money at Concreting

If you buy a Sheldon Mixer for your own use, you can make many times its cost in a season by renting it to your neighbors. Or, if you want to go out with the mixer on contracts, you can easily earn $8 to $20 a day. Our customers are doing it right now. The jobs go to the man with a Sheldon Mixer every time.

Write For Our New FREE Catalog

Shows our full line of mixers which are sold direct to you on strong guarantee. *Thirty days trial* privilege. No other like it. Patented. Two styles, hand and power. Mixes 2 1-2 cubic feet a minute. One man can operate it, but it will keep 2, 3, 4, 5 or 6 men busy. Continuous chain drive. Tilting dump. Easily and quickly moved. All parts guaranteed. Does work equal to $400 mixer. Be sure to get the catalog. Write today.

SHELDON MANUFACTURING COMPANY, Box 898 Nebraska, Neb.

We Ship Direct from San Francisco

We have just warehoused a carload of Sheldon Mixers in San Francisco to save you freight and time—can deliver your Mixer in three days if necessary.

No Long Wait—Lowest Freight

The Sheldon will pay for itself on first small job. Takes the backache out of concrete. Makes possible those many small improvements that add so much to the value of your land.

DISC PLOWS AND OTHER TRACTOR TOOLS

GROUND HOG PLOWS—For Heavy Soils
AUSTRALIAN KING PLOWS—For Lighter Soils
CUNNINGHAM LAND ROLLER AND PULVERIZER

All Sizes—We Can Save You Money—Write Us

SPALDING-ROBBINS DISC PLOW CO., Manufacturers

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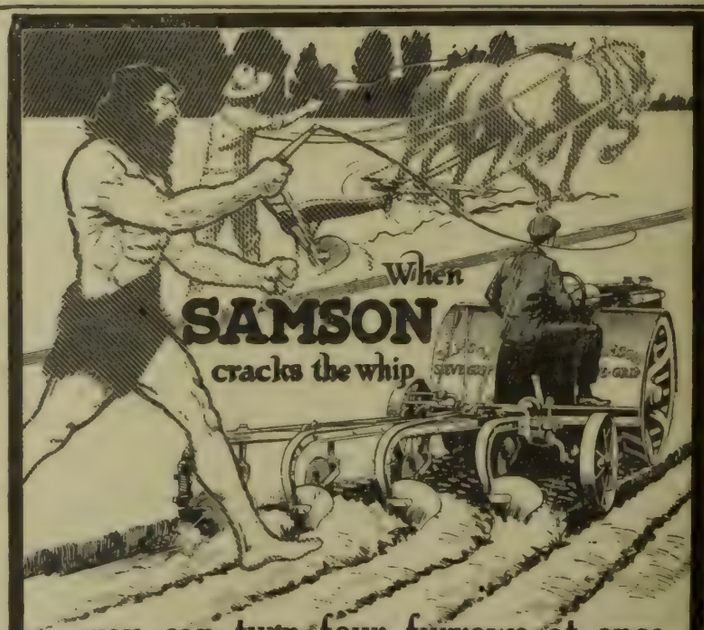

—you can turn four furrows at once,

plowing an acre an hour at half the cost of team work, when you SAMSON-ize your farm.

SAMSON SIEVE-GRIP

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TRACTORS

Represent the Highest Development in Modern Farm Power

More than 1500 progressive farmers throughout Pacific Coast States have lowered Cultivating costs with Samson Power. Operating and Up-keep costs are low because of light weight, direct drive, perfect lubrication and protection of all working parts, overstrong construction throughout, and numerous Exclusive Patented Features.

Fall and Winter Plowing Is Just Ahead

We have information that will help you reduce its cost. The Coupon in the corner is an easy way for you to get it. Latest Catalogue, and Tractor Farming Magazine, SAMSON SIFTINGS mailed free, if you ask for them. Tear it out and mail it today.

SAMSON SIEVE-GRIP TRACTOR CO.

(Division of General Motors Corporation)

Stockton, California.

mental must be included for the sake of readers who are not much acquainted with engines; but it will not hurt experienced operators to review these principles.

We suggest that wherever convenient the articles be studied on a tractor, taking it apart to see and do the things mentioned, being sure to replace them each where it came from, without permitting dirt or flying dust to get into the parts.

Those who follow the course are invited to ask all questions that interest them, first finding if their questions have already been answered in previous issues. If we cannot answer them, they will be referred to competent authorities.

WHY MOTORS BURN OUT.

[Written for Pacific Rural Press.]

One of two faults is responsible for the burning out of electric motors, according to F. E. Boyd of the General Electric Co. If they are allowed to get wet with rain or by being submerged partly or entirely in water, the insulation will insulate imperfectly, electricity will jump from one strand to the next and will burn things. A carefully built motor may be saved after being wet by baking 24 to 36 hours in a ventilated warm oven not over hot, and then running for half a day on half voltage to warm and dry inner sides of wires. The second cause is overloading. You may gain a little by overloading occasionally, but it takes only once to burn out the motor, and all of your saving isn't a drop in the barrel of your loss. Overloads are sometimes caused by reversing a motor suddenly while running full speed under full load. Sometimes the bearings of the rotor shaft get worn so the normal fifteen thousandths of an inch clearance allowed the rotor by the manufacturer is reduced to five thousandths or less on the under side. This acts as a brake on the motor, which, added to the normal load, is an overload. Bearings should be kept suitably lubricated but not over-lubricated. When they get worn, they may be renewed by getting new bearings sleeves at about $2 each. Bearings usually wear out either from lack of lubrication or from dust getting into the oil in them.

REPLACES SAME NUTS ON TRACTOR BOLTS.

[Written for Pacific Rural Press.]

In dismantling a tractor to overhaul it, a good many nuts may be found which require lots of wrench work and time to get them loose. At any rate, George G. Pierce found it so about three years ago in dismantling his 75-horsepower tractor. Some of the nuts are well nigh inaccessible for a wrench, and it would save lots of time if they could be unscrewed with the fingers after being loosened with a wrench. Now, after a nut has come off from a tractor bolt, it is likely to go onto it easily and come off easier next time. But if that nut is put onto another bolt, there is often trouble getting it on and getting it off at the next overhauling. Before taking the nuts off, Mr. Pierce has made a chart on a board with nails representing the various bolts which cannot be readily removed when the nuts are taken off. Each nut is hung on the nail on the chart representing its bolt and there is no mix-up.

Heavy Double Tractor Discs

KILLEFER QUALITY

KILLEFER EFFICIENCY

Our Engine Discs are built in sizes from five to twelve feet in width. The Discs are made extra heavy for this class of work and are stronger than anything obtainable on the market. The arbor bolts are large and all castings are made heavier in proportion to stand the extreme strain required of the Tractor Tools. The discs are equipped with weight boxes to give the necessary weight to insure the proper penetration on different characters of soil. The pitch of the disc is controlled by connecting arms bolted solidly in place, but which can be changed to any pitch desired within a radius of fifteen degrees.

The Killefer Manufacturing Co.

2209-21 SANTA FE AVE. BOX 156 ARCADE P. O. LOS ANGELES, CAL.

Note What It Does

IN ORCHARDS IN VINEYARDS

This *15-Feature* Tractor Will Almost Run Your Place

15 FEATURES — invaluable in orchards and vineyards — make this the needed tractor.

No other tractor of the track-laying type sells at so low a price. And no other has such advantages as the *patented front drive.*

Handles Like Horses

The Bean TrackPULL Tractor turns clear around inside a 10-foot circle (5-foot radius), and it has *full power* even on so *short* a turn. It plows and harrows close up in the corners, and right up to the trunks and vines. It goes under tree-branches only four feet off the ground; and works between 7-foot rows in vineyards On account of the patent principle and simple transmission, the fuel consumed is far less than other types doing the same amount of work. When you hit soft spots or holes, you simply swing the track over and pull out as you do with teams.

When not in the field this tractor's 10 h. p. pulley runs your stationary machines.

A Great Patent

The Bean TrackPULL is different from all other tractors in that it *pulls* instead of *pushes* itself along; and you steer with this track that pulls. That is why the Bean can be "gee-ed" and "haw-ed" like a team. This feature is patented so no other tractor can provide this big advantage. Sooner or later you'll decide, without doubt, that you want a tractor to do these things.

Know First—Then Decide

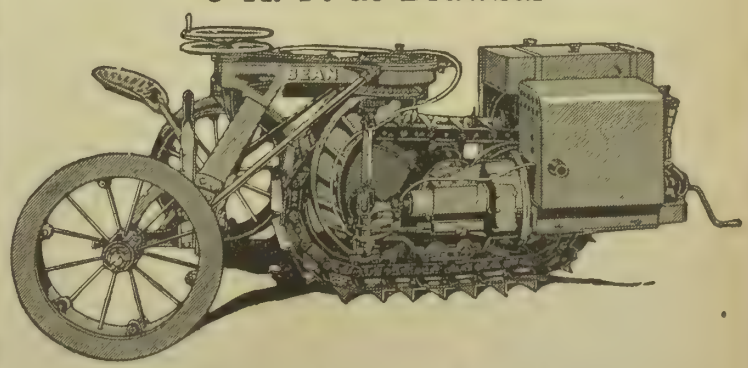
So don't buy a tractor until you know all the facts about this remarkable agricultural aid.

The Bean TrackPULL Tractor *pays for itself* in what it saves for its users. It weighs less (3100 lbs.) and *costs less to operate* than wheel-type machines of equal power. And yet it has *greater traction.* The pressure per square inch on the soil is less than a man's foot.

Before you turn this page send for full information about the Bean TrackPULL Tractor.

BEAN TrackPULL Tractor

6 H. P. at Drawbar



Price Now $1215

This price is the very lowest for any track-laying tractor built.

But material costs are rising every day because of the great demand for metals. Our low price therefore may have to be withdrawn without any further notice.

Mail the coupon for our new catalog; the most interesting tractor book in print.

Sending the coupon doesn't obligate you. It simply brings full information.

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Without any obligation on my part, send me Bean TrackPULL Tractor Book.

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City.....County.....

State.....

Fairs Encourage Uncommon Breeds

[Written for Pacific Rural Press.]

What's the glory of winning fair prizes with no competition? Not much, except that the judges are not to tie ribbons on unworthy animals. Showing without competition, especially where only one or two herds of a breed exist in the State, not only has an advertising and a premium value for the exhibitor, but it also has a distinct educational value for the people of the State; and as such the money spent for premiums is well spent.

Who of those permitted to go to the State Fair would not, for instance, like to see the one or two herds of Devon cattle or even the Kerry and Dexter cattle, just to take chances on finding something better adapted to his conditions than the grades he now has? Who knows about Mulefoot hogs or Persian sheep except those who have seen them? And what better place to see and compare them than at the fairs!

The fairs are doing good work by showing themselves willing to encourage the introduction of new breeds into the State. Some of our popular breeds in California were once introduced, and in small numbers. Who knows what breeds may rise to a zenith of popularity in the future, having been encouraged by the fairs during their years of struggle to win the popular approval?

BABY MILK PRODUCED SEPARATELY.

[Written for Pacific Rural Press.]

"Baby milk" is a specialty of A. M. Smith's dairy at Visalia. The milk from Durhams and Ayrshires contains less casein than that of other breeds and more nearly the same percentage as that of human mothers. The milk from six of these cows is mixed together so the fat percentage is about 3.90 and so that temporary changes in any cow's milk due to weeds, etc., will not have so much effect on the whole. The babies' mothers pay two cents per quart extra for this milk and are happy to brag about how their children thrive on it.

ALFALFA BLOATS SHEEP.

Over 125 sheep out of 3,500 pastured on alfalfa by a prominent sheepman of Dixon, Solano county, bloated and died. They had been brought from the hills and dry pasture, and were turned into deep alfalfa without much preparation. The way practiced by C. E. Schmeiser of the same district is to fill them with alfalfa hay, turn them on alfalfa pasture about an hour till they get pretty well puffed up, then keep them in the corral until they are gaunt again. He put 350 on alfalfa this way November 10.

W. J. Higdon, Guernsey breeder of Tulare, recently shipped four purebred animals to South America.

King Korndyke Pontiac 20th

Will put your herd "over the top" to success in the breeding of registered Holsteins.

Weigh These Facts:

HIS SIRE is King Korndyke Pontiac, said by many to be the best individual son of the peerless sire, King of the Pontiacs. He now stands at the head of the high-class herd owned by Mr. Fred W. Kiesel, where his daughters will be fully developed.

HIS DAM is Miss Valley Mead De Kol Walker, 36.81 pounds butter in 7 days as a junior three-year-old, the California record for any age. She made 21.33 pounds butter in 7 days eight months after calving, as a senior two-year-old, the present world's record. She is now on semi-official test, just loafing along, and will make around 1,100 pounds butter this year as a junior three-year-old. She is rated one of the best 40-lb. prospects in the West.

His dam, Miss Valley Mead De Kol Walker, is a daughter of the sensational sire, Prince Gelsche Walker, and is out of De Kol of Valley Mead 2nd, 1,011 lbs. butter in one year as a four-year-old, and she holds the world's record for butter produced in two consecutive years of the ages of three and four years.

He is a double greatgrandson of Beauty Pietertje Prince, who heads the Carnation Stock Farm herd, where his daughters are being developed.

Of the fourteen animals in the first three generations of his pedigree, ten are living and doing active service in some of the greatest herds in America.

In KING KORNDYKE PONTIAC 20TH you are breeding the most sought after Holstein blood of today and tomorrow.

In KING KORNDYKE PONTIAC 20TH you have an inheritance of milk and butter production that is not exceeded in any bull.

In KING KORNDYKE PONTIAC 20TH you have an inheritance family characteristic of splendid type that goes far back on both sides of his pedigree.

In KING KORNDYKE PONTIAC 20th you have a balance of high breeding and individuality, fixed through long generations, that makes him a certainty as a great sire.

Put KING KORNDYKE PONTIAC 20TH at the head of your herd, or go in with another good breeder or two and buy him together. He is unquestionably one of the best of the high-class young bulls in the country today.

Our consignment, including KING KORNDYKE PONTIAC 20TH, to the Holstein Breeders' Guaranty Sale, Sacramento, December 5th, will consist of eight head of extra choice young females and males.

SANTA ANITA RANCHO

Anita M. Baldwin, Owner

W. H. Taylor, Supt. SANTA ANITA, CALIF.

Not Only

Unusual *but* Inspiring

Just Look at the Consignment to the

Quality Sale *of Holsteins*

Sacramento, Dec. 5th, 1917

Woodcroft Ybma Pietertje
at 6 years, butter, **7 days 31.29** butter, **30 days 124.02.** Bred to IT in May.

Ybma Pietertje DeKol Mead
her nine months old daughter by **King Mead of Riverside**

Abbekerk Korndyke Segis
a **30 pound** daughter of the great sire **King Segis DeKol Korndyke.** Bred to IT.

Westview Pearlie Alcartra
a **25.68 pound,** 3 year old granddaughter of **Lynden Alcartra Polkadot,** a **33 pound** daughter of **Alcartra Polkadot,** the granddam of **Tilly Alcartra.** Bred to IT in May.

K. S. P. Golden Queen
a daughter of **King Segis Pontiac** from a **30 pound** dam. Bred to IT.

Queen Beauty Juliana
a granddaughter of **Juliana DeKol** out of a nearly **28 pound** dam. Bred to IT.

And last, but not least

Korndyke Sadie Vale Star-Rena
a daughter of **King Korndyke Sadie Vale** from **Korndyke Segis Star-Rena,** a **26.68 pound,** 4 year old daughter of a **34.35 pound,** 3 year old and **King Segis DeKol Korndyke.** The 7 nearest dams of **Korndyke Sadie Vale Star-Rena** average **33.86 pounds in 7 days,** which is exceeded by only one other heifer in the world and she is her half sister. She is also a ¾ sister to a **40 pound** 3 year old and **29 pound** junior 2 year old. Bred to IT in July. We call her the leading lady in our consignment of stars.

Seven Magnificent females, six of them in calf to IT, the Premier Sire of the West, whose dam is **Pontiac Clothilde DeKol 2nd,** the first **37 pound** cow and whose granddam is the famous **35 pound** cow **Pietertje Maid Ormsby.**

We can't replace them at any price, but **you,** the fortunate purchaser can

Buy Them at Your Own Price

McAlister & Sons

CHINO, CALIFORNIA

The Dairyman's Dilemma and Its Solution

[By Prof. F. W. Woll, Division of Animal Industry, University of California.]

[The following is a summary of a paper by Professor Woll on dairy farming under war conditions.]

The war has affected the business of dairy farming, as of other vocations, in several ways: It has caused a marked increase in prices for feed and supplies; a scarcity of labor resulting in high wages, and, to a relatively smaller extent, has increased the prices paid for dairy products.

The dairy farmer cannot readily change these conditions, but he can make the best of them. He can cheapen materially the production cost of the milk, both by adopting a system of feeding that will cause his cows to yield the largest flow of milk of which they are capable, and by improving his herd through disposal of poor producers, and the use of a good dairy-bred bull, so that the production of the herd may be gradually increased.

According to the best information available, the average production of may be improved by supplying si- butterfat by the dairy cows in the State does not reach 150 pounds of butterfat per year, corresponding to a milk yield of about 4,200 pounds (500 gallons). Practical experience has shown that it is possible in many cases to raise this yield by 50 per cent or even 100 per cent by adopting a more liberal and suitable system of feeding the cows.

IMPROVED FEEDING METHODS.

Many of the so-called dairy cows in this State are poor milk producers. Many of these cows cannot be changed into profitable dairy animals by any special system of feeding that might be adopted, and the only hope for the owner to make any money on them is to sell them off for beef. The production of most cows can be improved by providing plenty of feed of a suitable character at all times. In the interior valleys alfalfa is generally the sole feed of the cows. It is generally advisable to feed something besides alfalfa, however. The ration lage or roots, when green feed is not available, and also grain feed in the proportion of about one pound for every five or six pounds of milk produced by the cows. The character and kinds of grain feeds to be fed will depend on relative market prices. Ordinarily barley, dried beet pulp, coconut meal, and mill feeds are our cheapest concentrates, and as these feeds have approximately a similar feeding value as components of dairy rations and are all of medium protein contents, grain mixtures may be made up in accordance with their cost. Common mixtures are:

Dried beet pulp, barley (or wheat bran) and coconut meal, in the proportion of 2:1:1 by weight.

Beet pulp three parts and coconut meal one part.

Barley and beet pulp equal parts, or mixed in the proportion of one to two or three.

These mixtures may be fed with alfalfa hay, or with alfalfa hay and silage (or roots). If grain hay is fed, at least a pound of cottonseed meal or linseed meal should be added to supply sufficient protein to insure a maximum milk flow. The silo has proved a good investment on California dairy and stock farms.

HERD IMPROVEMENT.

Herd improvement is essential for success in the dairy business. This may be accomplished by two methods.

First, by determining which cows in the herd are low producers, considering an entire year and not only the time of maximum flow, and eliminating these from the herd.

Second, by placing at the head of the herd the best purebred dairy bull of a family of high producers that one can afford, as it has been fully established that the power of transmitting a capacity for a large dairy production lies mainly in the male. An exceptionally high dairy production can only be reached by the use of such intensively dairy-bred bulls in the herd and by developing the heifers and cows to their full capacity through careful methods of feeding and handling. This is the way in which records of 500 to 600 pounds of butterfat, or more, a year are obtained in individual cases, and records of over 400 pounds as a herd average. A good average herd standard, however, is 300 pounds of butterfat, corresponding to nearly a pound of butter per cow for each day in the year.

Blackie, a Jersey cow belonging to Sam Montgomery of Modesto, stood highest among 720 cows by the Stanislaus Cow Test Association in September. Blackie produced 75.3 pounds of butterfat from 1,506 pounds of milk in 30 days.

They Took the Best We Had!

The GOTSHALL & MAGRUDER Consignment
TO THE

GUARANTY SALE

SACRAMENTO, DECEMBER 5, 1917

THE HEART OF OUR HERD, LADY SADIE VALE JOE KARLRAY, born May 11, 1917, a granddaughter on the dam's side of the King of the Pontiacs and on the sire's side of King Korndyke Sadie Vale. A daughter of the STATE CHAMPION two-year-old, K. P. Tola Joe, whose record is 27.14 lbs. and an animal that is one of the wonderful cows of the Pacific Coast.

BLUEBELL KAREL WALKER, born May 20, 1915, daughter of King Walker 5th, whose dam, Paula of Chagrin Falls, is a 30-lb. cow of note. She will freshen in January with a calf from KING SEGIS ALCARTRA ABBEKERK, a 30-lb. son of the $50,000 bull.

LADY CHRISTERIA MECHTHILDE, born July 24, 1910. She has a 7-day record of 26.93 lbs. of butter. She is a daughter of a 28-lb. cow with eleven A. R. O. sisters. She will be bred if desired, free of charge, to COLANTHA SIR PONTIAC AAGGIE, a wonderful son of Colantha Johanna Lad.

WE SACRIFICE THE CREAM OF OUR HERD TO HELP THE REMARKABLE QUALITY OF THIS SALE.

GOTSHALL AND MAGRUDER RIPON, CALIFORNIA

I Will Buy

30 Registered Holstein-Friesian Cows

They must be young or at least not past their prime, must be sound, tuberculin tested, and now milking or soon to freshen, and I shall need reasonable evidence that they are heavy milkers. They need not have A. R. O. records, although such records will be no handicap, and they must be priced accordingly. I do not expect to find this number of cows for sale in one herd, so write me how many you have for sale, a general description of their breeding and type, and the cash price you ask.

Address, Box 870, Pacific Rural Press, San Francisco

SUPREME HOLSTEIN QUALITY

Jennie Terzool Hicks 4th. A show cow. Record, 32.07 lbs. butter 7 days, 975 lbs. butter 10 mos.; average test 4.3%. Heavy in calf to King Pontiac Segis Korndyke.

Palo Terzool Korndyke, son of Jennie Terzool Hicks 4th, sired by Rag Apple Imperial Korndyke, son of Rag Apple Korndyke, sire of Rag Apple Korndyke 8th, the $25,000 bull who in turn is sire of the bull calf who sold this spring for $53,200.

Alta Jennie, a splendid yearling daughter of Jennie Terzool Hicks 4th, bred to King Pontiac Segis Korndyke, a 30-pound son of the great King Segis De Kol Korndyke.

THIS GREAT FAMILY approaches very close to the ideal for which Holstein breeders are striving—size and constitution, combined with show quality, proven capacity for both short time and long distance record production, and prepotency in transmitting these qualities to the offspring. They were chosen by the committee of selection for

HOLSTEIN BREEDERS GUARANTY SALE

The committee was given the utmost freedom to select the best from our great herd. They also chose the following:

A 35 POUND SHOW BULL FIT TO HEAD ANY HERD

FINDERNE SOLDENE PONTIAC VALDESSA 206927, son of King Valdessa, the highest record bull in the world and out of Finderne Soldene Hengeveld, whose record, 35.34 lbs. butter in 7 days, 136.82 lbs. in 30 days with first calf; has never been equalled. Her sire, King Hengeveld Aagie Fayne, is the best son of King Fayne Segis.

A 31.22-POUND COW—Springdale Ononis Vale, a very fine individual, a regular breeder, and a great producer. Her sire, Sir Hillside Vale, has 19 A. R. O. daughters, three of them over 30 lbs. She freshened September 22, and was bred October 13 to King Pontiac Segis Korndyke.

A BEAUTIFUL SHOW COW—Mousie De Kol Lady 2nd, who made 669 pounds butter and over 20,000 lbs. milk in 10 mos., and her daughter, Mousie De Kol Imperial, sired by Rag Apple Imperial Korndyke and in calf to King Pontiac Segis Korndyke.

A SURE 30-LB. PROSPECT—Rosabel Korndyke, a very attractive young cow and one of the best breeders on the farm, dam of the herd sire of the Napa State Hospital. Her last calf as beautiful a heifer as ever was dropped. Her record of 23.15 lbs. was made under very adverse circumstances. She is sure to make 30 lbs. with her next calf and is capable of making a high yearly record. Heavy in calf to King Pontiac Segis Korndyke.

Every individual in our consignment represents supreme Holstein quality, the result of careful selection and breeding along best blood lines and backed by great production.

SET YOUR OWN PRICE ON THEM AT SACRAMENTO, DECEMBER 5th

You are cordially invited to visit Palo Alto Stock Farm and inspect our herd.

PALO ALTO STOCK FARM PALO ALTO, CALIFORNIA

Uncle Sam Advises Care of Cream Cans

[Written for Pacific Rural Press.]

George E. Haskell, expert in dairy products for the U. S. Food Administration, has collected information on the probable future supply of milk and cream cans. The sheet steel and tin plate industries have been burdened with war orders so that cans for dairy products are not only high priced but are often unobtainable except through special channels not available to the average dairyman. Conservation of present supplies is therefore essential to insure enough containers for marketing the milk and cream which American farmers have been asked to produce. The campaign is being made along two lines: (1) to check the rough handling of shipping cans by transportation companies, (2) to investigate methods of straightening and retinning old and battered cans.

The Food Administration has already asked for some relief of the situation through the Committee on Express Transportation of the American Railway Association. Mishandling of cans includes three classes of alleged abuses:

1. Unloading cans at wrong stations.

2. Unloading cans with unnecessary roughness.

3. Allowing cans to remain out in the rain and become rusty or be stolen.

Investigations as to rejuvenating old cans show that the cost varies from one-fourth to one-third the value of new cans. In the renewing process old cans are taken apart, the bent metal straightened and new sections furnished if necessary. The cans are then reassembled and retinned.

Started Purebreds on Credit

[Written for Pacific Rural Press.]

That it is possible to get into purebred livestock on limited capital if one loves the game, is shown by the following bit of experience:

While D. T. Wieland of Thalheim was firing on the railroad, he used to lay off when he could to attend fairs and hang around the judges of livestock to learn the points of a good cow. He had a chance to buy a registered Jersey cow on time—one that made 16 pounds 10 ounces of butter in seven days with her first calf. She has since given 32 pounds of milk on the two hundred and eighty-third day after freshening. Mr. Wieland was willing to pay service fees of good registered Jersey bulls, and now has eight females tracing to the old cow. One of her sons took first at the State Fair in 1913. One of the females, a heifer of pronounced type, easily won first in a large class at the Stanislaus Fair. He is now fired with the ambition to get a place where he can grow more feed than in the past and enlarge his herd by careful breeding and saving the heifers. Older breeders may well take this into account for next year's fairs and other exhibits.

THE BEST BRED BULL IN THE WORLD

At the Sacramento Quality Sale, December 5th

King Sadie Vale Star Rena—Sire—King Sadie Vale Elzevere. Dam—Star Rena Wayne Pietertje 29.93 lbs. dam of a 26 lb. 2 year old and a 34 lb. 3 year old.

But one 40-lb. cow has produced a 40-lb. sire, Sadie Vale Concordia 4th, and she in turn is from the wonderful transmitting cow, Sadie Vale Concordia, the first 30-lb. cow and the fountain head of the highest line of mothers, daughters, and grand-daughters for 7 and 30 days in the world.

His sire's first 14 dams average over 31 lbs. and dams equally as good. But his claim to your consideration as the "Best Bred Bull" lies more in the wonderful line of transmitting dams and sires that appear in his first five generations.

Can any young bull in the world show a higher class lot of sires and dams for both productive and transmitting qualities than the following:

Sires	Dams.
King Korndyke Sadie Vale.....40-lb. sire	Sadie Vale Concordia 4th.....41.06 lbs. 1 son, 1 daughter
King Segis De Kol Korndyke....40-lb. sire	Sadie Vale Concordiá.....30.64 lbs. 5 sons, 4 daughters
Duchess Ormsby Piebe Burke....41-lb. sire	Elzevere Barnum De Kol.....29.09 lbs. 2 sons, 6 daughters
King Segis .....35-lb. sire	Elzevere Barnum Mechthilde....23.22 lbs. 2 sons, 6 daughters
Pontiac Korndyke .....38-lb. sire	Pontiac Clothilde De Kol 2nd....37.21 lbs. 3 sons, 1 daughter
Sir Sadie Cornucopia.....34-lb. sire	Aaggie Cornucopia Pauline.....34.32 lbs. 3 sons, 5 daughters
Aaggie Cornucopia Johanna Lad, 32-lb. sire	De Kol 2nd.....26.58 lbs. 7 sons, 2 daughters
Beryl Wayne Paul De Kol.....30-lb. sire	Star Rena De Kol Burke.....17.04 lbs. 2 sons, 2 daughters
Concordias America Wayne ....30-lb. sire	Star Rena Wayne Pietertje.....29.93 lbs. 2 sons

I will also sell the 26.22-lb. cow, Flossmor Corinne De Kol. She has a yearly record of 815 lbs. of butter. She is a high testing cow averaging 4% fat. She has a 3-year-old daughter with a record of 23.57 lbs. I will sell with her, her 6 months-old daughter by Admiral Walker Prilly, the noted sire whose dam is Lottie Walker Spofford, who made four official records above 30 lbs.

4th, I will sell the six-months heifer from Elzevere Barnum De Kol 2nd, sired by "King Sadie Vale Elzevere," making her a three-quarter sister to the heifer that topped the 1916 Sale. This one shows just as much promise and will be the only daughter of this sire sold for some time.

Dr. E. J. WELDON

SACRAMENTO, CAL.

UNUSUAL Holstein Offering

Miss Pontiac Nudine of Springvale

OUR CONSIGNMENT TO THE

QUALITY SALE

Sacramento, Dec. 5, 1917

consists of the following ten highly bred animals all of show ring type and quality.

MISS KORNDYKE MERCEDES No. 121428, Grand Champion Cow, California State Fair, 1917. Heavy in calf to King Segis Alcartra Abbekerk, a 30-lb. son of the $50,000.00 bull.

MISS PONTIAC NUDINE OF SPRINGVALE No. 175955, who has a 30-lb. record made at 5 years. Heavy in calf to "King Segis Alcartra Prilly," a 30-lb. son of the $50,000 Bull and Grand Champion Bull at Cal. State Fair, 1917.

A YEARLING DAUGHTER OF THIS COW by a 30-lb. sire and bred to "King Segis Alcartra Prilly."

"OAKVALE JENNIE KORNDYKE" No. 173499. A five-year-old cow with a 27-lb. record, who has a 30-lb. full sister. Heavy in calf to "King Segis Alcartra Prilly."

TWO DAUGHTERS OF THE $50,000 BULL, "King Segis Pontiac Alcartra"—One from a 31.35-lb. dam, one whose first seven dams average over 31 lbs. butter in 7 days. Both bred.

A DAUGHTER OF "KING MEAD OF RIVERSIDE," and from a 23.63-lb. dam, whose dam is a 30-lb. cow. Bred to "King Segis Alcartra Prilly."

A DAUGHTER OF "KING WALKER 5th" and out of a 30-lb. cow. Safe in calf to "King Segis Alcartra Prilly."

A DAUGHTER OF THE GREAT SIRE "IT" and from a 27-lb. three-year-old daughter of "King of the Pontiacs." Bred to "King Segis Alcartra Prilly."

A GREAT YOUNG BULL, BORN JAN. 11, 1917. A high-class show bull, whose dam is a 31.70-lb. five-year-old and capable of increasing present record. His sire, "Spring Farm King," who is a 34-lb. son of King of the Pontiacs and a full brother to the first 44-lb. cow, K. P. Pontiac Lass. The records of the first three dams and the sire's full sister of this bull average 34.41 lbs. butter, 7 days.

BRIDGFORD COMPANY

KNIGHTSEN, Contra Costa Co. CALIFORNIA

PRINCE ALCARTRA KORNDYKE

WE ARE OFFERING FOR SALE A NUMBER OF YOUNG BULLS

Some ready for service—sired by Prince Alcartra Korndyke and out of dams with records up to 30 pounds in seven days and over 800 pounds in a year. We have priced these extremely low in order to move them quickly and make room for the coming crop of young calves. Order one of them now and have the advantage of the larger records that their dams are sure to make at next freshening.

The first daughters of Prince Alcartra Korndyke are now finishing their yearly test and will average well over 650 pounds butter under ordinary herd conditions and stand well up in the list for the Association prizes. Look for our consignment at the Guaranty Sale, Sacramento, December 5.

J. S. GIBSON COMPANY

BOX 97 WILLIAMS, CALIFORNIA

RHOADES & RHOADES

Expert Livestock Auctioneers

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California.

Ben A. Rhoades, Auctioneer

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SAVE MONEY ON SEPARATORS

Buy direct from my factories, where I make the cleanest skimming, easiest cleaned, modern designed separators, from highest quality materials, and sell to you at lowest manufacturers' prices—less than wholesale.

Nearly 100,000 Galloway Sanitary Separators giving satisfaction everywhere. Four practical sizes. Also build engines and spreaders. 300,000 satisfied customers—some in your vicinity. Low freight rates to all points. Same freight. My free catalog will save you money. Galloway goods [illegible] before buying. Please mention implement wanted.

WM. GALLOWAY CO., Box 3178 Waterloo, Iowa

Skim Milk Pasteurizer for Calves and Hogs

[Written for Pacific Rural Press by E. H. Whitten, Los Angeles.]

In a recent issue of the Pacific Rural Press, Prof. True of the University Farm called attention to a statement of the Western Meat Company that the percentage of condemnation of tubercular cows has been running alarmingly high, and urged that a special effort be made to secure the practice of pasteurizing milk fed to hogs. Undoubtedly many hog raisers would be willing to put in pasteurizing plants, but they don't know how to go about it.

I decided several months ago to pasteurize all skim milk fed to calves and hogs, and I wrote to the different dairy supply houses for suggestions and quotations. Most of them suggested complicated, high-priced pasteurizers, with coolers, pumps, etc., such as are used in creameries, but I found that such an outfit would cost over $600. This was beyond me, so I gave up the idea. Later a dairy supply salesman called on me. I found that he used to keep hogs, so I told him what I wanted. He suggested a very simple arrangement, went away with my check for $225, and sent me an outfit which does the work just as well for my purpose as any machine worth three times as much could possibly do it. I also wanted to have a bathroom for help, and he furnished an attachment for the boiler so that it would supply hot water as well as steam. Another saving.

My separator house consisted of one room 8x16. We added two rooms, each 8x8, making the building 16 feet square. One of the new rooms was used for a bathroom—tub and shower bath—and the other for a pasteurizing and boiler room.

THE PASTEURIZER.

We first elevated the separator, so that the skim milk would flow through a pipe into an ordinary 300-gallon milk vat, placed in the adjoining room. This vat had a metal cover with a pipe running down through it, ending in a T about half way to the bottom. From each side of this T a perforated pipe extended to nearly the end of the vat. Outside the cover was a flexible tube connecting the pipe with another pipe at the ceiling, which brought steam from the boiler, located in the same room. The boiler is 4 horsepower capacity, second-hand, and burns crude oil. It furnishes the steam which, through the perforated pipes in the vat, heats milk to the required temperature. Also it furnishes hot water at the sink and in the bathroom, and steam at the sink for sterilizing the dairy utensils.

Outside the pasteurizing room we dug a chute, so that when the tank wagon used to haul the skim milk is backed up against the building the top of the tank is a little lower than the bottom of the vat, and the skim milk flows into it without artificial pressure. So we have a simple system by which the skim milk flows from the separator into the vat, is heated by steam, and then flows out into the tank wagon to be hauled away and fed, all by gravity. Such a system would not prove satisfactory for pasteurizing whole milk for human consumption, as a small amount of steam condenses and passes into the milk in the form of water, but this is not objectionable when used for hogs or calves. The method has proved as satisfactory as it is simple. It is economical to operate and easy to clean, and there is practically nothing about it that can get out of order.

Of course, dairymen with fewer cows can get smaller vats and boilers, and thus make their outfits cost much less than mine did, but no matter what the cost I believe that it will pay every dairyman who has an untested herd and feeds his skim milk to hogs and calves to put in a pasteurizing plant. Tuberculosis among hogs and cattle is fast becoming a very serious menace to the industry, and if the dairyman doesn't stamp it out of his herd Uncle Sam will step in one of these days and compel him to do it in a way that will mean a heavy loss to him. It is a case where an ounce of prevention not only is worth a pound of cure, but also is a great deal cheaper.

L. R. Lopez of Chowchilla has added some highly bred Jersey cows to his herd that were formerly the property of J. A. Goodall of Keyes.

MILK ..... and WAR TIME

In these days of high prices for dairy products, the "poor milker" is more than ever a liability.

But before you sell the cow that is not producing well, try to improve her condition. Her milk value is much greater than her meat value.

Most poor milkers are non-productive because of some defect of health, which can be quickly remedied by intelligent treatment.

Kow-Kure is a medicine that acts quickly on the organs of digestion and milk production. Its widely known tonic and curative qualities have made it the standard cow medicine for the prevention of disease and the treatment of Abortion, Barrenness, Retained Afterbirth, Scouring, Lost Appetite and Bunches.

Give Kow-Kure a trial; it will do for you what it is doing for thousands of others. Feed dealers and druggists sell Kow-Kure; 55c and $1.10 packages. Send for free treatise, "The Home Cow Doctor."

DAIRY ASSOCIATION CO.,
Lyndonville, Vt.

TO SUM UP

THIS SALE OFFERS: Six 30-pound cows and fourteen daughters of 30-pound cows, a greater number of both than have appeared in all previous California sales combined.

NOT A SINGLE FEMALE IN THE SALE has a record below 20 pounds butter in 7 days at mature age.

THE HIGHEST 7-DAY RECORD COW, Jennie Terzool Hicks 4th, ever offered in a public sale in California, and she is also the highest yearly record cow.

MISS KORNDYKE MERCEDES, Grand Champion Cow at California State Fair, 1917, and she is a granddaughter of Hengerveld De Kol.

MEADOW HOLLAND NUDINE, Grand Champion Cow at Riverside District Fair, 1917, and she is a 22.75-pound junior three-year-old.

A DAUGHTER OF KING KORNDYKE SADIE VALE, with an average of 33.86 pounds butter in 7 days for her seven nearest dams, second highest in the world, and the highest of any heifer ever offered at public sale on earth.

A DAUGHTER OF K P TOLA JOE, 27-pound State record two-year-old daughter of King of the Pontiacs, and this heifer is sired by one of the best young sons of King Korndyke Sadie Vale. Money can buy no better combination of breeding.

FIVE SISTERS TO THE WORLD'S OFFICIAL BUTTER RECORD COW, Aaggie Acme of Riverside 2nd, and they are all out of A. R. O. dams with records up to over 31 pounds butter in 7 days. First daughters of King Mead of Riverside ever offered at either private or public sale.

TWO DAUGHTERS OF PRINCE GELSCHE WALKER, one out of a 29-pound dam, and bred to King Morco Alcartra.

FIVE DAUGHTERS OF SEGIS PONTIAC DE KOL BURKE, one of whose daughters has just finished a record of 934.25 pounds butter in one year as a senior two-year-old, California record in class and sixth highest in the world in class.

A SON OF THE WORLD'S RECORD FIRST CALF HEIFER, 35.33 pounds butter in 7 days, and he is sired by the 41-pound bull, King Valdessa.

A SON OF MISS VALLEY MEAD DE KOL WALKER, 36.81 pounds butter in 7 days as a junior three-year-old, California record for all ages, and he is sired by King Korndyke Pontiac, one of the best sons of King of the Pontiacs.

EVERY ANIMAL GUARANTEED AGAINST TUBERCULOSIS FOR SIXTY DAYS AND EVERY ANIMAL GUARANTEED TO BE A BREEDER.

THESE ARE JUST A SAMPLE of the great record making and show winning families that are represented in this sale. To describe every top notch animal would require a description of every animal in the sale. The catalog does it, and a copy is yours for the asking.

Under management of
CALIFORNIA BREEDERS SALES AND PEDIGREE COMPANY
Sacramento, California

MISS KORNDYKE MERCEDES—Grand Champion at 1917 California State Fair. Contributed by Bridgford Company, Knightsen, Cal.

PRINCESS JETZE—30.10 lbs. butter in 7 days; 19,981.8 lbs. milk; 786.9 lbs. butter 1 year. Contributed by The J. S. Gibson Company, Williams, Cal.

California's First Guaranty Holstein Sale

Some of the Highest Pedigreed Stock in the State to Be Offered

Last week we gave an account of some of the consignments to the Holstein Breeders' Guaranty Sale, to be held under the management of the California Breeders' Sales and Pedigree Company at Sacramento, December 5th, those of A. W. Morris & Sons, Palo Alto Stock Farm, Bridgford Co. and F. W. Kiesel. We made an error in stating that Mr. Kiesel would consign King Korndyke Pontiac, one of his herd bulls. Santa Anita Rancho will consign King Korndyke Pontiac 20th, a son of this bull and out of Miss Valley Mead De Kol Walker, who made 36.81 pounds butter in 7 days as junior three-year-old and will make around 1,100 pounds butter in semi-official test. Also a grandson of Tilly Alcartra and Prince Gelsche Walker and eight heifers, including daughters of a 32-pound cow and of a 30-pound cow sired by King Korndyke Pontiac, three by King Morco Alcartra and two by Segis Pontiac De Kol Burke. Most of them are safe in calf to King Korndyke Pontiac 20th and all have yearly producing backing.

Son of King Valdessa, the highest record bull in the world and of the world's record heifer Finderne Soldene Hengerveld. 35.33 pounds butter in 7 days at first calving. One of 8 great individuals contributed by Palo Alto Stock Farm.

McAlister & Sons — A beautiful daughter of King Korndyke Sadie Vale, whose seven nearest dams average 33.86 pounds butter in 7 days, the second highest record in the world; a 31.28-pound cow who is considered a good 40-pound prospect and bred to their great herd sire "It"; a daughter of this cow sired by King Mead of Riverside; a 30-pound daughter of King Segis De Kol Korndyke; and a beautiful 25.68-pound junior three-year-old daughter of a 33-pound sire.

Gotshall & Magruder—A granddaughter of King of the Pontiacs and of King Korndyke Sadie Vale, whose dam is the California State champion two-year-old, record 27.14 pounds butter in 7 days; a 27-pound daughter of a great 28-pound cow; and a daughter of King Walker 5th, heavy with calf to King Segis Pontiac Alcartra, 30-pound son of the $50,000 bull.

J. S. Gibson Co.—Princess Jetze, a great cow, who made 30.10 pounds butter in 7 days, 786.9 pounds butter and 19,981.8 pounds milk in one year, and a daughter of the great sire, Segis Pontiac De Kol Burke, out of a three-year-old daughter of Prince Gelsche Walker, that made 28.46 pounds butter in 7 days and made 817.1 pounds butter and 21,237.6 pounds milk as a senior two-year-old. This is the California State record for milk in class. She is the sister of the new California two-year-old champion, Aralia De Kol Pontiac Mead.

Toyon Farm Association — A daughter of King Pontiac Segis Korndyke out of a 33-pound daughter of King Hengerveld Aaggie Fayne and a son of King Valdessa out of a 30-pound daughter of King Hengerveld Aaggie Fayne.

Dr. E. J. Weldon—A cow that made 26 pounds in 7 days and 815.38 pounds in one year, bred to King Korndyke Pontiac, a daughter of the above cow sired by Admiral Walker Prilly, a granddaughter of King Korndyke Sadie Vale and a beautiful young grandson of King Korndyke Sadie Vale out of a 30-pound dam whose sire's first fourteen dams averaged over 31 pounds.

Alex. Whaley—A splendid 28-pound cow and her two-year-old daughter, who made 19.44 pounds as a senior yearling, both in calf to a 32-pound son of Segis Pontiac De Kol Burke; and a 20-pound cow whose sister has just made 33 pounds in 7 days.

R. F. Guerin—A 28-pound cow with great backing, bred to a 30-pound son of Sir Veeman Hengerveld, and a cow who made 27.42 pounds butter and 683.3 pounds milk in 7 days, and is now fresh.

W. J. Higdon—A 23-pound show heifer, granddaughter of 29½-pound cow; an 18.44-pound granddaughter of King of the Pontiacs, who will freshen about sale time, and a son of Prince Gelsche Walker out of a 27-pound four-year-old.

Stalder Bros. — A 25.77-pound three-year-old daughter of a 34-pound cow, a heifer sired by Prince Gelsche Walker and out of a 28-pound cow bred to the 34-pound King Pontiac Netherland Segis 3rd and a son of Prince Aralia Walker out of a 25-pound daughter of a 34-pound cow.

Frank Hatch, Modesto—A daughter of Segis De Kol Pontiac Burke.

UNIVERSITY OF CALIFORNIA FARM SCORES AGAIN

In the judging of blooded livestock at the Pacific International Exposition at Portland this week the University of California scored first of the coveted prizes. California Marvel, the University's entry in the fat steer class, won the grand championship. California Marvel is a brother of the steer which won the grand championship at the Chicago International two years ago.

It is reported that, according to the plans of the Associated Milk Producers, the retail price of milk in San Francisco would probably be revised every three months in keeping with the cost of production and distribution.

MISS FILLED KORNDYKE WALKER—Sired by Prince Gelsche Walker and out of Miss Filled Korndyke, 29.67 lbs. butter in 7 days. Contributed by A. W. Morris & Sons, Woodland, Cal.

KORNDYKE SADIE VALE STAR-RENA—Daughter of King Korndyke Sadie Vale. Her seven nearest dams average 33.86 lbs. butter in 7 days, second highest in world. Contributed by McAlister & Sons, Chino, Cal.

Livestock Notes

Jessie De Kol Fobes Tritonia 2nd, a senior yearling heifer owned by Gotshall & Magruder, made 18½ pounds butter in 7 days.

Because of the difficulty of getting good milkers, it is said that dairymen are looking with more favor upon milking machines.

Thirteen students were enrolled in the two weeks courses on butter-making and dairy husbandry at University Farm, beginning November 5.

Guy Miller sold Loren S. Hadly two registered heifers out of register of merit cows, one of them sired by his prize bull, Altama Interest.

The creamery at University Farm buys annually between $50,000 and $55,000 worth of milk and sells about $60,000 worth of products, besides instructing buttermakers, etc., meanwhile.

Fairy of Alfalfa Farms, a Guernsey cow owned by A. B. Humphrey, Escalon, recently completed a year's test with a record of 529 pounds of butterfat. She carried a calf seven and one-half months of the time.

Mr. Campbell, a San Joaquin county raiser of fine stock, recently purchased from the State Holstein-Friesian Association Prince Gelsche Walker XIth, son of a $12,500 sire. His six nearest dams hold a record of 30 pounds butterfat in 7 days.

A. M. Bibens of Modesto sold G. W. Rice a registered Holstein bull. Mr. Bibens has just received from M. H. Gardiner of the Holstein-Friesian Association confirmation of record of 664.12 pounds fat, 18,464.9 pounds milk, made in 305 days by Abbie De Kol 2nd.

A three-year-old daughter of Dutchland Sir Pietertje Creamelle, F. Stenzel's herd bull, completed a seven-day test this week, making 30.45 pounds. Another of this sire's daughters has a three-year-old 28-pound record, while ten have records averaging over 20 pounds made as two-year-olds or younger. Beryl Clothile Hengerveld, the Holstein cow who won the butterfat contest at the State Fair last year, has just completed a seven-day test, making 29.57 pounds.

Swine and Swinemen.

With pork the highest in price ever known, there are 25,000 fewer hogs in Nevada this year than two years ago.

The annual meeting of the American Berkshire Congress will be held at the Union Stock Yards, Chicago, December 4, at 6 p. m.

Elmer Lamb sold four registered Duroc bred gilts to C. M. James of Escondido, one to J. D. Bradshaw of Hughson, one to J. C. Boyd of Modesto and one to J. Chenoweth, Visalia.

The recent epidemic of cholera among hogs in Humboldt county came on swiftly, but was effectively checked within two weeks. There are few if any hogs afflicted with the disease in the county now.

A board composed of practical hog growers and experts has been appointed by the Food Administration. They advise that the best ratio to measure the cost of production of the hog is the cost of corn, and that the ratio of corn price to hog price on the average over a series of years has been about twelve to one (or a little less).

Beef Cattle.

Stock raisers are anxiously watching for a good rain. The shortage of feed on some of the ranges is attributed to the fires during the spring and summer, when thousands of acres of dry feed was destroyed.

H. M. Barngrover reports the following sales from his Veramont ranch in Plumas county: Six pure-bred Hereford heifers to Elzia Smith, a neighbor, who is entering the list of Hereford breeders. One bull calf to Bert Kirk of San Jose.

MORRIS DEVELOPS ANOTHER STATE RECORD BREAKER.

A yearly record of more than ordinary interest has just been completed in the herd of registered Holsteins owned by A. W. Morris & Sons Corporation, Woodland, Cal., and with its completion the production of California senior two-year-olds has been set forward a long way.

The latest record maker is Aralia De Kol Pontiac Mead, who freshened as a senior two-year-old and made an official record of 23.24 pounds butter in 7 days. She then went ahead on a year's test and has completed it with a production of 18,398 pounds milk and 934.25 pounds butter. She is sired by Segis Pontiac De Kol Burke, son of the former world's record cow, Riverside Sadie De Kol Burke, and is out of Aralia De Kol Mead, whose sire is King Mead of Riverside and whose dam is the former world's record cow, Aralia De Kol. It will be remembered that Aralia De Kol made 1,142.33 pounds butter in one year when past eleven years old, and Aralia De Kol Mead, now on test, is practically certain to exceed 1,100 pounds butter this year. This latest record makes the third generation of high yearly butter records, places her as the sixth highest senior two-year-old in the world, and she is the only two-year-old in the world to make over 900 pounds butter that has a dam above 1,000 pounds and her dam above 1,100 pounds.

Two other daughters of Segis Pontiac De Kol Burke have just finished yearly records that are highly creditable. Aralia Mead Pontiac De Kol, a senior two-year-old, made 17,990.5 pounds milk and 698.30 pounds butter, while Cobossie Korndyke Burke, a junior two-year-old, made 16,060 pounds milk and 664.75 pounds butter.

These first three two-year-old daughters of Segis Pontiac De Kol Burke to finish indicate that this great young sire is going to measure up fully to what is expected of the son of Riverside Sadie De Kol Burke.

Indications point to the fact that many more sheep will be raised in Humboldt county next year, both in the hill ranges and in the valleys. The forecast is based on the high prices obtaining for wool and mutton this year.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue

Poland-Chinas.

MAKE BIG MONEY with our famous Whitten Ranch Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. Special sale of service boars and bred gilts. Prices reasonable; satisfaction guaranteed; everything immune. Send for free illustrated book, "Hogs for Profit," packed with valuable information. Ranch in Tulare County, but address owner, R. H. Whitten, 519A Marsh-Strong Bldg., Los Angeles.

HIGH DOLLARS ASSURED for the hog-raiser. The scarcity is bound to make pork high for years to come. Improve your herd with a good Poland China boar. 20 of the finest you ever saw, from six months to 18 months of age. Price from $40 to $100. Sows sell in the Kings County Poland China Breeders' Sale, February 20th. Bernstein's Ranch, Hanford, Cal.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

MY POLAND CHINAS are prolific and profitable. Write for description and prices. Dr. J. A. Crawshaw, Hanford, Kings County, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

LARGE TYPE POLAND-CHINA GILTS, bred to Alexander; prices reasonable. G. E. Shelford, Healdsburg.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Live Stock Supplies, 8th and Townsend streets, San Francisco.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRES—Fine, growthy, May pigs, both sexes, sired by Star Leader, reserve Grand Champion P.-P. I. E. Prices reasonable. Anchorage Farms, Orland, Cal.

BERKSHIRE GILTS—Rival's Champion Best and Bandmaster blood lines. D. B. Wentworth, Napa.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

BERKSHIRES—Sons and grandsons of world's champion Star Leader. Reasonable. Kounias Registered Stock Farm, Modesto.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Lawe, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

FOR WELL-BRED BERKSHIRES, write Glenwood Acres Stock Farm, Paso Robles, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

REGISTERED DUROC-JERSEYS — Good stock shipped in from the East; bred sows, pigs of all ages, both sexes; some fine young boars; prices right. Nicholas G. Jesch, Northam, Nev.

DUROC-JERSEY PIGS FOR SALE from prize-winning stock. Price, $10 to $25 each. They are all in good condition. For further particulars write to W. C. Chisholm, Route 4, Santa Rosa, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC-JERSEY SPRING BOARS—Cholera immune; write for pedigree and prices; satisfaction guaranteed. Buchholz Bros., P. O. Box 246, Merced, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13s Taxpayer. A few weaned sow pigs for sale. F. M. Barney, Hanford, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

DUROCS OF GUARANTEED BREEDING—Pigs $15 up, sired by State Fair prize winner. H. E. Boudier, Napa.

RANCHO DEL SUR DUROC-JERSEYS—Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

DOS HERMANOS DUROCS—Young boars and gilts. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

LARGE YORKSHIRES—A few choice young boars and gilts for sale. Riverina Farm, Modesto, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND — The mellow, easy feeding type; 20 bred gilts due to farrow during October and November; 50 spring pigs, both sexes, sired by Billiken; every animal is cholera immune; Billiken was grand champion boar at the State Fair; a son was reserve grand champion and a daughter was grand champion sow. Why not get started right and with the best? Write for prices and for booklet on Chester Whites. C. B. Cunningham, Mills, Sacramento Co., Cal.

---

3 OF MY BEST HOLSTEINS were picked by the Committee of Selection for the **HOLSTEIN BREEDERS' GUARANTY SALE**

Coloma Johanna Hartog

Coloma Johanna Hartog No. 148031, record 28.63 pounds in 7 days.
Coloma Beauty Butter Maid No. 293381, record 19.44 pounds at 23 months of age.
Winifred Hotaling 3rd No. 170679, record 20.00 pounds at 4 years. She is now fresh and will be tested before the sale. Her sister, Winifred Hotaling 2nd, has just made better than 33 lbs. and is still on test.
These cattle are worthy of a place in any herd and I invite your consideration at Sacramento, December 5.

EL DORADO HERD REGISTERED HOLSTEINS ALEX. WHALEY, Proprietor TULARE

HIGHLAND STOCK FARM CHESTER WHITES—Are you looking for the easy feeding, early maturing breed of hogs? Then drop a line for booklet and prices to R. L. Robinson, Box 142, Fair Oaks, Calif.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

BULL, SEVEN-EIGHTHS WHITE, born February 22, 1916. Son of Prince Gelsche Walker by Miss Douve of Riverside, whose grand-dam was imported from Friesland. Also other bulls by high record cows. Prices reasonable. F. J. Kell, Stockton.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

YOUNG BULLS sired by Grand Champion King Hengerveld Ormsby, grandsons of Pietertje Maid Ormsby, 35.55 pounds 7 days, test 5.31 per cent. Kounias, Registered Stock Farm, Modesto.

BUENA ALTA HERD registered Holsteins, blue ribbon winners at State and county fairs; heifers and bull calves for sale. F. A. Heroux, 629 Fifty-sixth street, Oakland, Cal.

REGISTERED HOLSTEINS — Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TULARE GUERNSEY AND HOLSTEIN Farm is offering young bulls of both breeds. Excellent breeding. Prices reasonable. W. J. Higdon, Tulare, Cal.

TOYON FARM HOLSTEINS—Sons of Finderne Soldene Valdessa for sale. Toyon Farm Association, First National Bank Building, San Jose.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Calif.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of Registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex Whaley, Tulare, Cal.

Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

FOR SALE CHEAP—A few head of registered Jerseys. Best blood in State. Fine individuals. A few young cows, heifers, and bull calves. Tribble Bros., Lodi, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY COWS for sale. O. J. Ames, Oakdale, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best Imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS — Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

GUERNSEY BULLS, ready for service. Calla Grove Farm, Manteca, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

VERAMONT STOCK FARM — Purebred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS — Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS and ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena.

KAUPKE BROS., WOODLAND, CAL.—Breeders and Importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, Importers of Hampshire sheep.

HORSES AND MULES.

FOR SALE—Percheron horses and mares, age 4 to 10 years; weight, 1200 to 1600. Price, $200 to $300 per span. S. L. Skaggs, Madera, Cal.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

STOCKTON FOR PERCHERONS—Best by State Fair test. Winners for the last five years. H. G. Learned, Stockton.

MISCELLANEOUS.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend Sts., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

FOR SALE—Three July Poland China Gilts, same litter as the 100-lb. boar we sold last week. $20 each f. o. b. N. M. Lester, Gridley, Cal.

FOR SALE—Sixteen head of Shorthorn grade yearling steers. R. D. Westfall, Colusa, Cal.

Association Should Push for Stockyards

[Written for Pacific Rural Press.]

"I was raised on a Texas cow ranch. They made me editor of a moribund farm paper and I had to find something to make it alive. I began to preach all over the State in season and out of season that it was necessary to raise hogs. All of our bacon was shipped into the State. Cotton was our only crop. It was generally mortgaged before it was planted. Our cotton farmers paid 12 to 18 per cent interest on those loans. The mortgagor would allow the farmers to buy only at his stores; and there was not much they could buy. That was about 1885 and '86," said D. O. Lively at the California Swine Breeders' meeting in Sacramento during the State Fair.

"It was demonstrated that the business of producing hogs for market was never a success until there was a fair market that a man could feed for. We started a show and established a stockyard at Fort Worth.

STOCKYARDS AT FORT WORTH.

"Fort Worth had been receiving about 12,000 hogs a year. That is now one of the main twelve hog markets of America, and it handles 1,500,000 head annually.

CALIFORNIA NEEDS CENTRAL MARKET FOR STOCK.

"Until last year 70 to 80 per cent of the hogs killed in California came from Oregon. People said only fools would raise hogs where you couldn't raise corn. But it has worked out in Oregon, and California has plenty of feeds about as good as corn. The tendency to sell feed in the sack in California shows that it is not a success to raise hogs for market until you have a central selling market. A packer in the East sold out to Armour for a million dollars and was going to invest it in a packing plant in Oakland. But he gave it up because there was no stockyard on which he might depend to get a fresh and regular daily supply. He did not want to pay men to scour around the country and pay growers less to make up the buyers' expenses. Success in getting a hog supply depends on a central market.

"This organization could do no greater work, or more surely insure its own success, than to get such markets in Los Angeles and San Francisco. I believe that if the California Swine Breeders' Association would make this its leading object it would have union stockyards in two or three years. The Santa Fe seems ready to consider the matter. This association could bring pressure on the Chambers of Commerce of Los Angeles and San Francisco and on the railways and other interested parties and get your central selling markets. Until such work is done, the purpose of the hog (meat for the multitude) will never be realized in this State.

"The question has been asked, 'Why are Chicago and Portland hog prices higher than those in California?' I could only answer, 'Because there is no adequate market here.'"

Livestock Buyers for Fair Judges

If beef animals are raised for meat rather than for rich men's toys to cast aside after a few years, then the logical type that should win at the fairs is the one which makes the most of the highest priced cuts at the least expense, considering the general conditions to which beef animals are subjected in the sections from which they come. This is generally said to be the aim of the breed associations, but when an animal with the form is sacrificed in the show ring to an animal with poorer form but fancier color or greater over-abundance of fat (which often reduces their future serviceability), it looks queer to the farmer. That farmer is one of the class which breed associations are spending money to interest in purebreds, and breeders are advertising to sell stock to; but when he sees unessential frills given greater consideration than ability to make commercial meat the advertising is wasted on him. Seldom before has there been less dissatisfaction with judges' awards than this year; yet it is suggested that reputable experienced buyers for packing houses might make the best judges of the real value of meat animals. What do you say?

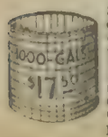
MORE PUREBREDS BY LOWER PRICES.

[Written for Pacific Rural Press.]

Iowa has 80 cattle per square mile; California has 13 1-3 per square mile; Ohio, 46; Illinois, 43; Missouri, 38; Kansas and Nebraska, 37.7 each; Texas, 20.7, according to former Assistant Secretary of the American Shorthorn Breeders' Association B. A. Cowen, who says we ought to have more. One of the principal missions of Shorthorns in California is to increase meat production by improving the grade herds. This can be done only by selling purebred bulls at reasonable prices. That such prices generally prevail is pointed out by Mr. Cowen in the statement that not over half a dozen Shorthorns sold at more than $5,000 last year, the highest being $8,100 (paid by a woman). "We must convince the farmers of the State that the Shorthorn is the animal par excellence for beef; and far in advance of other beef breeds as a milk producer," said Mr. Cowen.

Plumas county is sending out a fine lot of beef cattle this fall and the ranchers are paying more attention to quality by the use of good bulls.

ABSORBINE STOPS LAMENESS
from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar trouble and gets horse going sound. It acts mildly but quickly and good results are lasting. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how. $2.00 a bottle delivered. Horse Book 9 M free.
ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. $1 and $2 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps.
W. F. YOUNG, P.D.F., 86 Temple St., Springfield, Mass.



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35 years in this business. I sell direct to the consumer. You act as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 2957.
R. F. WILSON, Stockton, Cal.

Hillcrest Stock Farm
THORNTON S. GLIDE, Prop. DAVIS, CALIFORNIA
BREEDER OF
SHORTHORN CATTLE
AND
Shropshire and Merino Sheep
Shropshires sired by rams imported by me from England
The Famous Glide Merinos
Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
First Prize Breeders Young Shorthorn Herd at Sacramento

10 2-year Bulls SHORTHORNS 10 Bull Calves
We have just received a shipment of yearlings and 2-year-old heifers, bred to a son of Cumberlands Type, the bull that won 36 Grand Championships at 36 Fairs. This is the best lot of females we have ever offered for sale.
Better look them over soon, as they will sell quick.
H. L. & E. H. MURPHY, Perkins, Cal.

SCOTCH SHORTHORNS
We have just purchased the entire herd of Shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.
FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.
CARRUTHERS FARMS, -- MAYFIELD, CAL.
City Address: Hearst Building, San Francisco, Telephone Sutter 1311

SHORTHORNS BERKSHIRES
HOPLAND STOCK FARM
HOPLAND, CAL.
Registered bulls—yearlings and two-year-olds—bred on same lines as Grand Champion Cow at Sacramento, 1917.
Boars and gilts by Iowana Riva Majestic, a son of Rivals Champion.
Prices Reasonable—On Application.
SAN FRANCISCO OFFICE - 226 SOUTHERN PACIFIC BLDG.

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE DUROC-JERSEY SWINE ORMONDALE CO. R. D. No. 1 REDWOOD CITY, CAL.

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Herd combines some of the strongest blood lines of this country and Great Britain.
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GIVE THEM REGULARLY
ECONOMY POWDER
And they will always be in Prime Condition
And will make More Pork with Less Feed
Send for SAMPLE and FREE STOCK BOOK
SAVE YOUR HOGS Economy Hog & Cattle Powder Co. 525-527 Hearst Bldg. San Francisco, Cal.

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
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Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
Hauser Packing Co. Los Angeles

CUTTER'S
BLACKLEG PILLS
"California's Favorite" for nearly 20 years
For the Prevention of Blackleg in calves and young cattle

Their superiority is due to nearly 20 years of specializing in "Vaccines and Serums only."
Year in and Year Out they give better satisfaction than any other vaccine made, and the cost of a few cents per dose is cheap insurance against a disease that always takes the fattest and best.
Single Pills may be used for ordinary and range stock.
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Use any Injector, but Cutter's simplest and strongest.
Prices:
10 dose pkge. Single pills $1.00
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10 dose pkge. Double Pills 1.50
50 dose pkge. Double Pills 6.00
Cutter's Pill Injector.... 1.50
Insist on Cutter's. If unobtainable, order direct.
Write for new booklet, "The Control of Blackleg." It tells about Anti-Blackleg Serum which cures Blackleg and may be used simultaneously with vaccine to combat outbreaks and safely protect valuable stock.
The Cutter Laboratory, Berkeley, Calif.
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Make Your Live-Stock "Make Good"
The need for beef, pork, mutton, milk, butter, cheese, hides and wool was never as great, and prices never as high. This is your big opportunity, so "speed up" your stock. Help meet this unusual demand and make bigger profits than ever before.
Pratts Animal Regulator
added to the ration daily makes horses, cattle, sheep and swine more productive and profitable. Makes your live-stock "make good"—or your money back.
Pratts Animal Regulator increases strength, growth and production in a *natural* way by *keeping the stock in perfect health.* It tones up the whole system—sharpens appetite—improves digestion—expels irritating worms—regulates the bowels—makes all organs do their work well and efficiently. That means more work from horses and mules—more milk from dairy animals—more flesh in shorter time—*less expense* and *bigger profits.* Prove it at our risk under this guarantee:—
Our dealer in your town has instructions to supply you with Pratts Preparations under our square-deal guarantee—*"Your money back if YOU are not satisfied"*—the guarantee that has stood for nearly 50 years.
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TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

Hogs Repay Liberal Barley Feed

[Written for Pacific Rural Press.]

Strikingly greater increase in weight was made by shoats fed all the barley they wanted in connection with alfalfa pasture in an experiment at University Farm at Davis, which will be completed in its first stages a few days after this item appears. Prof. C. M. Vestal of the Animal Husbandry Department under Prof. Gordon H. True has charge of the experiment. It was, however, started July 11, before Prof. Vestal came from the Kansas College of Agriculture and Prof. J. I. Thompson went thither from University Farm.

Fifty pigs, farrowed about last April, were divided into five lots as uniform as possible and averaging 60 pounds each. They are all good average grade hogs. All have been allowed all the alfalfa pasture they wanted and it has been noticed that the pigs fed the least barley ate the most alfalfa.

One bunch of the pigs was fed ground barley to the extent of one per cent of their weight daily. The barley was put into the troughs dry and dampened just enough to prevent the pigs from wasting any. The second bunch received two per cent of its weight in dry ground barley fed the same way. The third bunch received three per cent. The fourth bunch had all the ground barley it wanted in a self-feeder. The fifth bunch received all the ground barley it would eat from a self-feeder and all the coconut meal it would eat from another self-feeder.

WEIGHTS NOVEMBER 2, ON 114TH DAY OF FEEDING.

Feed	Weights
1 per cent	95 lbs.
2 per cent	125 lbs.
3 per cent	155 lbs.
Full feed	180 lbs.
Full barley and coconut	190 lbs.

These figures do not indicate the economy of the various amounts of feed, for which final figures are not available at this writing. They prove, however, that money invested in shoats on a one per cent feed would draw a lot of interest if kept in the bank the length of time required to fatten the shoats and the alfalfa would be saved to sell.

PIGS TO BE EXHIBITED.

A few pigs of each group will be continued on the same feeds and records kept until they shall have been butchered, when their dressing percentages will add interest to the total figures on feeds and weights.

Late in November it is proposed to take pigs from each group on a demonstration tour, probably under supervision of Assistant State Leader of Farm Advisers C. W. Rubel. It is proposed to start in Glenn county and stop at various points on the way to Southern California. Farm Advisers may arrange local meetings.

RATIO OF PRODUCT VALUE TO FEED COST.

(Continued from first page.)

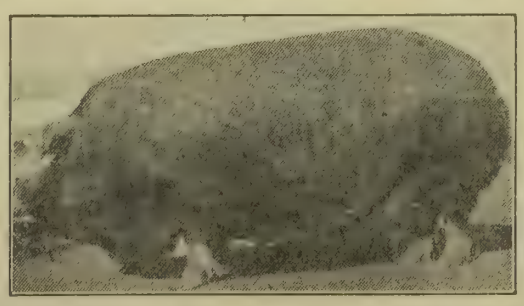
"khaki" and the price of wheat. The greatly enhanced price of wool will tend to hold back the marketing of mutton. This will cause an increased demand for other meats, thus holding up the price of Indian corn, oats and barley, and hence tend to reduce the production of wheat. An increase in the price of wool tends to increase the price of mutton. The price of mutton tends to maintain the price of beef and pork. The price of beef and pork tends to maintain the price of corn and barley. The price of corn and barley tends to increase their acreage. Increased acreage in corn and barley tends to decrease the acreage in wheat. Any man who buys an extra suit of clothes inevitably tends to decrease the future supply of wheat for ourselves and our allies.

[This statement of Dean Hunt concerning the inter-relation of products is very striking and patriotic. By similar reasoning it could be shown that unless the local price of hogs is properly related to the price of barley and other grains, the hog raiser will have no money to buy a suit of clothes—not enough, in fact, to get his old trousers re-seated, and then there must be less pork and a German peace.]

Man Power on the Dairy Ranch
The problem most difficult for dairymen to solve today is the problem of getting milkers and ranch hands at any price.
WE CAN HELP SOLVE THE PROBLEM WHICH YOU MUST SOLVE OR QUIT THE DAIRY BUSINESS.
LOUDEN Litter Carriers Feed Carriers
If this equipment saves TIME ONLY, it is doing good work for you. But it will save money also, because the work can be done in LESS TIME and with far less back-breaking labor. A litter carrier has four times the capacity of the wheelbarrows you may now be using and can be filled, run out and dumped in the same or less time than you can fill, wheel out and dump a wheelbarrow.
Big General Catalog, complete line LOUDEN Barn Equipment and Hay Tools on request.
Write today—Free Barn Plan Book—Write today.
CALIFORNIA HYDRAULIC ENGINEERING & SUPPLY CO.
68 Fremont St., San Francisco 424 East Third St., Los Angeles

to make pork=profits
these days you need fast maturing pigs—the kind that World's Champion Star Leader sires, weighing at 4 months about 150 lbs.
Get a Star Leader Boar, 3 to 4 months old for $50
Illustrated Booklet Free. Write Now, Right Now
ANCHORAGE FARM Orland California Quality Products

Bassett's Poland Chinas



For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year—uniform in size, high in quality, quickly and economically matured and finished.
$30 UP.
Grand Champion Sow, P. P. I. E., 1915; Sacramento, 1916.
FAIR DEALING, UNIFORM EXCELLENCE, SATISFIED CUSTOMERS, BEST PORK PRODUCERS, RESULT FROM YEARS OF SELECTIVE BREEDING.
M. BASSETT Hanford, Cal.

FOR SALE
One of the leading Shire Stallions of the West
DESFORD BANKER
Three Imported Shire Mares all in foal.
Two Stallion Foals and one Filly Foal.
SALVADOR STOCK FARM NAPA, CAL.

Management of Young Horses

Colts can be housed satisfactorily either in the stable or in an open shed. The main requirements are that the quarters be dry, sanitary, and provide fairly warm protection from winds. Several foals may run together if the weaker ones are not driven away from their feed by the stronger. The quarters should be kept clean and well bedded and occasionally should be disinfected. Lice are to be suspected when the animals get to rubbing and lose patches of hair. Thorough washing with the proper solutions of coal-tar disinfectants will kill lice. It costs money to feed lice, consequently efforts should be made to keep them down. The foals should be out in the open every day that it is not stormy; it is harmful, however, for them to remain out in a cold rain. The foal should be taught to lead and to stand tied during the first winter.

Feeds that will promote growth should be supplied. Good, clean clover hay is palatable and slightly laxative. Timothy hay commonly is fed. Well-cured alfalfa hay free from dust is one of the best roughages for growing, but because of its relatively high protein content it generally is economical to supplement it with other roughage such as timothy, mixed hay, or corn fodder. Besides lending variety to the ration such a method of feeding alfalfa would offset any likelihood of kidney or bowel irregularities. Sheaf oats can be used to advantage to supplement other roughage. The animals should not be allowed to gorge themselves on dry feed. They should be given only what they will clean up readily, but at the same time enough feed should be supplied. Oats, corn and peas, preferably fed ground, are suitable grains. Bran, oil meal, or gluten feed will add protein and lend variety. Cottonseed meal should not be fed to foals. Appropriate grain rations for the first winter are: Two parts corn, five parts oats, three parts bran, and one part oil meal; or four parts oats, one part corn, and one part bran.

Silage should not be fed to foals to any considerable extent. Sliced roots, such as carrots and sugar beets, are very palatable and have a cooling effect on the digestive system. The quantity of feed generally should be regulated by the appetite, although occasionally the appetite may be too ravenous to be a good indication. The general condition of the colt and the droppings should be observed daily. Usually not over one pound of grain per 100 pounds of live weight should be fed until the animal is two years old. A liberal supply of salt and good water and plenty of fresh air and exercise are essential for the proper development of young horses. Idleness succeeding exercise will cause constipation. It is often said that a horse is made during his first winter. Certainly this is a critical time in the animal's life, and at no other age will proper feed and attention do as much to make him a good horse. If stunted during the first winter, he never will gain proper size and shape.

The Pacific International Livestock Exposition opened November 19 in North Portland, with the largest entry list in its history. The Exposition will close November 24.

Percheron and Belgian Stallions Imported and American Bred

Pion 121249

First Prize 2-year-old and Reserve Champion, California State Fair, Sacramento, 1917.

Offering a few 2-year-olds and upwards, with heavy bone and high quality, that weigh a ton or more. If you are looking for the best come and see them or write for particulars.

EVERY STALLION GUARANTEED AS REPRESENTED

Prices and Terms Reasonable

N. W. THOMPSON

PATTERSON, CAL.

Mr. Farmer:

You can't get along without a Pull, so buy a good pair of mules from

Burrell and Corey

Breeders and Importers

OF

JACKS and JENNETS

Hanford, Cal.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

HOW TO GET WINTER EGGS.

The handwriting on the wall points to the fact that the man with a few dozen or a few hundred chickens of the heavy or medium weight breeds is right in the path where the money will be falling at a very early date. Already the order has been issued for special poultry days, to save the meat supply for our soldiers and the allies, and restaurant and hotel men are trying to make contracts for regular delivery. So the man who has any of the real table fowls should hold on to the last ditch, no matter how gloomy the prospect may be. There will be some who have to buy feed out of wage earnings that it will pay to quit, even with these prospects, but anyone with a little land to allow the birds range to pick up a part of their living should hold on.

PRODUCTION OF WINTER EGGS EXPENSIVE.

And by the way, eggs are beginning to get as scarce as hen's teeth. Only those who are feeding and sheltering their flocks right are getting any eggs at all, and they are not getting enough to boast about. Storage eggs are being offered, and probably some Chinese eggs are finding their way to eating places. Altogether, the price is held far below the profit line for the poultryman who is catering to his hens to coax them to lay. It would serve the "dear public," especially the "ladies" who delight in forming boycott leagues, to have to go without fresh eggs for one or two seasons, then they might realize the value of them.

AN EGG-EATER'S VANITY.

Winter eggs cost a lot to get when feed is so high, and it is really a matter of pride with the average man or woman, more than profit, that urges them to strive for eggs in unseasonable times.

Classified Advertisements

MISCELLANEOUS.

DON'T WASH YOUR CLOTHES the old way; use Cedarwax Easy-Wash (25 washings 25c); a modern miracle; washday without work; washes anything washable; satisfaction or money back; write for free sample and special introductory offer. Cedarwax Co., 1123 Story Bldg., Los Angeles.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero St., San Francisco

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog Smiths Cash Store, 106 Clay street, San Francisco.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California Established fifty years.

ALL SIZES OF PIPE and screw casing, both new and second hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial St., San Francisco.

SECOND-HAND PIPE—Absolutely first class Write for prices. San Francisco Iron & Metal Co., 256 North Point St., San Francisco, Cal

ALFALFA HAY—First-class alfalfa hay for sale in car-load lots, freshly baled from the stack. Address: Quail Ranch, Pixley, Cal.

WANTED—A second-hand, reversible, 6-ft disc harrow. State make, price, and condition. S. L. Wadlington, Chico, Cal.

WANTED—Incubator, standard make. State price. Box 332, Fairfield, Cal.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market St., Stockton, Cal.

COMPETENT AND EXPERIENCED ORCHARDIST is open for position as manager or foreman. Best of references. Box 860, Pacific Rural Press.

COUNTRY LANDS.

WORKING PARTNER WANTED—Chicken ranch—or will sell stock and rent ground. Small capital required. An excellent opportunity. Close to Bay markets. Act quick Box 840, Pacific Rural Press.

CENTRAL ALBERTA FARM for sale, going concern, fully equipped, 1,142 acres in one block, clear title, 600 under cultivation, best black loam clay subsoil, all fenced, good buildings, abundant good water, ideal for mixed farming. Owner made fortune on grain. Only one mile from railway station on main line. Elevators and growing town. Cheap for cash; no agents. Address, Felix Ohberg, Amisk, Alberta.

EIGHTY ACRES of Kings County land, six miles from Hanford, all under irrigation, producing corn and alfalfa. Mrs. E. Gallup, Hanford, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

WANTED TO LEASE OR RENT—Improved ranch of 20 or 30 acres with buildings, etc. Give particulars, terms, etc. Box 133, Sta. G, Oakland, Cal.

FORTY ACRES—Tulare Thermal Belt. Leveled fine well unleachable soil. Location excellent. Wonderful buy at $6500. Terms. D. Whitney, Exeter, Cal.

SEEDS, PLANTS AND TREES.

BERRY PLANTS—Loganberry, Phenomenal berry, Blackberries, Raspberries, Strawberries, Currants, Gooseberries, and Dewberries. Large, strong, well-rooted, true-to-name plants. Special prices to dealers and large orders. Order now to secure early delivery. Write M. J. Moniz, Berry Specialist, Sebastopol, Cal.

STRICTLY FANCY SEEDS—Alfalfa, all clovers and grasses, Washington Hybrid No. 143 Seed Wheat ($2.50 per bushel, recleaned). Free Sweet Clover bulletins. Nitro-Cultures for Legumes. Ralph Waldo Elden, Central Point, Oregon.

WE FIELD-SELECTED a large stock of Green Gold Brand alfalfa seed. More than half of our stock is already sold. Good alfalfa seed will be scarce. Order now, while quality is highest and price is low. Bomberger Seed Co., Desk A, Modesto, Cal.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

OLIVE TREES—Mission, Manzanillo, Ascolano. Propagated by me from trees of known bearing qualities. Guaranteed. L. T. Schwacofer, Hemet, Cal.

SOUDAN GRASS SEED—California grown and pure. For prices write undersigned and state quantity wanted. George Boock, Los Molinos, Cal.

DON'T WAIT—Buy your seed potatoes while price is right. British Queen and Late Rose. Prices reasonable. E. A. Feaks, Supt., Sebastopol Orchard Co., Sebastopol, Cal.

QUALITY TREES—Seed Potatoes. Cash Nurseries, Sebastopol, Cal.

DITCHES

Make the New and Clean the Old—irrigation or drain, grade roads, build dykes—in any kind of soil, sand, rocks or gumbo, wet or dry, on side hill or level ground with

THE Martin Ditcher & Grader

Reversible, Adjustable, No Wheels or Cogs

All steel. Made in 2, 4 and 6 horse and tractor sizes. Economical from first cost on. Over fifteen thousand satisfied customers. No farm or ranch outfit complete without a "MARTIN." Use one a day and you'll agree.

SOLD ON 10 DAYS TRIAL

Write for catalog and list of users near you. No charge, no obligation; postal will do.

OWENSBORO DITCHER & GRADER CO., Inc.
Desk 4 Denver, Colorado

I had a neighbor up north who always spilled a little yolk of egg on his vest front in winter to let the neighbors see he had been eating eggs for breakfast. Then some neighbor would ask, "Hello, Bob, your hens laying?" "You bet they are. I had eggs for breakfast." And he would say it just as solemnly as though he was not carrying a walking advertisement on his vest front.

Pride of that sort does not hurt anybody, and as long as Bob fed and cared for his chickens well enough to get winter eggs he was all right, even though it looked a little foolish to advertise in such a prominent way. This is not a yarn.

There are a few simple rules that always helped me to keep the hens going: The first is to empty all water out of the crocks at night, then fill them up with fresh water in the morning. The fresh water that has lain in the ground or under it is several degrees warmer than that which has been exposed in open drinking vessels. For the person who has but a few dozen hens a kettle of rice and oats with a little animal fat, a few red peppers and a little salt boiled altogether and fed warm for breakfast is a sure egg-getter, provided the hens are not naked with the molt. Condition of hens has much to do with the present scarcity of eggs. When all the hens are through with the molt there will be a better showing. Feed a good supply of mineral, such as bone, meat, greens and good shell, grit, etc., and the hens will pull through quicker.

TO FACILITATE MOLTING.

If you have an old male bird that acts dumpy over molting, pull the feathers out of his head and neck; I have known cases where a bird died because he could not shed those few feathers. Feed him a little rolled oats, a teaspoonful each of ginger, sulphur and olive oil mixed with a little milk, once or twice a week, and he will molt much easier. Old male birds that have been tried and proven are worth going to a little trouble with.

There is sulphur in all feathers, in human hair and in the blood, so a little sulphur often proves a corrective in many ways, but as it is very searching in its effects it should never be overdone.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

OUR GEESE AND BRONZE TURKEYS win again; champion sweepstakes special for the best pair of birds in show; for size, vigor and quick maturity, ours are best East or West; stock and eggs in season; also Collie Pups; correspondence solicited. John G. Mee, St. Helena, Cal.

SPRING CHICKS—We are booking orders now; we start our run in January; Rhode Island Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. Remember, order early. Campbell Poultry Ranch, Campbell, Cal.

SPRING CHICKS—We are booking orders now. S. C. White Leghorn, only selected and fully matured stock that is bred to lay used in the breeding pens, which assures strong and vigorous chicks. $12 per 100, $100 per 1000. H. A. Schlotthauer, Route A, Exeter, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; choice cockerels. Fairmead Poultry Farm, Fairmead, Cal.

MAMMOTH BRONZE TURKEYS FOR SALE—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

BUFF ORPINGTONS, Buff Leghorns, Bourbon Red Turkeys. Breeding stock. The Ferris Ranch, Route 2, 144D, Pomona, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

MARKET YOUR PRODUCT IN ATTRACTIVE PACKAGES.

Since the writer has marketed eggs and chicks in packages with a printed sticker on the side, every now and then someone comments upon seeing our egg box on the ferry or at some station. This is the best kind of advertisement and costs but little. All our egg cases are painted willow green and a large sticker is pasted on either side, leaving about a one-inch margin all round. It is surprising the number of trips the case will stand before the paper becomes torn or discolored, then we replace it. Since using this method of marking our boxes but few are lost. It is the common case, with only a shipper's tag on it that the public will take.

TOO MUCH READING MATTER HARMFUL.

Do not make your package look like a Kearny street store window. A few words, properly placed, will work wonders, whereas a lot will make it unreadable at a distance. Look at the next Fargo shipment and you will notice that successful business houses are particular as to the appearance of their packages.

Chick boxes should bear your name, address and variety of chickens handled, on the end, not the side, as the boxes are piled on the express trucks end out and the sides are not exposed to the public's eye.

PROVIDE CLEAN FILLERS FOR EGG CASES.

There is nothing adds to the appearance of a case of eggs more than clean fillers and papers. The price of these articles has increased quite materially, but nevertheless we must not use the old ones that are all smeared up with broken eggs and dirt. It is better to throw them away and get new ones.

REPAIR POULTRY BUILDINGS NOW.

Soon winter will be upon us and with it the rainy season. Now is the time to repair that leak in the roof or fill in dirt around the building so that the water will not run in. We found last winter that a gutter was a paying investment, especially on a long house. The amount of water that "ran off" the north side of our long house amounted to several gallons an hour, all of which would have soaked under the building. Our poultry house faces south, all the windows being on that side. Some have windows in other parts of the building. Where the panes and muslin are gone, rain will beat in, dampening the litter. The summer heat may have dried out your walls and possibly a knot has fallen out here and there. The house will then have drafts. This will cause swelled eye and roup. A piece of tin nailed over the hole will stop the draft.

PARTRIDGE WYANDOTTES.

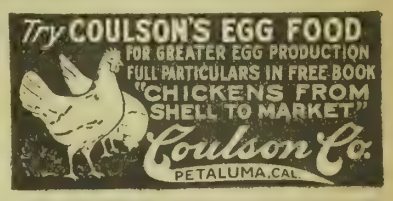
To the Editor: Please state in general terms the value of Partridge Wyandottes as compared to the white variety for egg production, early maturity, etc.—E. M. W., Sacramento.

[Answered by George H. Croly.]

If the fowls in a pen of Partridge Wyandottes have been as properly bred, as intelligently mated and as correctly fed as a similar pen of any other variety of Wyandottes, there should be no great difference in their value as breeders of utility youngsters. The results of the many recent egg-laying contests have demonstrated that practically any breed of fowls may be the winners as the best layers. Apparently the proper breeding and mating of the parents of the fowls in the contest is the chief factor in determining the inability to produce many eggs. With the present knowledge relating to the mating of fowls it is possible, about nine times in ten, to predict what the utility qualifications of the young may be.

Wheat that was not very noticeably moldy made chicks sick for a San Diego county poultryman and killed a few.

A cloth dampened in vinegar will take stains off from eggs.



Dealers in PAPER — Blake, Moffitt & Towne
37-45 First St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake-McFall Co., Portland, Ore.

DON'T Try to Ignore FACTS

Your success with poultry depends on feeding in harmony with established scientific facts.

The scientific fact is that the lactic acid bacilli contained in buttermilk kills the CAUSE of bad bowels in poultry, it prevents and cures White Diarrhoea.

Get bulletin 162, recently issued by U. S. Dept. Agriculture, Berkeley, Cal.; a complete exposition of the wonderful value of lactic acid bacilli contained in buttermilk. Write them today for a free copy of this bulletin, **it may mean much to you.**

A-1 Buttermilk Mash, containing DRY BUTTERMILK costs but a few cents more than non-buttermilk mash; learn why it's worth a great deal more.

Get more and better eggs. Raise more and stronger young chicks.

A-1 Buttermilk Mash is a feed that poultry LIKE; they eat it readily, keeps them in GLOWING HEALTH. You will find it profitable to feed.

This buttermilk contains 10,000 LIVE lactic acid bacteria per cubic centimeter.

Write today for free sample and valuable feeding information.

GLOBE MILLS, Los Angeles

Note.—We guarantee that A-1 Buttermilk Mash contains absolutely no filler whatever, it's ALL FEED.

Buttermilk GLOBE A-1 Dry Mash

"Here's Service For You"

We wish to announce that we have instituted an entirely new branch of service to STOCK and POULTRY raisers. We maintain a crew of experts whose sole duty is to correctly advise you on any question or problem that may trouble you regarding the correct feeding, housing or care of ANY KIND of STOCK or FOWL. Won't you let us shoulder some of your burdens on this department?

We are issuing very valuable monthly bulletins containing information on any subject which you may be in doubt upon. Let us put you on our list for these bulletins.

THIS SERVICE IS FREE.

Great Western Mills

Dept. of Animal Industry — Los Angeles, Cal.

B-K

Think of it—One Product—Scores of Farm Uses

Awarded Gold Medal Pan.-Pac. Exposition.

In B-K, the POWERFUL disinfectant (NOT A POISON), you have in one clean glass bottle a concentrated liquid—safe for children, old folks, or the hired help to handle—that can be heavily diluted with water and used as a spray—dip—disinfectant; also for mixing in the drinking water; also effective for treatment of many contagious diseases of cattle—hogs and poultry. Our bulletins give scores of farm uses.

B-K is worth from 2 to 10 times as much as any coal tar disinfectant or carbolic acid—on the basis of germ-killing strength alone. Its other remarkable advantages make it entirely in a class by itself. This has been proved by thousands of farmers and breeders.

FREE BULLETINS—Ask for complete information—"trial offer" and bulletins on Farm Disinfecting — Contagious Abortion, Calf Scours, Hog Sanitation or Poultry Raising.

Dealers wanted in every town.

General Laboratories
3410 S. Dickinson St.
Madison, Wis., U. S. A.

Every Chick You Raise
WILL BE WORTH MONEY THIS YEAR

Our machines will raise them. They have received highest awards wherever shown. Gold Medal of Honor at P. P. I. E. on Lamp Heated and Electric Brooders and Incubators. Catalog Free.

VICTOR INCUBATOR CO.
1378 MARKET STREET, SAN FRANCISCO
Factory Decoto, Cal.

Mrs. Best's Letter.

WARTIME THANKSGIVING.

My Dear Friends: No doubt nearly all of you have signed the food pledge card, but the mere signing does not end your responsibility. It is absolutely necessary for all of us to follow the terms of the pledge, eliminating all waste and conserving certain foods. For our Thanksgiving dinner most of us prefer turkey or chicken, and that is a food we are not asked to conserve, so we need not feel wasteful if we indulge.

But when we are making our preparations for a happy and plentiful home meal, let us not forget there are many boys away from home this year, for the first time during the holiday season. There are many things that keep well that we can send to them to show them we appreciate their willing service. Raisins, nuts, candied sweets, prunes, figs, chocolate and the like are accepted in the mails and would be much appreciated.

WHAT AND WHEN TO SEND.

Christmas boxes for boys in camps in this country must be mailed by December 5th and those intended for the boys at the front in France must be in Hoboken by that time.

Suitable gifts for those boxes are knives, steel mirrors, mouth organs, playing cards, puzzles and games, writing paper pad, envelopes and, last but not least, tobacco and chewing gum.

By special arrangement, boxes weighing twenty pounds may be sent by mail, but they must be marked "Christmas box," not be over two cubic feet in volume and have a hinged or screw top that may easily be opened for inspection. The charges are 12 cents a pound or fraction thereof. Boxes sent to American boys in France may contain a greater range of articles, for the delivery is attended to by Uncle Sam. Postal regulations in France make it impossible to send many articles to the French soldier. The safest way to contribute goodies and comforts to them is by contributions to the Red Cross, which will endeavor to provide Christmas cheer to all French soldiers.

ROSABELLA BEST.

PEPPERS A LA CREOLE.

Soak 6 peppers for half an hour, drain them, chop them and fry them in butter. Line a dish with hot boiled rice and spread the peppers over it. Add 2 tablespoonfuls of stock to the butter in which the peppers were fried, and a little onion juice; heat thoroughly, pour over the rice and peppers and serve

CORN PUDDING.

One can corn, 2 eggs well beaten, ½ pint of cream, ½ teaspoonful of salt, good shaking of pepper, 1 heaping tablespoonful of butter. Mix these all well together, put in a baking dish and bake in a hot oven for twenty minutes to half an hour.

Every household should have rolled bandages ready for use in case of accident. Tear strong cotton cloth into various widths, roll the strips up tightly, and sterilize in the oven for a short time. Pack in a sterilized, wide-mouthed jar and cover tightly.

THE HOME CIRCLE

IF YOU WANT TO BE HAPPY, GIVE SOMETHING AWAY!

Said old gentleman Gay, "On a Thanksgiving Day,
If you want to be happy, give something away."
So he sent a fat turkey to shoemaker Price,
And the shoemaker said, "What a big bird—how nice!
And since such a good dinner's before me, I ought
To give Widow Lee the small chicken I bought."
"This fine chicken, oh, see!" said the good Widow Lee,
"And the kindness that sent it, how precious to me.
I would like to make someone as happy as I—
I'll give washwoman Biddy my big pumpkin pie!"
"An' sure," Biddy said, "'tis the queen of all pies,
Just to look at its yellow face gladdens my eyes.
Now it's my turn, I think, and a sweet ginger cake
For the motherless Finnegan children I'll bake."
Said the Finnegan children, Rose, Denny and Hugh,
"It smells sweet of spice and we'll carry a slice
To little lame Jake who has nothing that's nice."
"Oh! thank you and thank you," said little lame Jake;
"What a bootiful, bootiful, bootiful cake,
And such a big slice! I'll save all the crumbs
And give them to each little sparrow that comes!"
And the sparrows they twittered as if they would say,
Like old gentleman Gay, on a Thanksgiving Day,
"If you want to be happy, give something away."

—The Entertainer.

THE THANKSGIVING PUMPKINS.

Three little pumpkins grew on one vine. They were green and round and no bigger than baby's fist. The big leaves spread over them like the canopy of baby's carriage, or like the gay green umbrella that little sister carries to keep the sun off her freckled nose.

"I am going to be a big pumpkin," said one. "I am going to grow so big that everybody will come from all over the world to see me. I heard the farmer man telling some one the other day that I should be a prize pumpkin."

"I am going to grow very big, too," said the second pumpkin. "I am going to grow as big as the moon and just as yellow. I shall light the whole world."

The third pumpkin kept very still under his leaf umbrella. He was smaller than his brothers. He doubted very much if he could ever grow as big as the moon; and, as to having all the people in the world come to look at him, he felt that this would be very embarrassing, for he was a modest little pumpkin. He hoped he might be of some use in the world, but he did not know just how.

So he very politely asked the toad who came hopping along and stopped under his leaf umbrella one day:

"Of what use may a pumpkin be in the world, Mr. Toad?"

"Oh, a pumpkin may be used for many things," answered the toad, "but I think the very nicest pumpkins are made into pies. Everybody likes pumpkin pies, but not all pumpkins make good pies."

"Then I should like to be made into a pie for the little sister to eat," said the little pumpkin.

The other pumpkins heard him and laughed.

"Dear me! what an ambition!" said the first pumpkin, "to be willing to be made into a pie and eaten, when one might hope to be a prize pumpkin and have everybody in the world come and look at him."

"What a silly!" said the second pumpkin, "to think of being made into a pie when one could light the whole world."

The little pumpkin did not answer, but he did not change his mind. Every day, when the little sister walked along the path at the edge of the field, he thought how nice it would be to make a pie for the little sister to eat, and thus help her to grow.

So he drank in the dew and the rain and grew golden in the sun, and kept on quietly growing. By and by the corn was ripe, and the farmer came to gather the pumpkins.

"Ah!" he said, "what a fine, large pumpkin! I was sure it would be a prize pumpkin. I will take it to the village fair, and all the people of the village shall come and see it, and find what large pumpkins I raise."

The prize pumpkin glowed with pride as the farmer laid him carefully on his wheelbarrow.

"I am sorry that all the people in the world are not coming to see me," he said, "but I shall be seen by a great many, and one cannot have things just as he would wish."

"Good!" the farmer was saying. "Here is another fine, large pumpkin, so the little son may have a big one, after all. Here, little son, you may have this pumpkin for a jack-o'-lantern and put it up on a post. I'll venture that it will throw a light as far as the middle of the street."

The pumpkin sighed. This was not quite like lighting the whole world! Still it was a very enviable lot to light part of one street.

Then the farmer saw the little pumpkin.

"Well, well!" he cried, "here is a little pumpkin, just the sort for a good pie. I know what we will do! We will have it for a Thanksgiving pie, and little son and little sister and all the little cousins shall each have a piece."

Then the little pumpkin almost burst his shell in the joy of what he heard—to be made into a Thanksgiving pie and help so many little children to grow—this was better than anything he had dared hope for. But, then, one gets so much better things in this world than one ever dares hope!

Then all the pumpkins were carried away into the big barn.

The little son came very soon and took away the pumpkin which had wished to light the whole world. It made a fine jack-o'-lantern, and sent a glow halfway across the street, and was quite content.

Soon after the farmer came and took the biggest pumpkin away to the fair. He polished it until it shone like gold. Many people stopped to look at it and said, "What a beautiful pumpkin!" And indeed it was such a beautiful pumpkin that a man called the judge pinned a blue ribbon to its stem, so that this pumpkin, too, was very happy.

But the best of all was when Thanksgiving Day came. Then the little sister and the little son and all the little cousins sat together at the long table and cook brought in a beautiful brown pumpkin pie.

And, though there were turkey and cranberries and loaf cake and jelly, and many other good things, what the children liked best of all was the Thanksgiving pumpkin pie.

—Phila Butler Bowman, in Kindergarten Review.

THE THANKSGIVING DINNER.

Thanksgiving is an occasion anticipated by all members of the family. The home comings, reunions and festivities, with the bounteous dinner that is sure to be prepared, give the day a special joy. This year there will be many homes that for the first time have a loved one absent. If possible, there should be someone else's son, who is far from his own home, asked to participate in the family holiday.

Decorations for the house of autumn leaves, ferns, bunches of red berries, ears of corn and bowls with fruit and nuts blend pleasingly with the harvest season. A well-shaped pumpkin hollowed out makes an attractive bowl for leaves or fruit.

Thanksgiving is a day when everyone is glad to keep traditions of the New England meal of roast turkey, cranberries, vegetables in abundance, steamed pudding and pies of apple, mincemeat and squash.

This year it is most desirable that our big dinners have fowl for the meat course, so that we need none of us feel extravagant to have a turkey dinner and nothing is more welcome than the sight of a fat turkey, well browned and filled with a good dressing.

An unusual recipe for stuffing is as follows: 2 cups of stale bread crumbs, ¼ cup melted fat, ½ cup seeded raisins cut in half, ½ cup chopped walnuts, 1½ teaspoons each of sage and marjoram and a few drops of onion juice. Mix the bread crumbs with the spices and onion and add the melted fat, raisins, nuts and salt and pepper to taste and enough milk to moisten.

A nice relish to serve with turkey is apple ginger, made by cooking chopped sour apples with 1½ cups of brown sugar, juice of a lemon, 2 tablespoons of ginger, and water enough to prevent burning, for three hours. This will keep for several weeks.

Cranberry jelly is easier to serve than cranberry sauce and is made by straining the cooked cranberries through a sieve and cooking the juice with sugar and pouring into jelly glasses. This can be done days ahead and will be ready to turn out.

All or any of the autumn vegetables are good to serve, creamed onions, cauliflower or turnips with baked squash making suitable dishes for such a dinner.

For dessert the most popular thing is pie of various kinds, supplemented with nuts, raisins and black coffee.

The key is never to blame for a rusty lock.

Good Health.

[By H. E. Pastor, M. D.]

Common Colds.

We are approaching the season of the year when colds are common among children. The best safeguards against catching cold are sufficient food and clothing of the right kind, but not overmuch of either. And the "right" kind is the simple kind in both cases. Next to appropriate food and clothing, life in the out-of-doors is the important thing, whenever the weather permits. At night-time windows of sleeping rooms should be kept open. To lessen the hazard of catching cold, children should be kept away from other children when colds are epidemic in the neighborhood; and, when they are unfortunate enough to contract a cold, parents should keep them out of school and away from "parties," etc., and not carelessly expose other children who are well. To ignore this precaution is criminal.

To Treat a Simple Cold.

If from some unavoidable or unexplainable cause the child takes on a cold, keep it in an environment where the temperature is as nearly even as possible, and from 64 to 70 degrees, or a trifle above. Keep the nostrils clean with a boracic acid or saline solution (the latter not too strong) and gargle the throat with the same. Few remedies are more valuable than castor oil, as there is usually a clogged-up condition of the bowels, with fermentation of the contents. Especially should castor oil be administered when there is obstinate constipation or diarrhoea with fever. Dip a dessertspoon or tablespoon in orange juice, pour in the castor oil, cover with more orange juice, and the dose will be swallowed without gagging. Give a little more orange juice after taking. Well-sweetened lemon juice is a good substitute. Keep the child quiet, clean and unexcited, and if the cold is of the simple kind it will soon disappear.

Have Tomatoes Any Food Value?

This question has been asked the editor of this column by one who claims they contain fully 95 per cent of water in their composition. This percentage of water content is about correct. Tomatoes, in common with other succulent vegetables and fruit, do not contain a large amount of substantial nutriment. They are chiefly valuable for their mineral salts, analysis showing that tomatoes contain the salts of iron, lime, and phosphorus. Besides, tomatoes lend bulk to the food ingested, and that aids digestion and stimulates intestinal activity.

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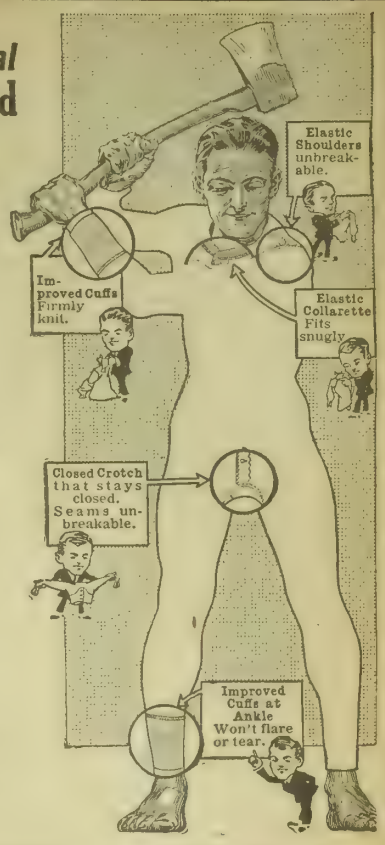

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PERFECTION OIL HEATER

SAN FRANCISCO.

San Francisco, November 21, 1917.

WHEAT.

Wheat is stagnant. The lateness of the season has delayed the demand for seed wheat and no sales are reported except at the Government quotations.

(Federal Grain Corporation quotations for bulk grain. Sacked grain 7 cents per hundred more.)

Sonora wheat	$3.43
Northern Club	3.43
California Club	3.43
Northern Bluestem	3.50
Northern Red	None offering
Russian Red	None offering

BARLEY.

The barley market was quiet with no changes reported from last week's quotations.

Shipping, per ctl	$2.47½@2.50
Brewing	Nominal
Choice feed, per ctl	2.47½@2.50

OATS.

The long continued dry spell has removed the few seed buyers from the market and there is a scarcity of inquiries for all grades of oats in this market.

White Feed, per ctl	$2.65@2.75
Red Feed, per ctl	2.50@2.65
Red Seed, per ctl	3.10@3.25
Black Oats	3.00@3.50

BEANS.

A demand for colored beans developed this week in Texas and the buying for that market stiffened the quotations on colored beans. The rest of the market was unchanged. H. Clay Miller, a member of the Food Administration, estimates the increased output of beans in California during the past year at between 35 and 40 per cent. The Mexican bean crop of California was particularly large. Mr. Miller estimates that the entire country raised approximately 8,000,000 bushels more this year than the previous biggest crop. These figures will act to prevent any large increase in the price of beans in spite of the increased demand by the Government for the product.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl	$9.25@9.50
Blackeyes	8.75@ 9.00
Cranberry beans	12.00@12.25
Horse beans	5.75@ 6.00
Small whites (south)	11.75@12.00
Large whites	11.50@11.75
Limas (south, recleaned)	12.50@12.75
Pinks	8.40@ 8.50
Red kidneys	12.75@13.00
Mexican reds	8.75@ 9.00
Tepary beans	9.00@ 9.25
Garbanzos	7.50@ 7.75

CORN.

The new crop of Egyptian corn is now arriving in considerable quantities, but there has been no change in the quotations of any grade of corn.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	$4.00@4.10
California, sacked	None offering
Milo maize	None offering
Egyptian	$3.00@3.25

HAY.

The receipts of hay for the past week were 1003 against 1960 last week. Fully 80 per cent of these receipts were required by the Government needs, and the small balance went to general use. It is practically impossible to obtain any transportation at shipping points other than for Government purposes, with the occasional exception of a car which has brought other freight to a point and is thereby available for a hay shipment in return. These cases, however, are very few, but they practically cover the amount of hay received for general purposes. The railroads offer no hope of a change in the situation and before long it will be a question as to how local stock is to be fed. Figures from the interior show that plenty hay is available and prices would be materially less if the transportation could be provided. Fortunately the demand in San Francisco is very light. Without doubt the farmers will have to carry over to spring much of their hay. The quotations in this city show no change from those of last week.

Wheat, No. 1	[illegible]
No. 2	21.00@23.00
Tame oats	26.00@27.00
Wild oats	21.00@24.00
Barley	21.00@24.00
Alfalfa, new, first cut	21.00@25.00
Stock hay, new	[illegible]
Straw, per bale	[illegible]

FEEDSTUFFS.

Prices of feedstuffs were unchanged this week. Buyers are not buying much, as they expect that rain will reduce the prices, while the sellers are [illegible] on the continued dry weather and possible advance in quotations.

(Per ton, San Francisco.)

Beet pulp, per ton	None offering
Alfalfa meal, per ton	$29.00@31.00
Bran, per ton	41.00@42.00
Oilcake	None offering
Coconut cake or meal	None offering
Cracked corn	[illegible]
Middlings	[illegible]
Rolled barley	[illegible]
Tankage	None offering
Rolled oats	[illegible]
Rice middlings	None offered
Rice bran	32.00@35.00
Shorts	45.00@47.00

POTATOES, ONIONS, ETC.

[illegible] of Salinas potatoes [illegible] last week. All others moved up in sympathy. Onions were moved up [illegible] on account of the already well supplied market, and coupled with a light demand prices slipped. There were no peas offered. A plentiful supply of celery low red the price materially, and first [illegible] were selling from $2.00 to $2.25. Sound peas were off the market, but the demand for the large was good. Both string and wax beans scored a material advance on a good demand and light supply.

Asparagus	None
Peas, large	[illegible]
String beans, per lb	[illegible]
Wax beans, per lb	6@10c
Hubbard squash, per sack	[illegible]
Summer squash, per box	Nominal
Cucumbers, per box	Nominal
Celery, per crate	[illegible]
Tomatoes, per lug box	75c@$1.00
Potatoes, Salinas	[illegible]
Idahos	2.25@2.40
Oregon	[illegible]
Rivers, per ctl	[illegible]
Sweets, per lb	[illegible]
Onions, yellow, per sack	$2.10@2.30
Reds	None offering
Garlic, per lb	5½@6c

POULTRY.

The market is well supplied with turkeys and the price is but little changed from last week. Some specially good stock sold at an advance of 1 cent, but otherwise the quotations were unchanged. There was a stiffening in the price paid for hens, roosters and ducks, and Belgian hares advanced one cent.

(Quotations are for stock sold on commission. Net returns to shippers are about 4 cents under quotations.)

Turkeys, live, per lb., young	28@35c
do, dressed, old	30c
Broilers, 1½ to 2 lbs	35@40c
do, 1¼ lbs.	40@45c
do, under 1¼ lbs.	40@45c
Fryers	30@32c
Hens, extra, per lb., colored	27@28c
Small leghorn	25@26c
Smooth young roosters, per lb. (3 lbs. and over)	28@30c
Old roosters, per lb	17@18c
Geese, per lb	18@20c
Squabs, per lb	43@45c
Ducks	20@23c
Old	18@20c
Belgian hares (live)	17@18c

BUTTER.

The Wholesale Dairy Produce Exchange is now operating under the rules adopted by the United States Food Administration. Extra butter scored a decided advance on Wednesday, due to the removal of the threat of the distribution of imported butter, which has kept the price down for the past two weeks.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	40½	40½	40	40	41	43
Prime 1sts	39½	39½	39½	39½	39½	39½

EGGS.

Low receipts for several days past operated in advancing the price of Extras two cents on Wednesday, an increase of 4 cents in the past week. Other grades advanced in sympathy. Extra 1st pullets scoring an increase of 5 cents over last Wednesday's quotations.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	55	65	55½	56	57	59
Extra 1sts	54½	54½	54½	54½	54½	58½
Extra pullets	51	51	53½	54	54½	56
Extra 1st pul.	50	50	52	52	52	55

CHEESE.

Cheese was strong, and somewhat higher, the price advancing in sympathy with the increase in the butter market.

Y. A.'s	25c
Fancy California Flats, per lb	23c
Monterey cheese	18@26c

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

FRESH FRUITS.

There was little change in the prices of fresh fruits this week. Muscats are practically off the market and no quotations are being made by the commission men. Verdell grapes are coming in and will probably be more or less featured the next few weeks. Figs are not plentiful, but the quotations are unchanged from last week.

Apples, per box	$1.00@1.50
Pears, per box	75c@$3.00
Cantaloupes, per crate	Nominal
Apricots, per box	None
Peaches, per box	None
Nectarines	None offering
Figs, per box	$1.00@1.25
Watermelons, per doz.	Nominal
Grapes, Malaga, crate	$1.00
do, Seedless, lug boxes	Nominal
do, Muscats, crate	None
do, Verdell	$1.00@1.50

CITRUS FRUITS.

New fancy grapefruit is now becoming plentiful on the market and is being sold much lower than last wek. The old is almost entirely off the market. Otherwise the citrus market is unchanged.

Oranges:	
Valencias, fancy	$3.50@3.75
Valencias, choice	2.25@3.00
Lemons:	
Fancy, per box	6.00@7.00
Choice	5.00@6.00
Standard	3.50@4.50
Lemonettes	2.50@3.00
Grapefruit, fancy, new	3.00@3.50

DRIED FRUITS.

Very little business is being done in dried fruits and the market quotations have not been changed from last week. Some buyers are evidently expecting lower prices and there are few inquiries at present quotations.

(Net to growers, bulk basis, f. o. b. San Francisco.)

Apples, new crop	14 @15 c
Apricots, per lb.	14 @16½c
Figs, black, 1917	6½@ 7½c
do, white, 1917	8½@10½c
Calimyrna, 1917	15½@16½c
Prunes, 4-size basis, 1917	6¾@8¼c
Pears	6½@11½c
Peaches, 1917	9½@10¾c

BERRIES.

There are very few berries on the market. The quality of the strawberries is very good and they are selling at last week's prices. Raspberries, which were low last week, showed an advance of a dollar a crate.

Strawberries, Banners, chest	$8.00@10.00
Nicomas	9.00@11.00
Longworths	None
Blackberries, per chest	Nominal
Raspberries, per chest	$6.00@8.00
Gooseberries	None

HONEY.

Honey is scarce and the demand is good. It appears that a good deal of honey was shipped out of the country early in the season and the supply is very low. However, prices are so high that they are not likely to advance beyond the present quotations.

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, November 20, 1917.

There has been a noticeable decline in all markets during the past week, due principally to the arrival of overripe and weak grapes. The offerings from now on will be light and will comprise late Malagas, a few Tokays and the balance Emperors. This week, however, will finish the Tokay and Malaga shipments, but Emperors will be moving for the next ten days.

Emperors in crates and kegs and drums have met with a ready market, but there has been little or no demand for stock packed in lug boxes. Storage stock Emperors will command the highest prices of the season, as the receipts of Spanish Almerias are uncertain both as to quantity and quality. The market on recent offerings ranged from $1.50 to $7.00.

The decision of the Food Administration, which has placed certain restrictions upon the use of sugar in connection with the manufacture of certain commodities, has curtailed considerably the purchase of wine grapes. Fortunately this decision did not become an issue until after California had harvested practically all of her crop, but speculation is rife as to what effect this decision will have on next season's wine grape shipments.

Following are the averages for the week:

New York: Winter Nelis pears, $2.23; Glout Morceau, $2.50; Emperor grapes, $1.25; Emperor grapes (drums), $2.16; Cornichon, $1.20; Tokay, $1.12; Malaga, $1.23.

Boston: Malaga grapes, $1.45; Tokay, $1.10; Emperor, $1.23; Cornichon, $1.15; Muscat, $1.18.

Chicago: Malaga grapes, $1.37; Tokay, $1.10; Emperor, $1.25; Cornichon, $1.25.

Total shipments for the week ending November 16: 24 pears, 665 grapes. Total shipments to date, 1917: 24,139 cars. Total shipments to date, 1916: 17,852.

Special Citrus Market Report

Los Angeles, November 20, 1917.

Shipments of citrus fruits from Southern California from November 1 to 18: Oranges, 1,189 cars; lemons, 162 cars. Same time last year: Oranges, 283 cars; lemons, 35 cars. From Central California from November 1 to 16: Oranges, 2 cars; lemons, 13 cars. Same time last year: Oranges, 128 cars; lemons, 62 cars. The Eastern markets showed more strength the past week, doubtless due to the Thanksgiving demand. Shipments for the week were a little better and Porto Rico shipments reaching New York are now running about [illegible] a week. Yet they have so far failed to break the market. The fact that the Florida navel crop and the Florida crops will be very light doubtless [illegible] upon the market. Locally, while prices show no change, there was a better demand the past week than for some time. Local packers are still holding 2@2½c per pound from growers delivered. Grapefruit is also meeting with a very good demand at 2@2½c per pound delivered. The market for lemons continues to hold up well for good stock. Packers still paying 3@3½c per pound from growers for good shipping stock. Lower grades sell much lower and for such there is no established price.

AUCTION SALES.

New York, November 19.—Twenty-four cars Valencias and three cars lemons sold. Market generally easier on oranges, unchanged on lemons. Valencias averaged $1.80@6.55. Lemons averaged $3.90@6.80.

Boston, November 19.—Eight cars of Valencias and one car of lemons sold. Market higher on both oranges and lemons. Valencias averaged $3.10@4.70. Lemons averaged $6.90@7.05.

Philadelphia, November 19.—Eight cars of Valencias and one car lemons sold. Market unchanged on oranges, but lower on lemons. Demand good at prevailing prices. Valencias averaged $1.95@4.25. Lemons averaged $5.35@5.85.

Comb—	
Water white	15@16c
Light amber	13@15c
Amber	11@13c
Extracted—	
Water white	Nominal
Light amber	13@15c
Amber	11@13c

RICE.

There was no change in the quotations for rice this week. The market is dull and the price is considered high in comparison with southern rice. There is little demand on account of the price, although the dealers say that many farmers are expecting a still higher figure for their product.

Paddy	$3.40@3.50
Clean Run No. 1 California	$6.55

WOOL.

Sheep growers generally seem to hold the edge on the wool market, many refusing to part with their clips at present market quotations, high as they are.

Fall Clip—	
Humboldt and Mendocino	55@60c
Sacramento Valley	45@48c
San Joaquin Valley	40c

HIDES.

There has been a lull in the hide market for the past week or two. Demand seems to favor heavyweight hides as against lightweights, owing to the relative scarcity of the former. Quotations are more or less nominal.

Cattle:	
Wet salted hides, per lb.—	
Steers and cows, all weights	19@20c
Bulls and stags	16@17c
Kip	22@23c
Veal and calf	25@26c
Damaged	6@12c
Horses:	
Wet salted, skinned to hoof:	
Extra large prime	$4.00@5.00
do, medium	3.00@4.00
Small	2.00@3.00
Colts	.50@1.00

LOS ANGELES.

Los Angeles, November 20, 1917.

BUTTER.

There was a little more doing in this market the past week, though the tendency of prices was downward. The break in San Francisco was reflected here and with a free consumption of oleomargerine prices worked lower under light arrivals. While the market here on the Coast shows weakness, the Eastern markets are reported firm. Tuesday, with higher markets both East and North, buyers took hold more freely than for some days and an advance of ½c was established.

We quote:

California extra creamery	41½c
Prime first	40½c
First	39½c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	42	41½	41	41	41	41½
1916—						
Extra	33	38	35	37	37	37

EGGS.

While the receipts by rail were light the past week, only 436 cases, against 705 cases the same week last year, there was some improvement in the arrivals by truck and the consensus of opinion is we have seen our lightest receipts. Hence a break in prices of 2c to 3c since our last. Demand, however, holding up fairly well. Tuesday receipts were light, yet buyers were inclined to hold back and there was nothing doing on 'change and the tone of the market was weak.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	56	55	55	55	55	55
Case count	51	51	51	51	51	50
Pullets	50	48	48	48	[illegible]	48
1916—						
Case count	49	49	49	50	50	50

POULTRY.

With Thanksgiving near at hand and the receipts only moderate and altogether local, a firm and fairly active market was had for everything. Turkeys and geese are a little higher, due to the season.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs	33@34c
Fryers, 2½ to 3 lbs	27c
Hens over 4 lbs	26c
Hens under 4 lbs	21@22c
Ducks	22@23c
Geese	18c
Roosters, 3 lbs. up (soft bone)	25c
Turkeys, heavy, 12 lbs. and up	28@29c
Turkeys, light	26@27c
Squabs, live, per lb	35c
Dressed, per lb	45c

VEGETABLES.

There are but few changes to note in this market from a week ago. The most important are the break in potato prices, due to more liberal receipts and moderate demand. Cabbage is also dull and lower. Cauliflower is also coming in more freely and lower. Onions are dull and weak. Sweet potatoes slow sale and weak. Celery steady and in fair demand. Hubbard squash and pumpkins steady.

We quote from growers:

Potatoes, Northern, per cwt	$2.00@2.25
do, local, per cwt	1.75@2.00
do, Idaho, per cwt	1.85@2.00
do, new, per cwt	2.00@2.25
Onions, Yellow, per cwt	2.25@2.50
do, White, per cwt	2.00@2.25
Garlic, per lb	[illegible]
Tomatoes, per lug	65@75c
Cabbage, per 100 lbs	90c@$1.00
Lima beans, per lb	7@7½c
Bell peppers, per lb	4½@5c
Chile peppers, per lb	3½@4c
Celery, per crate	$2.00@2.75
Eggplant, per lb	3@4c
Sweet potatoes, per cwt	$2.25@2.50
Cauliflower, per crate	1.75@2.00
Hubbard squash, per 100 lbs	$1.00
Pumpkins, per 100 lbs	75c
String beans, per lb	6@8c

NEW RULES OF THE WHOLESALE DAIRY PRODUCE EXCHANGE.

The following rules were adopted by the San Francisco Dairy Produce Exchange at the suggestion of the Federal Food Administration:

RULE I—Any goods bought on call cannot be offered for re-sale during the same session.

RULE II—Goods sold on call must be of the grade offered and actual delivery must be made.

RULE III—A request for any goods or any quantity of goods may be made during a call provided that no price is specified by the party making the request. All bids at a price for grades and quantities not offered is prohibited.

RULE IV—No purchases shall be made on call except by persons actually engaged in the distribution of the commodity purchased and the same must be purchased for actual distribution in the ordinary course of business, and only in such amounts as are necessary to enable the purchaser to efficiently and economically carry on his business and furnish an even and regular supply to the trade.

FRUITS.

There is nothing new in this market since a week ago. Offerings only fair and prices steady and of good stuff firm. Apples continue in good demand and pears are selling fairly; all else dull.

We quote from growers:

Apples—
Bellefleur, 4-tier $1.30
Jonathan, 4-tier .... 1.75@1.90
Grapes—
Tokay, per lb....3½@4c
Cornichon, per lb....3½@4c
Pears, per lb....4@6c
Quinces, per lug....$1.00@1.10
Local apples, per box....90c@$1.00
Cassabas, per 100 lbs....$1.00@1.25
Christmas melons, per lb....1c
Japanese persimmons, per lb....4@6c

BEANS.

Market very dull, though prices show no change. Buying continues light and of a hand-to-mouth character for all varieties.

Limas, per cwt....$12.00
Large white, per cwt.... 12.00
Small white, per cwt.... 12.50
Pinks, per cwt.... 9.00
Blackeyes, per cwt.... 7.50
Tepary 8.50

HAY.

The disposition of farmers to hold their hay and the light receipts caused buyers to bid up a little stronger the past week for all good hay. Stocks are light, which also encouraged buyers and some shipping demand developed during the week.

We quote f. o. b. Los Angeles:
Barley hay, per ton....$25.00@26.00
Oat hay, per ton.... 26.00@27.00
Alfalfa, northern, per ton.... 24.00@25.00
Alfalfa, local, per ton.... 25.00@26.00
Straw, per ton .... 9.00@10.00

WALNUTS.

The season with the Association is fast drawing to a close. Another week will see its shipments and deliveries about completed. After that there will be only culls to come in for cracking purposes. Market firm and demand good.

Association prices:

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.90c
Jumbo	24c	17.50c
Culls	6@12c	.....

COTTON.

Influenced by an improved export demand, the market in New York opened the week last Monday active and higher. Spot middling reached 30.10c in that market. In New Orleans low middling was quoted at 27.12c and middling at 28c. The Memphis Exchange estimates the crop at 10,732,000 bales.

HIDES AND PELTS.

A steady and firm market continues to be had for heavy hides, but light weights are still dull. Pelts also in good demand and firm.

HIDES—Green Salted:
Heavy steers, per lb....18c
Light steers, per lb....17c
Kips and calf skins, per lb....24c
Bulls and stags, per lb....15c
PELTS:
California full wooled, per lb....25c
California medium wooled, per lb....16c
California short wooled, per lb....15c

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
April 3	28.50	37.91	28.83	36.33
" 10	29.31	39.33	28.00	37.00
" 17	27.33	39.58	27.50	38.00
" 24	25.25	35.66	25.00	36.50
May 1	24.33	33.08	25.33	33.00
" 8	24.10	34.05	25.00	33.20
" 15	24.58	35.50	25.66	34.16
" 22	25.00	36.30	25.00	35.16
" 29	26.50	36.60	26.50	37.33
June 5	25.50	36.30	27.00	37.66
" 12	25.83	36.50	27.00	38.00
" 19	24.50	36.00	25.91	36.33
" 26	24.50	36.16	25.91	37.50
July 3	24.60	35.06	26.00	37.00
" 10	26.40	36.41	26.60	37.16
" 17	25.83	37.83	26.00	38.66
" 24	26.00	40.25	26.00	40.61
" 31	26.00	42.82	25.91	42.58
August 7	21.00	43.00	29.16	44.00
" 14	26.50	41.66	26.00	43.00
" 21	26.50	41.50	27.95	42.00
" 28	27.25	41.91	28.50	42.00
Sept. 4	30.00	42.10	30.50	41.33
" 11	30.20	42.00	32.00	41.00
" 18	30.41	45.00	31.09	43.00
" 25	30.41	45.00	30.50	45.50
October 2	31.66	44.90	32.16	45.91
" 9	32.91	44.90	32.83	46.33
" 16	33.50	46.25	33.50	47.00
" 23	32.75	45.41	33.00	46.50
" 30	32.59	43.50	33.00	44.83
Nov. 6	32.66	41.41	33.00	42.00
" 13	32.80	40.83	33.00	41.33

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
April 3	21.75	28.58	21.00	29.25
" 10	22.00	29.66	21.00	30.41
" 17	21.16	32.33	20.91	32.08
" 24	21.83	32.91	22.58	32.83
May 1	21.00	32.00	22.58	31.83
" 8	21.20	32.75	21.41	32.00
" 15	24.58	34.20	20.83	32.50
" 22	25.46	33.40	22.50	34.00
" 29	25.00	33.80	22.50	33.50
June 5	25.00	33.20	24.51	34.66
" 12	25.00	31.16	24.16	33.00
" 19	24.83	31.41	23.75	33.10
" 26	24.66	30.16	24.58	32.16
July 3	24.60	31.90	24.00	34.25
" 10	26.10	33.50	24.00	36.00
" 17	27.16	33.66	27.00	34.41
" 24	28.20	35.25	28.00	35.91
" 31	28.50	38.00	28.00	36.91
August 7	26.16	42.58	26.00	40.16
" 14	33.08	41.41	31.00	37.08
" 21	33.09	43.33	31.83	42.25
" 28	33.50	43.50	32.00	43.50
Sept. 4	36.13	43.80	32.00	43.58
" 11	37.90	45.08	36.00	44.91
" 18	38.83	47.83	37.00	47.83
" 25	39.75	47.58	38.66	49.50
October 2	39.75	47.00	40.50	50.83
" 9	42.25	47.10	43.16	51.50
" 16	48.50	52.59	49.32	54.50
" 23	47.01	54.83	46.50	56.16
" 30	47.09	56.16	43.33	58.00
Nov. 6	47.66	57.41	45.50	57.80
" 13	49.50	56.25	48.00	55.16

Publisher's Department.

The circulation of the Rural Press goes over the 29,000 mark this week.

Many words of commendation are coming in these days regarding the editorial and make-up of the Rural Press. Look over this issue critically. We believe you will come to the conclusion that the paper is the biggest buy at $1 per year that you make in these times of war prices.

Again we would urge every subscriber who is in arrears for his subscription to the Pacific Rural Press to remit at once. We are now at work on the list and those one year in arrears will be dropped. The postal authorities demand this and we cannot afford to do otherwise. Send in your remittance now.

A NEEDED BOOK.

The appearance of a fourth edition of Professor Wickson's "California Vegetables in Garden and Field" testifies to the excellence of this standard work, and to the need which it supplies. One who comes here from the East and undertakes to grow vegetables, either in quantity or in a small garden, soon finds that our conditions are so different from those of his previous experience that he must seek new methods adapted to this climate. It is not alone that seasons are different and times of planting vary, but the character of the soil and the proper utilization of moisture are all important factors. Professor Wickson's book on the cultivation of vegetables deals in detail with all the conditions of successful culture in California, and is a complete and practical manual in this field. In addition to general discussions of soil, temperature, seeds, and irrigation, chapters are devoted to each vegetable in turn, and additional chapters on drying vegetables and food preservation are especially valuable at this time. Pacific Rural Press, publisher, price $2 postpaid.—San Francisco Argonaut.

Special Livestock Market Report

San Francisco, November 21, 1917.

CATTLE—The local cattle market lacks strength on account of diminished demand for consumption, and arrivals rather heavier than usual.

The sensational report in the daily press of 50,000 fat Mexican cattle being offered to San Francisco slaughterers at several cents below market quotations is without foundation in fact. Packers would be glad to get fat cattle from Mexico or anywhere else at two to four cents under market quotations. Fat cattle are not produced in Mexico that can at all compare with our California and Nevada beef. Mexican steers are generally brought in here as feeders and take, as a rule, two seasons here to put them in shape for slaughter.

Steers—
No. 1, weighing 900@1200 lbs..9¼@9½c
No. 1, weighing 1200@1400 lbs..9¼@9½c
Second quality ....8¾@9 c
Thin undesirable ....6 @8 c
Cows and Heifers—
No. 1 ....7¼@7½c
Second quality ....6¾@7 c
Common to thin ....4 @6 c
Bulls and Stags—
Good ....5¾@6¼c
Fair ....5 @5½c
Thin ....4 @4½c
Calves—
Lightweight ....9 @9¼c
Medium ....8¼@8½c
Heavy ....7½@7¾c

SHEEP—The deadlock in the sheep situation is unchanged and is likely to remain so while sheep are more valuable for wool than mutton.

Lambs—
Milk ....15 @16 c
Sheep—
Unshorn wethers ....12 @12½c
Unshorn ewes .... 9½@10 c
Shorn sheep ....1½@2c less

HOGS—Hog arrivals at the present time are about normal and the market is steady. About 20 per cent of the receipts are not up to standard in point of quality.

Hogs—
Hard, grain-fed, 100@150....14½c
Hard, grain-fed, 150@300....15½@16c
Hard, grain-fed, 300@400....15@15½c

DRESSED MEATS.

BEEF (per pound)—Steers, heavy, 14½c; second quality, 14c; cows and heifers, 13c @13½c.

CALVES—11@16c, according to size and quality. Skim milk and other poor stock considerably lower.

LAMBS (per pound)—Suckling, 23c; yearlings, 21c. Mutton (per pound)—Wethers, 20c; ewes, 18c.

PORK (per pound)—23c.

Los Angeles, November 20, 1917.

CATTLE—There is no change in this market from a week ago. Offerings continue fair both in California and Arizona, and what cattle coming in of very good quality. Killers all taking a few cattle, though the demand was at no time urgent. Calves dull and weak.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs....$8.50@9.00
Prime cows and heifers.... 7.00@7.50
Good cows and heifers.... 6.50@7.00
Calves, per cwt.... 8.00@9.00

HOGS—Receipts were a little better the past week and under the influence of cooler weather killers bought a little more freely. There was no disposition to bid prices up, however, though last week's figures were paid and the market closed steady. The eastern markets are holding up fairly.

Per cwt., f. o. b. Los Angeles:
Heavy, averaging 250@300 lbs..$13.00@14.00
Mixed, 200@250 lbs.... 14.50@15.50
Light, 175@200 lbs.... 14.50@15.50
Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—It was the same old story in this market the past week. Light supply and light demand. What few coming in were taken at old prices.

Per cwt., f. o. b. Los Angeles:
Prime wethers ....$ 9.50@11.00
Prime ewes .... 10.50@11.00
Yearlings .... 10.50@11.50
Lambs .... 14.00@15.00

Portland, November 20, 1917.

CATTLE—Steady; receipts, 148; medium to choice steers, $9.00 to $9.50; good to medium steers, $8.25 to $9.00; common to good steers, $6.75 to $8.25; choice cows and heifers, $6.75 to $7.15; common to good cows and heifers, $5.00 to $6.75; canners, $4.00 to $5.00; bulls, $4.50 to $6.75; calves, $7.00 to $9.50; stocker and feeder steers, $4.00 to $7.25.

HOGS—Steady; receipts, 300; prime light, $16.20 to $16.40; prime heavy, $16.00 to $16.20; pigs, $13.50 to $14.25; bulk of sales, $16.

SHEEP—Steady; receipts, 53; Western lambs, $13.50 to $14.00; valley lambs, $13.00 to $13.50; yearlings, $12.00 to $12.50; wethers, $11.75 to $12.25; ewes, $8.00 to $10.00. Portland market on shorn sheep is 2½@3c under quotations.

EASTERN.

Chicago, November 20.—Hogs—Receipts, 27,000 head; market strong. Bulk, $17.50 to $17.90; light, $17.20 to $17.80; mixed, $17.30 to $17.90; heavy, $17.30 to $17.90; rough, $17.30 to $17.45; pigs, $14.50 to $17.75.

CATTLE—Receipts, 11,000 head; market firm. Native steers, $7.25 to $15.00; Western steers, $6.00 to $13.65; stockers and feeders, $5.85 to $11.50; cows and heifers, $4.70 to $11.90; calves, $6.75 to $12.75.

SHEEP—Receipts, 12,000 head; market strong. Wethers, $8.75 to $12.90; ewes, $7.60 to $11.40; lambs, $12.40 to $17.40.

A BID FOR CALIFORNIA'S ENTIRE RICE CROP BEING CONSIDERED.

It is stated that a minimum of four cents a pound is asked for Japanese rice by the Pacific Rice Growers' Association, and that if California millers refuse to purchase the crop at that figure or above negotiations will be closed with representatives of the rice millers of the Southern States, who stand ready to make a bid for the entire crop, estimated at 2,500,000 bags.

"Wonderfully Satisfactory"

STEARNS-KNIGHT
American Automobile Co.
Tacoma
"results secured in the hundreds of Stearns-Knight sold by us have been wonderfully satisfactory."

CHEVROLET
W. S. Dulmage Motor Co.
Seattle
"we are finding Zerolene a very efficient lubricant."

CADILLAC
Western Auto Sales Co.
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"we consider Zerolene particularly adapted for use in high-speed "V" type motors."

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Lord Motor Car Co.
Los Angeles
"have used Zerolene in Maxwell cars for over three years with excellent results."

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Leveled, checked and in stand of Alfalfa. Also first-class Orchard, Bean and Sugar-Beet land, with plenty of water for irrigation. For sale in tracts of 20 acres and up.

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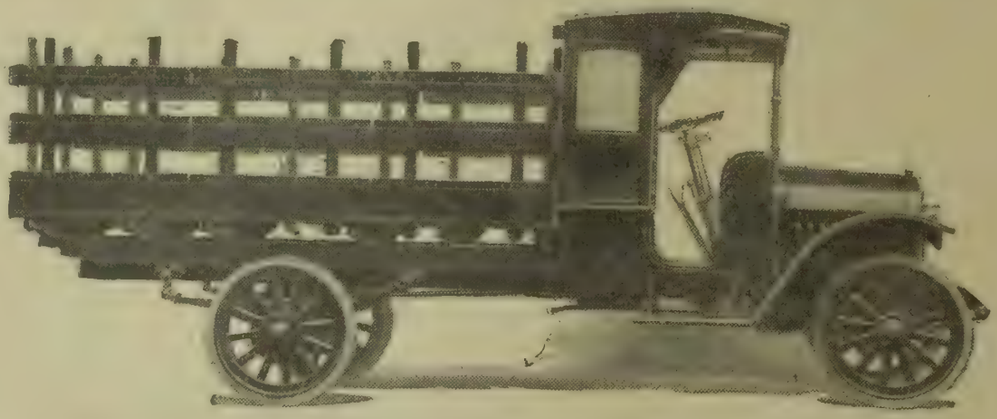

A Great Farm Tool —the Maxwell Truck

Mechanical devices to take the place of human hands and muscles—these are vital necessities on the farm today.

The farmer is a manufacturer—a manufacturer of food products.

American farmers, too, are business men, applying efficiency methods.

The world is crying for the products of our fields.

The yield MUST be multiplied.

And human labor is becoming more than ever difficult to get.

The efficient, economical, durable Maxwell one-ton truck is doing a splendid part in meeting this emergency.

It is bringing goods from the field—from the barns—from the granaries—to market at a speed our fathers, with their slow horse-drawn wagons, never dreamed of.

A Maxwell truck covers, in one day, twice the mileage of TWO TEAMS with their two drivers—and does it at the cost of one team.

A Maxwell truck saves TIME—LABOR —MONEY.

It increases the yield of a farm—and increases, too, the NET PROFITS of that farm.

And it is sold at a price that can't be touched by any other motor truck of anything like its mechanical efficiency and economy of operation.

The specifications and measurements of the Maxwell truck equal or surpass any truck sold for $1,500.

Be sure to inform yourself about the construction of this great vehicle before buying any truck.

No progressive farmer-business man can AFFORD to be without a Maxwell truck today.

Maxwell one-ton chassis $865; Chassis with cab and windshield $900
Chassis with cab, windshield, and stake gate body $950
All prices f. o. b. factory

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THE PACIFIC RURAL PRESS

Forty-seventh Year

AN FRANCISCO DECEMBER 1, 1917 LOS ANGELES

State Library

Problems of the California Pear Growers

By Frank T. Swett, President Pear Growers Association, at the Fruit Growers Convention

IN 1916 CERTAIN grave problems faced the pear growers of this State. There was some talk of organization. But there were still some evidences of competition among canners, and owing to that fact, perhaps, fifty dollars a ton was offered and accepted for cannery pears. Eastern shipments bid fair to be profitable, so, somehow, organization was forgotten. It was the old, old story. One of the growers' best friends has reminded us that some two thousand years ago it was chronicled, "When Jerusha waxeth fat, he feareth not adversity."

Competition Among Canners Strictly Limited.

A new situation faced us in 1917. We had been looking forward, owing to the general rise in the prices of food products incident to increased costs of production and to the prosperity of the wage earners of our country, to even better prices than the previous season. But in June a change came over the spirit of our dreams. Competition among canners seemed to have become a strictly limited proposition. Their songs sounded like the same record, whether played on an Edison, a Victrola, or a Columbia. In fact, early in the spring of 1917, before anyone knew whether the crop would be big or little, rumors leaked out that the powers that be, who very wisely had done some extensive amalgamation, had figured out that about $35 a ton would be an ideal figure.

An Outcast Among Deciduous Fruits.

Cherries, plums, raisins, peaches, all things were auspicious except the unhappily unorganized pears. The pear seemed to be the goat. When this burst upon our innocent consciousness at the fifty-ninth minute of the eleventh hour, district meetings were held and several resolutions were passed. We were endeavoring to secure a living price for our product. Collectively, however, we did not control our crop. Each grower was only an individual. What chance has any individual, pitted against the power of some multi-millionaire corporation. About the same chance as a snowball in the place General Sherman said War most closely resembled.

1. A California pear orchard just sprayed, with the ground still unplowed. 2. An old pear orchard on the Rancho de Martinez, with a picturesque background. 3. The lower picture shows an orchard of dwarf pear trees recently sprayed. Dwarf trees are not much in evidence in California, however.

A Fruitless Conference.

Down at the Palace Hotel we had a joint debate with our friends the canners. We humbly intimated, even assuming a larger crop of pears than usual, that under the conditions of increased costs the same figure as the preceding year, $50 a ton, would be fair. We called attention to the fact that the canners' opening prices were 20 cents a dozen higher than last year, thus covering increased cost of production on their part, and showing some optimism as to future markets. We could not quite see why our price should be cut $15 a ton, or 30 per cent. It looked to us as if someone intended cutting a melon and reserving all the slices for himself. But the powers representing different canneries told us a most pitiful tale of woe. There were practically no advance orders for pears. Great Britain had limited imports. Cans were scarce. Buyers were turning their attention to peaches and plums and to almost everything except the unorganized Bartlett pear.

We were finally, one day, asked a significant question. How many tons of pears, as an Association, were actually under our control? What had we, as an Association, actually for sale and delivery? There was only one answer. We hadn't a single ton. We were still individual growers. We had no real control. All we had were hopes, for which there seemed to be no market. So we arrived nowhere in our talk-fest with our friends. We had listened to an eloquent talk by our friend Jacobs, telling of the tremendous risk run by any canner who rashly packed 1917 pears in tin. We had a vivid picture presented to us of long rows of unsold canned pears tarrying indefinitely through future months upon retailers' shelves.

Pear Growers Thrown Back on Their Own Resourcefulness.

Following this symposium of prudent pessimism, we went home, sadder and wiser. We made up our minds to ship every possible box of pears East, in spite of labor shortage, of box shook shortage, of car shortage. We made up our minds to dry more pears than heretofore. But we didn't dig up our orchards, in spite of the various glooms that had been paraded before our eyes. We cautioned growers against contracting pears for long terms of years at what seemed to us low prices, considering increased costs of production. Growers stopped signing such agreements.

What has been the outcome? Inadequate as our temporary organization was, the information we gained and the action taken have probably meant a difference of over $100,000 in our favor. We took up the matter of box shortage with Francis J. Heney of the Federal Trade Commission, and with the various shipping companies, and the boxes came. We increased our shipments 10,000 tons over 1916, shipping 4,700 carloads East, breaking the record by over 25 per cent additional—an encouraging record.

Shipping Companies Co-operate with Good Results.

The various shipping companies did good work. They opened up markets for carload shipments in smaller cities that previously had never used car lots. By selling early in the season to such markets at low opening prices, they developed a new demand. Prices have been good. While no one as far as I know has exactly tabulated results as yet, I think the crop as a whole has netted from Eastern shipment between $50 and $60 a ton f. o. b., a figure which will enable the grower to live and to take good care of his orchards. My own crop, which perhaps I

(Continued on page 563.)

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EDITORIALS

THE FARMERS FIND THEMSELVES.

IT GIVES US great satisfaction to realize that the important point for which we have been strongly contending during the last six months was fully realized at the Fruit Growers' Convention in Sacramento last week. We have contended that it was the farmers' duty to speak and his right to be heard on all undertakings in the success of which he was the prime factor. We have maintained that in such affairs he was entitled to claim, in a serious sense: In my own business, "I am Sir Oracle and when I ope my mouth let no dogs bark." And it was so in Sacramento. The farmers spoke their full mind and no political nor bureaucratic dog barked otherwise. It was a rare occasion and this was the way of it:

Two long sessions were given to the discussion of the farm labor problem and two things were demonstrated beyond peradventure or dispute:

First. That there is in California no adequate supply of farm labor to enable the State to do its best in food production.

Second. That if national interests require such fullness of production, the nation must make it possible for producers to secure fullness of farm labor, wherever it is to be had, for the period during which maximum production is essential.

Such was the indisputable declaration of about five hundred fruit growers and farmers who filled the Senate chamber and discussed the details and significances of their experiences for several hours. Though there were naturally differences of opinion as to the desirability of labor sources and ways of getting it, the conclusions were supported by unanimous vote, and this is the gist of the formal declarations of them:

The convention asks the United States Government as a war measure to permit the introduction of sufficient Chinese or other farm labor, in limited numbers and for a limited period, to increase the food production of the State, thus assisting the Government in discharging its obligation to feed the allies and their armies and prevent them from being starved into surrender.

A committee of nine will be appointed by the State Commissioner of Horticulture to represent the convention in bringing about the alleviation of the present shortage of labor, taking up the matter with the proper Government authorities. Of course, in acknowledgment of the unanimous declaration of the convention, a committee must be appointed of men who are in sympathy with and representative thereof. Such a committee will naturally come up against all the self interest and camouflage of the politicians later, and God help them! But the convention did its duty and launched its projectile. Where it will strike no one can tell, but political managers should be advised that it probably has as high explosives in it as any of the missiles of the political labor exploiters. Demagogues and trimmers should keep out of its pathway!

TWO COLONELS AT SACRAMENTO.

THE most picturesque figures and the most pointed intellectual dominators of the convention were two old gentlemen of wide California fame—Colonel John P. Irish of Oakland and Colonel M. F. Tarpey of Fresno. How they swayed the youngsters with the burning patriotism they poured out and how they demonstrated that support of agriculture was the real present thing in patriotism were joys to see and hear. In our last issue we gave large extracts from Colonel Tarpey's address, and we hope readers will re-peruse it in this connection. It is an unimpeachable argument for the soundness and a fervent appeal for the reasonableness of the farmers' claim for help essential to their patriotic service. Two points new to the current discussion of the subject should have moving force with all who are not blinded by self-interest or prejudice. One was the argument for the upholding and extension of California farming enterprises during the war so that the returning American soldiers would find a thriving, prosperous industry to welcome their services—which is only to be secured by a temporary maintenance labor-supply while the war lasts. The other point we have in mind was his demonstration that a full supply of reasonable and dependable labor on the farm is the only surety of ample food at fair prices for the organized town laborers. This point was noted in our resume of Colonel Tarpey's address in last week's Rural. A fuller statement of it, which we did not get last week, is this:

"The decent labor unionist who relies upon his work to provide his needs is just as capable of reasoning out conditions as anybody else, and he will know that hands to provide food during the war, and to be sent out of the country after the war, will be most helpful to him in every way and cannot affect him injuriously in any way.

"As food is the prime necessity of life, and as food must be raised on the farm, sufficient hands to produce that food must be forthcoming.

"An adequate supply of farm labor affects no man's earning power injuriously, it insures a sufficiency of food at moderate prices; it gladdens and brightens every home and quickens and expands every human industry."

Colonel Tarpey is a smoother protagonist than Colonel Irish, which is probably due to the fact that he is really Hibernian in tongue and soul, while Colonel Irish has it all in his name, as his speech and thought are remotely from the stern and rock-bound coast of New England. If they had been on opposite sides, there would have been some gladiatorial play, but as they coincided in agricultural and patriotic views, they swept the area clean with their oratory.

Colonel Irish declared that the Government could get all the labor necessary in China, which he characterized as the only available reservoir for farm labor in the world, and, concluding, he said:

"We do not ask it for ourselves. We can feed our families and go on as we are going. It is solely an affair of the Government. It is required as the most important measure that has been developed by our bloody and costly adventure. It is an emergency—a crisis. It is a test of courage in our public men, and of patriotism in our people. If race prejudice and politics are put before patriotism, and so we fail and help our enemy to victory by starving our allies to surrender, the men responsible, be they labor leaders or members of Congress, will go down into history as the damdest traitors in all the ides and kalends of the ages."

A burst of applause followed his closing words, and the audience evidently justified the use of high explosives in the farmers' fight for justice and recognition of his title to set forth his own patriotic needs.

It is an interesting fact that the men who have been trying since last May to put over the great hush on the farmers were present, were caught full in the barrage and silenced. In the language of the war correspondent, "It was a great counter-attack; all important positions were retaken and the line consolidated."

SALOONS MUST GO.

THE declarations of the producers on the insufficiency of the farm labor supply in California were well matched by other declarations of the inefficiency of such labor as there is available, through the man-wrecking work of the rural saloons. The "saloon must go" is the co ollary of the demonstrated theorem that "mo men must come." This is necessary to make us ful men of the bulk of the farm laborers who we now have and to save those whom we m get from demoralization—that is, to save t white men we may get, for the men of oth colors largely seem to know enough to save the selves, although, of course, such death-traps they do have will be equally proceeded against.

The following declaration was adopted by una imous vote:

Whereas, In many California communities t efficiency of labor is decreased at least 25 p cent by the presence of predatory saloons whic absorb the earnings of workers and harbor them sodden influences for days or weeks at time, until their pay checks are consumed, the turning them adrift financially "broke" an physically incapacitated for service; be it

Resolved, That this convention ask the chair man of the State Council of Defense to find way of remedying this condition; for the saloon which carry on these practices are most materia allies to the German cause.

In this crisis we need crops more than we nee saloons; we believe they should be closed for th period of the war.

This contemplates the closing of saloons as war-measure. If it can be done in the rural dis tricts, it would be a practical application of th local option principle, for employers of labor d not desire them in their neighborhoods. And i this can be done now, the vote on the Rominge amendment at the next popular election will per petuate the help which the farmers call for.

A JUMP AND A SHIVER.

THE argument of Colonel Tarpey that California must be kept ready for the return of the American veterans by the maintenance of her unique and expansive industries has another important bearing than that in support of which he framed it. It is essential for the profitable employment of our veterans and of many others who may seek homes after the war in a State of the highest industrial and intellectual freedom, that the most characteristic of our industries, California agriculture, shall go forward with the development of our roomy State into delightful homes for millions. Among such industries it is up to fruit growing to lead in the future as it leads at present.

A little shiver passed over the convention, when John L. Nagle, general manager of the California Fruit Exchange, incidentally suggested that the growers prepare themselves for a curtailment of fresh fruit shipments by Government decree next year. He thought the Government might suggest, for conservation of cars, that fruits be canned and dried rather than be shipped in the fresh state. This suggestion seems to have been based upon a paragraph in the "Food Administration Weekly Bulletin." In an article on California fruits occur these sentences:

"California is setting a world record in the shipment of perishable fruits and other foods this fall, according to a statement issued by the Southern Pacific Railway. From July 1st to October 1st this road carried 27,000 cars out of that State east-bound, an average of 300 cars a day, a volume of traffic of this character which it is said has never been equaled anywhere. The railroad's own equipment of 12,500 cars has been supplemented by 8,000 to 9,000 cars leased for traffic, and new cars are being put into service as fast as they can be secured. Every car of California perishables represents potential savings of staple concentrated foods needed to win the war."

What Mr. Nagle said in referring to the foregoing was that California might be required to ship fifty per cent less fresh fruit in 1918, and consequently much more must be dried or canned. From that some one jumped at the conclusion that therefore less fruit should be planted, and that jump caused the shiver to which we refer. We see no cause for either the jump or the shiver. In the first place, it is only a surmise that fresh shipments will be interfered with. California fresh fruits during the Eastern summer are a more wholesome staple food than ham and eggs and hot biscuit; Eastern people have plenty of money to buy the substitute and will probably insist on having it and using that much less of Mr. Hoover's preserved foods, which will, of course, as promised, help win the war. There is

o excuse for a shiver over what is so little apt o happen. Even if it does, there is no shiver in he prices which the East is paying this year for alifornia dried and canned fruits, and it will ot freeze any grower to get the same money for is product in those forms next year, even if they ave to take a lot more of it in such forms. So uch for the shiver; now for the jump.

We count it non-sequitur to jump from a remotely possible reduction of fruit shipments eight months hence to a claim that fruit planting this ear should be reduced. What has this year's lanting to do with next year's crop, or the next? his year's selling prices might properly have a earing on next year's planting, but it does not ork at all on the reverse. If Eastern people did ot want our fruit, we might consider giving hem less, but the plain market facts are that ey do want it and a lot more of it, and they ave their pockets full of money to pay for it. ow, if it is important to keep up the fruit industry for the returning veterans, as Colonel Tarey says, or for ourselves and the best interests f the State, as we have claimed before in these olumns, then to jump from a temporary carhortage to a future fruit-shortage is just as foolsh as it was for Sam Patch to jump over Genesee Falls, as he did about a hundred years ago, and from which his remains have never been recovered to this day.

Our advice is not to jump at the conclusion that war conditions should lead one away from reasonable work and investment for the future. We shall probably need the future to brace us up as we never needed the future before. We should get ready for it, as all the rest of the world is trying to do. But of course we would not jump into fruit any more than we would jump away from it. If you have good land or money to pay for it; if you know fruit and the best ways with it, or if you are young and have the head and the will to learn these things, then you are safe to take assurance from what Max J. Crow of Gilroy said at the convention in these words:

"The world needs our fruits and will need more of them after the war is over. It will need fruits as it needs the staples, for the orchards of the old world, other than those of the Iberian Peninsula, have been destroyed by the great war, and it will take years to replace them. After the war you will see a greater demand for fresh California fruit than ever you have dreamed of."

And we can only add that if you wish to go straight to a place, which will be for you a place in the sun, if you are of the right stuff, you should take your course "as the crow flies."

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

What Knocked the Pears?

To the Editor: This year we had a heavy setting of fruit in our Bartlett pear orchard following lighter crop of a year ago. We have been using arnyard manure in the orchard yearly; plowing it nder in April and using the deep furrow system f irrigation, getting a fairly good growth of wood nd foliage. On account of "blight," we do not ish to farther stimulate wood growth and expect o omit the manuring this fall. This year the fruit o a great extent refused to stay on the trees after eaching a size of 2 by 2¼ inches in diameter, ropping at the slightest touch. Now it has occurred to me that the root system of the trees has ot been getting a properly balanced ration. Could ou suggest any special soil treatment (how about uper-phosphate and nitrate of soda?) that might nduce these slightly immature pears to hold on a ttle longer? We had exceedingly hot weather at his time, following a cool spring, scorching foliage omewhat.—L. B. J., Elk Grove.

We have an idea that the behavior of your ears is attributable to the quick turn from the ool spring and summer to the burning heat which ou mention. With an ordinary increasing heat, hich is the normal condition, the fruit would ave probably held through the hot blast, but the uick turn weakened its attachment, which had ot developed normal condition. The same thing appened to some other fruits last summer. This s, of course, a guess. Perhaps the hot wave may ave caused the result in some other way. We ould not use any more fertilizers for awhile: a early dose of stable manure, generous as trees re apt to get from a grower who has both a airy and an orchard, should not be continued too ong. Stable manure is a balanced ration of plant ood. Stop manuring for awhile and hope for nore normal finishing weather for the fruit next ear.

What Would You Spray For?

To the Editor: We have three apple trees which e would like to spray, but do not know what mixure to use or when to spray. If, because of limted help and high cost of materials, we can spray nly twice a year, will you advise us as to the best imes? Also can we use the same mixture on apriot trees and can we spray them at the same ime?—Home Garden, Chico.

The very first thing in planning to spray fruit rees is to know what you need to spray for. hough it is often possible to hit several kinds of ugs with the same spray, there is no such thing s a universal spray which is a cure for all the lls to which a tree is subject—though some spraynakers try to give you that impression by their irculars and labels. We have to answer that it s not possible to kill all the bad pests of the pple tree with one spraying with anything and ertainly not possible to cover the pests of both pple and apricot. The worst pest of the apple is the worm which bores the fruit and that single pest you cannot control with one spraying. To spray successfully you must first know what you are spraying for and then learn the best stuff to use for that pest or pests and just when and how and how many times you have to use it.

Planting Trees in Vineyard.

To the Editor: I am planning to plant prune trees in a vineyard. The vines are large. I dig them up, leaving a hole two and one-half feet deep and that wide. Would you advise putting corn stalks in the bottom or old manure? The soil is rich. Would dynamiting be better than digging the holes? There is no hardpan and the soil is deep.—F. S., Santa Rosa.

Do not put any corn stalks or coarse manure in the bottom of the hole. A little well-rotted manure might be used to advantage if well covered with soil and kept at a distance from the roots of the newly planted trees. If you have only coarse stuff, spread it on the surface around the tree after planting. You can blow out the vines more cheaply than you can dig them, if you learn to do it right from the experts of the powder companies, and if you do the right shovel work to get the holes into good condition for planting and you treat the bottoms so the tree will not settle too deeply with the rains. If you look out for this, the blasting will probably be an added advantage over digging out.

Sweet Clover.

To the Editor: Kindly let me know through your valuable paper all you can about sweet clover.—Subscriber, Tulare.

One of the worst habits a subscriber can form is that of not reading the paper he pays for. The plant is melilotus and there are two species commonly talked about now: melilotus alba or white sweet clover and melilotus officinalis or yellow sweet clover. There is also another, melilotus indica, which is sometimes called sour clover. It is a dry issue of this journal which does not contain something about one or more of these as a cover crop or green manure plant, for which these species are now being widely used in this State. White sweet clover also has some advocates as a forage plant. All are hardy, winter-growing plants in California valleys and all seedsmen offer the seed, which is cheap, as it is cleaned out of grain crops, in connection with which it is generally regarded as a bad weed.

Forest Litter in Garden and Orchard.

To the Editor: Is leaf-mold such as leaves from under oak trees and brush thickets worth hauling and spreading on gardens and orchards as fertilizer? I have it in some places as much as four inches deep.—J. M., May.

Such litter is not "leaf-mold," though it may be on its way to it. It is usually rather coarse litter composed of organic matter but not yet available for plant use. Sometimes it is farther along but sour from incomplete fermentation and therefore not wholesome. It may be used to advantage in lightening heavy soils in which it completes its decay readily. It is not in condition to benefit light soils, prone to dry out, for it will increase that tendency. If you can compost it with stable manure it will become wholesome and available; or if you use it as a surface mulch to check evaporation from the soil it becomes sweetened and can be subsequently worked in to advantage even on light soils if not used in excess on such soils. Its value in a raw state under our dry conditions is apt to be overestimated and therefore you have to count closely the labor cost of getting it.

Too Close Planting.

To the Editor: In the spring of 1915 I planted out a few various fruit trees among the peach trees, which are 24 feet apart. The young trees have not done well, and now I wonder if it would be advisable to replant them in the places of some of the peach trees, or to buy some more from the nursery and grub out those between the rows.—R. R., Fresno.

There is no room for other fruit trees among peaches which are 24 feet apart. In garden practice a row of vines, small fruits or vegetables would be all right for awhile if well cultivated and irrigated, but the peaches will require all the light, air and soil before another tree can do anything. We should grub out the interplants and plant other land with good yearlings from the nursery of whatever fruits you desire. It is usually a waste of time to try to bring back a young tree which has hard luck.

Japanese Hop.

To the Editor: Although we have an immense amount of hops in Sonoma county, some residential locations use them as an ornamental garden vine. I recently read of a hop seed or root named "Japonicus" as being a popular ornamental vine, but does not say where it can be had. Do you know where I can get the seed or root?—C. F. S., Santa Rosa.

The plant is Hunulus Japonicus or Japanese hop, which is preferred to the common beery hop for covering trellises, arbors, etc., because of its freer growth and larger leaves. There are two varieties, one with solid green leaves: the other (called variegata) has green and white leaves. Any of the seed dealers or nurserymen can furnish the roots.

Sudan Grass Seed.

To the Editor: I am writing for information regarding Sudan grass, its value for seed, and is the demand always good as this year?—J. F., Los Molinos.

Sudan grass seems to be making good as a summer forage plant to be sown after frost on land which holds moisture enough to give it a good growth. It seems likely that there will be steady demand for the seed because the plant is an annual and has to be re-sown every year. It is, however, not likely that the seed will ever be as high again as it was last summer, when it was boomed as a war crop. In the future we shall have more seed and less Kaiser.

Rabbits Don't Mind Emulsion.

To the Editor: Is it harmful to paint the stems of young trees with the distillate mixture used in spraying old prune trees? I have thought it might keep the rabbits away.—C. E. W., San Francisco.

Distillate emulsion, properly made, will not injure young bark, nor will it long repel rabbits. They will help themselves to new growth just the same.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., November 27, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.23	3.90	8.85	64	44
Red Bluff	...	1.74	5.26	74	38
Sacramento	...	.69	3.28	72	40
San Francisco	...	.39	3.75	70	50
San Jose	...	.51	2.92	70	38
Fresno	...	.34	1.91	74	42
San Luis Obispo	...	.56	3.34	88	38
Los Angeles	...	.34	2.11	86	50
San Diego	...	.23	1.26	82	48

Deciduous Root Stocks Used in California

[By Prof. W. L. Howard, Division of Pomology, University of California.]

The root stock question is ever with us in California. Its importance is recognized alike by nurserymen and fruit growers. Time was when it was thought to be almost wholly a nurseryman's trouble. With minor exceptions it was assumed that all stock sold would make successful trees in all locations where orchards ought to be planted, and that if a man chose a site that was slightly too wet or too dry and his trees did not thrive, it was merely a case of poor judgment and no reflection on the character of the trees.

A QUESTION OF PECULIAR IMPORTANCE IN CALIFORNIA.

In California there are excellent reasons why the root stock question is more important than elsewhere. The first is the extent of the fruit industry; second, the varied conditions of soil and climate under which they are cultivated; and third, the high value of the land used for fruit purposes. These factors, combined with the further fact that some of our markets are far away, make it necessary for us to obtain crops every year and to secure the highest possible yields. Most nurserymen know that certain stocks are better than others for particular soils and locations. There are several reasons for their using the stocks they do. One of these is their own individual opinion or preference—sometimes the result of experience and sometimes due to the force of tradition. Another is the demands of the trade, and public opinion is nearly always fickle. Then there are styles in root stocks and varieties as well as in spring hats. On the whole, the progressive nurseryman is far-sighted enough to want to see his trees make profitable orchards.

MAKES ROOT STOCK SURVEY OF NURSERIES.

To find out just what root stocks are now being used in this State, the writer conducted a root stock survey of the California nurseries a few months ago. An effort was made to find not only what stocks are used for the various deciduous fruits, but why they are used. The information thus gathered was digested and the amounts of the different stocks used reduced to percentages. The results were as follows:

ALMONDS.

Fifty-six per cent of all almonds propagated last year were grown on almond roots, both bitter and sweet being used. The remaining 44 per cent were on peach stock. The reasons given for planting almond on peach were that the peach is more adaptable to extreme conditions of moisture and that they thrive better than almond roots on thin or hardpan soils.

APRICOTS.

The report showed that 58 per cent of all the apricots propagated were on apricot roots; 27 per cent on peach root, 13 per cent on Myrobolan and 3 per cent on almond. The reasons given for having apricot on peach root were that the peach is well adapted to light, well-drained, warm sandy soils and has a natural tendency to develop a "sturdy, magnificent, fruitful tree," while the Myrobolan is used to enable the trees to withstand a surplus of moisture. It was believed that this stock makes the tree free from soursap.

CHERRIES.

For cherries, Mazzard stock represents 71 per cent of all the cherries propagated; Mahaleb 26 per cent; other stocks, 3 per cent. There was quite a difference of opinion as to what is the best stock for cherries; most of the nurserymen strongly defended the practice of using Mazzard stock, while others were very enthusiastic over the prospect of using Mahaleb, claiming that this stock will enable the trees to better withstand extremes of too much or too little water in the soil, while its opponents say it makes a poor union and dwarfs the trees.

PEACHES.

The report showed that 91 per cent of all peach trees are on peach roots. The remaining 9 per cent are on almond, apricot and Myrobolan in about equal number. Some thought there was no excuse for using anything other than peach as stock for the peach, claiming that if the water rises in the soil so as to kill peach root it would also kill Myrobolan or any other stock that could be used. Advocates of almond stock claimed it would better fit the trees for light, dry soils. This conflicts with the reasons given for using peach root for almonds.

PEARS.

For pears the chief stock is now the Japanese, or Pyrus serotina, 63 per cent now being grown on this root. French stock is still used to the extent of 33 per cent, and 4 per cent are grown on quince. Nurserymen are pretty well agreed on the advisability of discarding the French stock for pears on account of its susceptibility to blight. The Japanese stock not only is practically blight resistant, but also is fairly resistant to woolly aphis. Quince stock, of course is used to dwarf the trees.

PLUMS AND PRUNES.

For plums Myrobolan stock is used to the extent of 60 per cent; peach 37 per cent, and almond 3 per cent. For prunes Myrobolan is also the chief stock, 64.3 per cent being on this root. The remainder are propagated on, peach 23.3 per cent, almond 11.4 per cent, and apricot 1 per cent.

After viewing the root stock situation minutely at close range, and in perspective at long range, it is concluded that there are perhaps three aspects to the question: First, comes the question of the success of the union between scion and stock; second, the adaptability of the stocks to particular soils and locations; and, third, the matter of longevity and usefulness of the trees.. This last, however, may be dependent upon the first or second or a combination of both.

According to the best information at hand, there has never been a comprehensive investigation of root stocks for deciduous fruit trees made in this or any other country. A vast amount of nursery work would have to be done in the beginning, as reliable stocks would have to be gathered together and grown in the nursery, and then the principal varieties of the leading deciduous fruits propagated upon them. It would then be desirable to have at least few specimens of every variety on the various stocks planted side by side where they could grow without interference for a number of years; in fact, such a planting ought to stand indefinitely, as the older the trees become the more interesting they would be.

Another important phase of the test would be to distribute as many of the different species and varieties on different stocks to as many widely separated localities as possible, and have them grown under commercial conditions.

Another phase of the investigation that ought to be looked into is the matter of the history of some of the prominent root stocks now in use. This could best be done by agents of the U. S. Dept. of Agriculture.

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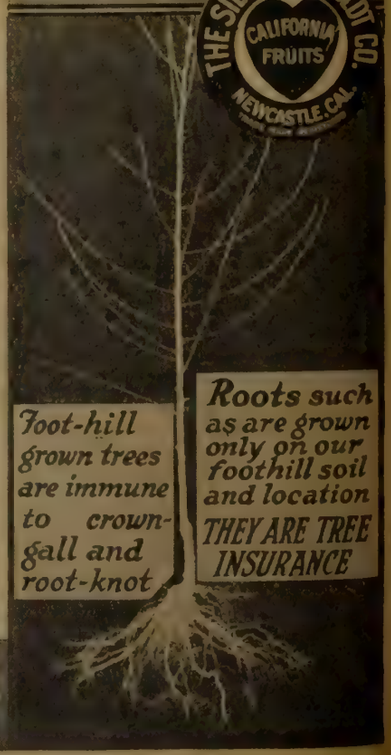

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

WIND BLEW EMPEROR CANES LOOSE.

Two years ago last July F. H. Wilson of Fresno county lost 25 per cent of his Emperor grape crop, according to Ranch Foreman W. M. McKersie, because wind came in March, when the new shoots were two or three feet long, and blew them loose. Early in the season any little pull or jerk loosens them.

Since that season wind has not been able to harm the Wilson Emperors, for the shoots have been knifed off just above the forms of bunches before they bloomed. This, thinks Mr. McKersie, turns the strength of the canes back into the vine and makes laterals which bear a second crop quickly. This second crop ripens in time to pick with the first crop, which is always aimed to be off before the frost or rain. The cutting also makes the canes stubbier and bigger. Soon their connections get tough and then they can scarcely be pulled out. Meanwhile they are not in the way of wind, horses or cultivators while they are tender.

ROOT PRUNING HELPS ORANGES.

"This district has been short of water, but deep plowing of my orchard made it hold more moisture," says W. H. Neece, who owns a citrus orchard on black soil in Tulare county and works two or three others. "The ground takes water much better in spring if it is plowed deep than if it is only randalled. Disking four to six inches deep leaves the soil under that hard and runtogether. This needs to be plowed up in chunks and aerated. The red dirt around Lindsay won't air-slack or soften until the chunks are soaked, but this 'dry bog' land slacks when plowed up dry."

Mr. Neece plows his own 40 acres of oranges crosswise in alternate years and sometimes both ways in the same year. It tears up roots, but an old orchard should be root pruned. No damage has been observed, but the ground gets filled with a network of healthy new roots. Root pruning has the same effect as cutting back the top of the tree, in multiplying new feeders from the cut roots.

NO SHORT TURNS IN DISKING.

In disking a field start along the outer edge, then run along the end 50 yards and back across the field; disk the end to the starting point and make your second round, says F. S. Powell of Tulare county. You then get a good job at the ends and always have a long turn. If you finished the land along the center, you would have some short turns.

TANGLEFOOT FOR CANKERWORMS.

Cankerworms were bad in C. H. Clement's cherry orchard in Santa Clara county two years ago. They ate leaves and cherries. In early winter he put tree-tanglefoot in 3-inch bands around the trunks. This, he says, prevented the wingless females from going up the trees to lay their eggs, as their habit is. The eggs hatch in March and April and the young worms do lots of damage quickly if numerous. The season after tanglefoot was put on they did no appreciable damage; but this year many cherries and leaves were badly chewed. If they seem more numerous next spring, another tanglefoot band should be put on the trees.

To the Editor: How can we sulphur walnuts to whiten them?—P. J., Yolo.

This was answered in our October 13 issue. The inquirer is evidently not a subscriber and he did not sign his name to the communication.

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ROEDING TRUE TREES FRESNO, CAL.

Curing Big and Small Ripe Olives

[Written for Pacific Rural Press.]

The same process is used to cure ripe Sevillanos and Ascolanos as for Mission and Manzanillo olives by C. C. Graber of San Bernardino county, who has gained wide reputation for excellence of flavor and keeping qualities. Last year he packed 27 tons by hand. The same process is possible for all varieties, because the process itself varies according to the way each batch of olives acts. Here is about the way Mr. Graber tells it: Grade for ripeness. Grade also for size if desired. To take out the bitterness, immerse them in a solution of a pound of common lye in about ten gallons of water. After 24 hours, cut a few olives open to see how far the lye has penetrated. This can be told by the distinctly different color. If it has penetrated much over one-third of the distance from skin to pit in average specimens, add some water or drain and put on a weaker solution. If not one-third through, add lye water and stir well or drain and put on stronger solution. Ideally, the lye should cut to the pits in three days. Practically, it takes two to five days. The riper olives are when put in, the slower lye penetrates. Lye should be added or new solution should replace the old every 24 hours until the pits are reached by lye. It is well to cut some every 12 hours after the first 24, to keep posted on the penetration.

EVEN COLOR.

Even color is not obtained by Mr. Graber on all olives because he does not aerate them during processing. To get even dark color, draw the lye off after the first 12 hours and spread the olives out so that each is well exposed to air for 12 hours.

TAKING LYE OUT.

When lye has cut to the pit, soak the olives eight days in clear water, changed twice daily by drawing it off through a hole in the bottom of the tub or vessel. The olives are then ready for salt, if tasting proves that the bitterness is gone. First cover the olives with a brine of four ounces common salt per gallon of water. Leave it on two days. Then draw it off and replace with a six-ounce brine. After two days, they are ready to can in glass or tin cans, heating and sealing them like any fruit to be canned, but without cooking, after all olives in a can are heated to boiling. If they are to be kept in a keg, continue the two-ounce increase in strength of brine every two days until you have a 14-ounce brine, which will keep them from spoiling.

Basining Improved Lemons

[Written for Pacific Rural Press.]

A five-acre block of lemon trees belonging to I. W. Shirley in San Bernardino county was hurt by the big freeze and did not recover until last summer, when in three weeks, about the first of July, they showed two feet of new growth well over the trees, according to W. D. Gladwin, who works in the orchard. The reason for the recovery, as shown the writer by W. M. Plagens, was the greater efficiency of irrigation and fertilization obtained by digging broad, deep trenches around the trees just under the "drip." The soil is gravelly and there is a pronounced plowpan elsewhere in the orchard.

The trenches were dug a foot deep and dirt piled around the edges late in the spring. The bottoms are level and each one holds about 20 barrels of water. They were nearly filled with strawy and weedy mulch, including bean straw and manure. This settled considerable and held moisture, keeping the soil cool so angleworms worked well. The first irrigation accomplished little, for lack of control; but the second one, June 19, was well controlled by wooden boxes leading from the lower rim of one basin to the upper rim of the one next below it. This permitted some fertilizing value to wash from one basin to another undesirably. It was after this second irrigation that the trees made their start. The lemon fruits doubled their size in the same three or four weeks, and did not drop so much as those of other orchards near. Neither did they drop nearly so much during and after the hot wave.

Half as much water did better work than a full irrigation before the trees were basined. Soil under the mulch became soft a foot deep or more and full of life.

Tulare county olives are said to be fine this year and are being contracted to Los Angeles buyers at $200 per ton for Porterville district olives and $300 per ton for 15-16s or larger.

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Here are some of the other sprays manufactured or distributed by us: Dormant Soluble Oil; Lime Sulphur Solution; Bordeaux Mixture; Arsenate of Lead; "Triumph" for Citrus Trees; Miscible Oil No. 1 for Olives; Miscible Oil No. 2 for Thrips.

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Insecticide Department

Balfour, Guthrie & Co.

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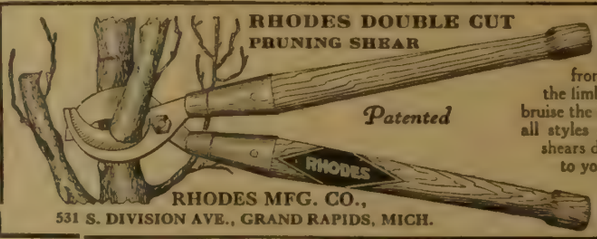
USE UNIVERSAL ORCHARD SPRAY NOW



THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. All shears delivered free to your door. Write for circular and prices.

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Olive Trees For Sale

10,000 each of Mission and Manzanillo, calipering from one to two inches. Trees selected from the best stock in California and are guaranteed true to name.

Los Angeles Olive Growers' Association
522 HIGGINS BLDG., LOS ANGELES

TREES

If you want the best trees in the West, buy stock grown in Placer County.
If you want the best trees grown in Placer County, write for price list to
UNITED FRUIT COMPANY, Newcastle, California

BUD SELECTION *Safety First* **THRIFTY TREES**

Buds from our Citrus Stock—selected—Pollards 25 year orchard. As prolific, true to type as found. All trees guaranteed true to name—absolutely free from frost. 40,000 Sour Orange Seedlings, one year old, 8 to 20 inches. Nothing better.

POLLARD & MARTIN
NORTH WHITTIER HEIGHTS CITRUS NURSERIES
PUENTE, CALIFORNIA

LEONARD COATES NURSERY COMPANY

New Catalogue is now ready. It will pay you to send for it. Our stock is unsurpassed.

MORGAN HILL; CAL.

SEND FOR PRICE LIST — CLAY PRODUCTS
GLADDING, McBEAN & Co.
PERMANENT PIPE FOR IRRIGATION DRAINAGE CULVERTS SEWERAGE
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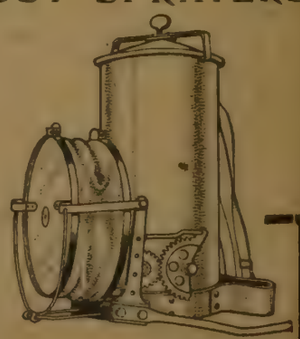

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or we will send it to you for
Standard size $16.00
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The California Sprayer Co.
6001 Pasadena Ave., Los Angeles

Wickedness is the fool's vacation.

Problems of the California Pear Growers

(Continued from first page.)

would have sold had I been offered $50 a ton, has netted $80 a ton, the net returns for 4,000 boxes being $2.12 a packed box f. o. b. Martinez. A larger tonnage of pears than usual has been dried, and sold at from 8½c to 11c, insuring, in most cases, some profit.

DOLEFUL PREDICTIONS NOT REALIZED.

Fortunately the pitiful apprehensions of our friends the canners have not come to pass. They began buying and secured some pears at $40 a ton on the river, and along toward the end of the season we are told paid about $50 a ton in some sections. But apparently they did not secure enough pears to meet the requirements of the market, for, according to trade journals of Chicago, they are pro-rating deliveries, supplying from 60 to 75 per cent of the amounts contracted. Omaha reports, "Canned pears scarce and practically unobtainable." The British market seems to simmer down to this, according to one canner, who says that it has developed that many markets which formerly had bought in London and Liverpool, are now buying direct from America. The Dutch East Indies, for instance, used to buy from Rotterdam; Rotterdam bought from London, and now California canned pears are going direct instead of through the former channels, to this and to other markets.

Trade journals report advances over the opening price on some grades of pears. So we are relieved to learn that the clouds are rolling away and people are still actually buying canned pears, and, like Oliver Twist, calling for more.

AN OUTLOOK ON THE FUTURE.

This is the history of 1917. But history seldom repeats itself. During the war we must face many new problems. Should there be car shortage in 1918, and a bumper crop, we must dry more and can more, and make markets for the increased product. It can be done, but only through concerted action. The bearing acreage is increasing yearly. There are now about 17,000 acres in bearing, and 24,000 not yet in bearing.

Unless pear blight takes unexpected toll, some day within ten years we will be producing, instead of 65,000 tons, 165,000 tons. To dispose of the additional 100,000 tons, to market it at living prices, to build up new uses and new markets, must be the work of the California Pear Growers' Association, now incorporated.

BROADER MARKETS MUST BE CREATED.

Broader markets for fresh pears must be made. To increase the consumption of canned pears, one of the most delicious fruits known, the Association, working in conjunction with canners, is a vitally important matter. Under present and past conditions the demand for canned pears has been practically stationary for many years. This must be changed. Advertising will do it. Dried pears are practically unknown to the American public. Advertising and demonstration will put the dried pear, a food product of attractiveness and real value, on the map.

All these lines of work must be followed up, year after year, if our orchards are to maintain their present values. The work of the Pear Association must be this: to increase the consumption of pears from one pound per capita in the United States to three pounds per capita, and to accomplish this within the next ten years.

When we look at the work of our neighbors, the peach, the prune and apricot growers, and the raisin growers, we can plainly see that the work ahead of us is just the kind of work that they are successfully carrying on.

A VISION.

I hope we may all of us be present at the Fruit Growers' Convention of 1927, when someone, on behalf of the pear growers, may be able to announce the successful marketing of a crop of 165,000 tons of pears, with reasonable returns to growers, canners, and driers, and with reasonable prices to consumers. If so, there will have been established in California a great and valuable industry.

CO-OPERATIVE EXCHANGE.

The California Vegetable Growers' Exchange, a co-operative association, is erecting commodious shipping warehouse by the Pacific Electric tracks in Compton and will enter into the vegetable shipping business on a large scale. The president is W. Sanderbrook; secretary, Carl Crystal; and treasurer, C. W. Musselman, all of Compton. T. R. Bright of Los Angeles is general manager. The directors are Frank Walton, J. D. Norton, J. O. McDonald, Jeff Mayo.

Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

Hauser Packing Company

9th and Mateo Sts. PHONES 10336 Bdw. 5600 Los Angeles, Cal.

LARGER AND BETTER CROPS

With a great world food shortage and with the great war depending on the ability of this country to supply the allies, every acre of land should be made to produce its utmost. This can only be done by feeding the soil, i. e., increasing the available supply of the elements required by your crops.

GOLD BEAR FERTILIZERS

PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

Let our Fertilizer Department help you solve the problem of bigger and better crops.

Send for Our New Fertilizer Booklet

WESTERN MEAT CO.

SAN FRANCISCO, CAL.

Alfalfa Seed Melilotus Seed

Grass Seed Vetch Seed

Write for Sample and Prices

California Seed Company

151 MARKET ST., SAN FRANCISCO

FEED THE SOIL AND THE SOIL WILL FEED YOU

CALIFORNIA FERTILIZER WORKS

Manufacturers of Complete Fertilizers of All Kinds.

The Oldest Manufacturers and Largest Producers of Bone and Blood Fertilizers on the Pacific Coast.

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We are large buyers of

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When writing send samples and state quantity

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Our Ground Limestone Will Increase Your Soil Production. Write for Booklet

RIVERSIDE-PORTLAND CEMENT CO.

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"Fertilizer Dept."

MANURE

Sheep Manure, Horse Manure, Cow Manure and Rotted Manure

Call or write

Pacific Manure & Fertilizer Co.

429 DAVIS STREET SAN FRANCISCO

Early-Planted Sugar Beets Yield Best

[Written for Pacific Rural Press.]

Never over three consecutive crops of beets are grown on the same land in Salinas Valley, according to Assistant Agricultural Superintendent G. T. Scott of the Spreckels Sugar Co. New land is plowed in the fall, generally about 18 inches deep. This takes heavy tractors. On the company's own fields they use cable tractors of 200 horsepower each. Many of the fields are irrigated in winter to supplement rain, as there are over 100 pumps in this beet district. The land is worked down with harrows during winter by means of big tractors with tracks 30 inches wide to minimize packing of the soil, and with cultivator shovels following the tracks to loosen the soil behind them. The aim is to firm the ground but leave a mulch on top. This must be finished before the clods dry out in spring. Last spring many unirrigated fields could not be worked down because later rain was expected but did not come.

PLANT EARLY.

Poor stands are usually due to getting the seed too deep in an effort to reduce the loss due to poor preparation, or else to planting above moisture. If they must be planted too deep in order to be put into ground that will stay moist long enough to give the plants a good start, the deep planting prevents many of them from coming up, while it makes others spindly and weak. Maximum depth is three or four inches, which is all right if little rain follows. Early planting may be more shallow because late rains will keep the ground moist enough. The seed cannot sprout if allowed to remain in dry soil. If it gets a good start, it seldom dies out from other causes. The company advises its growers when is best to irrigate. If likely to be too dry at planting, the irrigation should precede planting. If it comes shortly afterward, a crust may prevent a good stand.

Planting starts in the upper end of the valley in January. Rainfall there is normally about 10 inches. The planted area progresses down the valley as the season develops until April, or even May in seasons of heavy rain. Around Salinas the rain is normally about 15 inches.

Beets planted in mid-February made 20 tons per acre and the beets averaged 20 to 22 per cent sugar; while an adjoining field of apparently the same soil, planted in May, yielded 17 tons per acre, testing 17 per cent sugar. The earlier planting with a longer growing season received one irrigation, while the May planting received none. Earlier planting is practiced now more than formerly.

SEED AND VARIETIES.

Seed is obtained through the company, which until the war started imported practically all of it from Europe. They have been growing seed experimentally in Salinas Valley for a few years, and last year they grew about 100 acres of it. This yielded about 1,000 pounds per acre cleaned. It can be grown cheaper here than to buy seed from Europe since prices trebled.

All seed is of the Klein Wanzleben type, but in buying from Europe many different strains were delivered by different growers with many variety names. There is, however, very little difference in tonnage or sugar percentage between different varieties, according to Mr. Scott.

DRILLING THE SEED.

Four-row drills are used for seeding. Boot drills are most common because depth can be regulated accurately to get seed just deep enough to be in the upper part of moist soil. A "clod pusher" of shovels spreading apart backward precedes each boot. Disk drills are satisfactory when soil moisture is not too far down. Rows are 18 to 20 inches apart. Seed is planted 12 to 15 pounds per acre.

WITTE ENGINE PUMPING PLANT.

Irrigation has proved able to increase tonnage and sugar percentage of sugar beets. Over 100 engine- and motor-driven pumps have been installed in the Salinas beet district. The watertable on the flat is 20 to 25 feet below the surface, but it pumps down about 20 feet more.

Canadians Organized for Grain Growing

[Written for Pacific Rural Press.]

Consul Johnson of Kingston, Canada, reports to the State Department that a new agricultural organization has been incorporated in Canada under the name of the United Grain Growers (Ltd.). The charter provides that no person shall own more than 100 shares, and at annual meetings no person shall have more than one vote. Before an elevator can be built at any point, the shareholders who are to form themselves into a co-operative unit or society to support the United Grain Growers (Ltd.) must have at least 2,000 acres of land under cultivation for every 10,000 bushels of capacity in the elevator. There must be at least 287 shares of the company's stock sold in a single local society, and there must be at least forty shareholders.

The chief function of this organization is to buy and sell the grain grown by its shareholders. In addition to the 330 county elevators, which are spread throughout the western part of Canada the company has a large selling or commission office at Winnipeg, terminal elevators at Fort William with a combined capacity of 3,100,000 bushels, and an export selling department in New York.

The co-operative supply department of the United Grain Growers (Ltd.) is the purchasing medium for the organized farmers. Large warehouses belonging to the grain growers are stocked with supplies of all kinds, which are brought direct from the manufacturers in the United States or Canada, so that the organized farmers may be able to buy their materials to advantage.

The grain growers have a fine timber limit near Fort George, British Columbia, 425 miles west of Edmonton. A mill is to be installed and the new company proposes to commence operating it in June, 1918. It will be capable of producing 75,000 feet of lumber per ten-hour day. The creation of the new organization closes an interesting period in the history of the organized farmers of western Canada. Ten years ago the Grain Growers (Ltd.) started business with the small capital of $5,000; today the authorized capital is fixed at $5,000,000, the subscribed capital amounts to $3,000,000, and the amount of paid-up capital is $2,000,000.

TOMATO VARIETIES.

[Written for Pacific Rural Press.]

Chalks Early Jewel for early tomatoes and Matchless for late ones are preferred by J. W. Davies of Glenn county, who has been growing vegetables for the local trade several years. Stones do not set so well. Matchless is uniform, smooth, and fine quality. Chalks Early Jewel generally holds most of its fruit off the ground, though its later fruits crack around the stems.

MORSE'S
Pasture Grasses
are just the thing for open seasons like this. Morse's Grasses do well on little moisture—are drought resistant—and make nutritive hay and forage. They put flesh on your stock quickly. This year, of all years, meat will mean money to you.
Plant Now
Brome Grass is particularly suited for dry hill sides. Australian Rye Grass and Orchard Grass thrive almost anywhere. All are heavy yielders. Write today for prices and planting directions.
Also—ask for your copy of *Morse's 1918 Garden Guide*. Tells all about the best vegetables for your winter and spring garden. A complete handbook of Morse's Seeds—garden, farm and flower. Send for it today—it's free.
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NITRATE OF SODA
There is nothing that will pay you better than the use of Nitrate of Soda
FOR FIELD CROPS
Extremely valuable for alfalfa, hay, grain, rye, wheat, timothy, and all field crops. Supplies Nitrogen just when it's needed, and
INCREASES THE YIELD
Taken up instantly by the plants and develops a vigorous growth of roots, leaves, and stem, capable of withstanding diseases and parasites. Clean, odorless, easy to handle. Direct from Chili in original bags.
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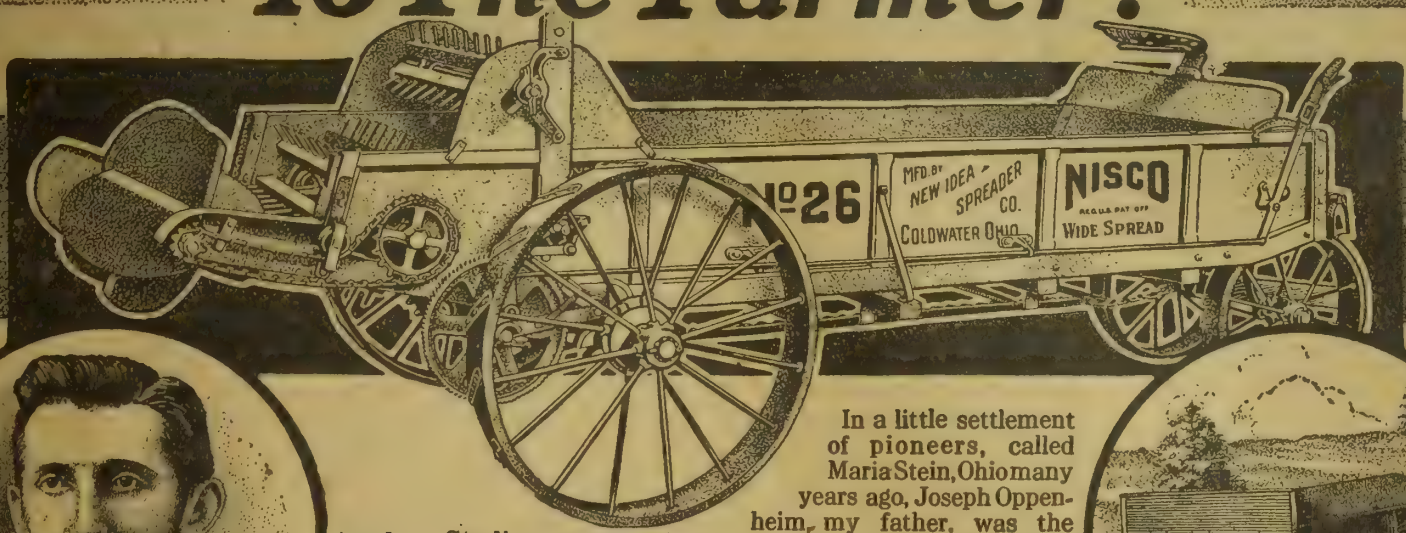
FRICTION!
That's what happens when the spindle and sleeves rub together—due to the microscopic roughness on all metal surfaces. But the powdered mica in Mica Axle Grease fills up this invisible roughness—makes a far smoother, cooler bearing, and the grease lasts twice as long.
STANDARD OIL COMPANY (California)
MICA AXLE GREASE

My Father's Help To The Farmer!



In a little settlement of pioneers, called Maria Stein, Ohio many years ago, Joseph Oppenheim, my father, was the teacher. Studious and quiet, he yet had a personality that appealed, for he was helpful to all. Farming then wasn't so profitable as now, and the women and children had to work in the fields.

The Settlers who came to this country generations back were frugal people. They had to be. Yet they were far-sighted, too. They knew that land could be exhausted—they knew it must be fed if it was to continue feeding them. So they wasted little fertilizer. Barnyard manure was their reliance—as it is yet.

Hence it was scattered on the fields with great care. My father made a hand in this labor occasionally. The children from his school bent weary backs over the task. Their drudgery appealed to his heart. He knew what it meant in aching muscles, neglected schooling and dwarfed opportunity. He knew that such machines as were available neither shredded the manure nor spread it fine and wide.

So he set out to build a machine that would do this and save the hard work. It wasn't easy. Money was scarcer than this generation understands. In his little school house he worked out the idea he had — to make a machine that would help keep his boys and girls in school, and ease the labor of their parents.

It's a long story of how the village teacher saved a nickel here and a dime there, worked early mornings and late nights and eventually built a spreader that carried the principles that make the Nisco the leader today.

So much better was it than the old method of wagon tail distribution that the sturdy farmers called it "Oppenheim's New Idea." After a while, when the work had been brought to a practical stage, we called ourselves the New Idea Spreader Company and from this we get "Nisco."

Working out this idea to perfection in the midst of poverty cost great sacrifice and much toil, but ever uppermost in the mind of the inventor was the need of his people. The small shed shown above was built and work started on six machines. They were so practical that he protected the child of his brain by patents, patents that have revolutionized the spreader industry.

How this small plant has grown until ten acres are covered by the present plant, which sold over two million dollars' worth of spreaders last year, is a story my father could hardly believe if he were alive today to hear it.

But his big heart would swell with pride that he had made so great a contribution to American agriculture — that his efforts had brought prosperity and ease not only to his little circle of friends, but to many thousands more.

He lived only to see the business begun. At his death it fell to me — a boy of fifteen — to carry out his plans. My mother put every cent of her little insurance into making it go — and the Nisco was so valuable to the farmer that today he recognizes the Nisco Spreader as the greatest aid to permanent fertility of his fields.

Because this business is an inheritance of the brave effort of my father to contribute something worth while, it is equally dear to me. And because of his ideal, this machine never will be less than the best we can build.

Our catalog tells of its superiority better than we can here and our free book "Helping Mother Nature" gives some new and valuable information on the use of manure. Send the coupon for them today and see how Joseph Oppenheim made the most notable contribution of his generation to the American farmer. See the machine at the Nisco dealer's in your vicinity. If you don't know him we'll send you his name.

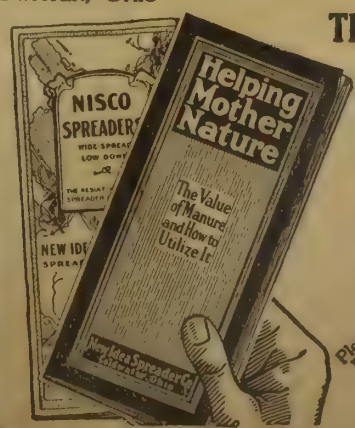
B. C. OPPENHEIM, Mgr.

NEW IDEA SPREADER CO.

"Spreader Specialists"

MAIN OFFICE AND FACTORY:—COLDWATER, OHIO

California Jobbers Selling Our Spreaders are: { *Dixon & Griswold, Los Angeles*; *Pacific Implement Co., San Francisco*; *Woodward Co., Fresno*



These Books FREE

NEW IDEA SPREADER CO., Box 211 Coldwater, Ohio

Please send me without obligation your Nisco Catalog and FREE BOOK—"Helping Mother Nature."

Name..... P. O..... County..... State.....

General Agricultural Review

Field Crops.

A Los Angeles bean dealer last week offered $9.25 per hundred for teparies raised by W. A. West of Visalia.

Guy P. Joslin of Ukiah has contracted his 1918 crop of 20,000 pounds of hops to G. A. Proctor at 17½c per pound.

It has been suggested to the Food Administration that the hundreds of hop-kilns in the Coast States be used for the drying of vegetables.

The Imperial Valley onion crop for next year has been planted and the County Horticultural Commissioner estimates the acreage at 750 acres.

Never have such good methods of farming been practiced in the Tulare Lake bottoms of Kings county as now, according to J. F. Michell, an old-timer here.

The growing head-lettuce crop in the Brawley district is said to be large and fine. Shipments will begin the last of the year and are expected to reach 600 cars.

O. L. House of Santa Ana has leased 150 acres near Santa Susana for the experimental planting of peanuts. The land is said to be unfit for beans or citrus fruits.

Rice threshing is going on in the rice fields of the lower part of Kings county. The ranchers say that the crop is excellent, while weather conditions could not be bettered.

The cotton harvested from the Dodge Land Company's tract in the Oroville district has been sold to an auto tire manufacturing company in the East. Its quality will be tested out commercially.

Not much wheat is grown on the moist bottoms of western Stanislaus county because it is so likely to rust. The best-yielding wheat is produced in the uplands, which are drier in spring.

The McCrosky Packing Co. of Oxnard has announced that it will pay for next year's tomatoes $12 per ton delivered at the cannery or $7.50 per ton in the field, the cannery to do the picking and hauling.

G. Marquardt of Bellotta has just finished gathering 20 acres of Golden Wax corn, some of which made 90 bushels to the acre. Mr. Marquardt took the blue ribbon for corn at the California Land Show.

According to latest figures, Imperial's contribution to our cotton crop this year amounts to 70,000 bales. If, as some believe, cotton goes to 30c, this would mean $10,500,000 in cotton and about $3,000,000 in seed.

A wheat grower of Western Merced county planted 1,000 acres last year on upland adobe that had been idle several years, but was not summer fallowed. It yielded about five sacks per acre of shriveled wheat because it was too dry.

On the 20,000 acres in Kings county planted to grain by the Liberty Farms Corporation, wheat is put on the lighter, sandier soil and barley on the heavier soil. All is under irrigation and the subsoil remains moist a foot under the surface anyway.

No more wheat will be permitted to be shipped from Washington to California. California must depend for its very hard wheat on Australia, Idaho and Oregon, with what can be secured from Kansas, unless these sources are closed. This is the latest in Government orders.

The New Zealand Government has been authorized to purchase the wheat grown in New Zealand during the season of 1917-18 at 5s 10d ($1.41) per bushel, delivered free on board in sacks at the nearest port or where delivery is made with the consent or direction of the Government.

Barley and wheat in Fresno county will total 100,000 acres in 1918, according to Assistant Farm Adviser Frank T. Murphy. Of this, barley will equal the acreage of last year, 55,410; while the wheat will be increased from 37,525 acres to about 45,000 acres. Most of the increase will be on old alfalfa and "virgin land," but not much pasture will be grained.

Business interests of Corcoran met November 22 and started a committee at work to get 2,000 acres more signed up for sugar beets than were planted in that district last year. F. A. Cleveland, who had 1,000 acres in beets last year, and will plant the same this year, says that the increase should logically come in parcels of five to thirty acres which could be worked by one family.

Miles Balcomb, near Santa Paula, has proven that continuous cropping of bean land is beneficial. For thirty years he has grown beans on one piece of land and each succeeding year the yield has increased. At the beginning he got twelve 80-pound sacks to the acre. Year by year the crop has increased until for the last two years the yield has been twenty-nine sacks per acre of 100 pounds each.

As a precautionary measure Arizona has placed an embargo on cotton seed and seed cotton from California with the exception of the Yuma district, where there is already a large acreage of boll cotton. This action has been taken to prevent the introduction of the boll weevil, pink boll worm and other pests. Thus it is expected to maintain the purity of the Egyptian cotton now being grown without mixture in the Salt River and Casa Grande Valleys.

Deciduous Fruits and Nuts.

The Sutter county crop of almonds totals 125 tons. Yuba City is fast becoming an almond center.

W. H. Coffin of Linden gathered eight tons of almonds from six acres. He has Texas Prolific, Drake's Seedling and Peerless almonds interset.

The last of the Santicoy walnut crop is being gathered. Over 1,800 tons have been delivered to the local warehouses and all but a few tons have been shipped.

A patent for a process for peeling dried peaches has been assigned to the California Peach Growers, Inc., by the patentee, H. A. Beekhuis of Fresno. This process promises to be as much a factor in the peach industry as the raisin seeder has been in the raisin industry.

The walnut season is said to have closed at Fullerton. The crop is said to be 30 per cent short and there were a great many No. 2s resulting from the heat wave in June. Total shipments 3,000 tons and returns owing to the higher prices somewhat larger than last year.

J. H. Wheeler of Napa county shipped a carload of Franquette walnuts direct to Chicago. The shipment was consigned to the representative of the California Walnut Growers' Association and contained twelve tons of nuts. It is the first carload shipment of walnuts ever made from Napa county.

Citrus Fruits and Semi-Tropical.

A car of grapefruit was shipped from Woodlake last week to San Francisco for special family trade.

In the Oroville district there is a comparatively short crop in large olives. While nearly all of the olives are running to pickling sizes, the fruit is running to the smaller rather than the larger sizes. With a short crop growers expected a larger proportion of extra-sized fruit.

Oranges everywhere in the Oroville district are meeting the eight to one test this year. In the past two years the fruit at this season has ranged about seven parts of soluble solids to one part of citric acid. This year every test has revealed that the fruit is well over eight parts of soluble solids to one part of acid. In some orchards the fruit is going as high as eleven to one.

During the September quarter, 67,207 boxes of lemons were invoiced at the Catania (Italy) consulate for export to the United States. This brings the total shipment of lemons from that Sicilian port to the United States during the first nine months of 1917 up to 201,432 boxes.

Grapes.

Sonoma Valley wineries are now contracting for next year's crop of grapes at $35 a ton. John Greott of the Alpine Winery is one of the winery men who has made contracts for next year's grapes at that price.

Miscellaneous.

D. D. Sharp of Riverside was elected president of the California County Horticultural Commissioners at Sacramento recently.

Parker Talbot has been appointed farm adviser of Shasta county by the United States Department of Agriculture and the State University.

Livingston farmers are advocating the formation of a drainage district, with public ownership of irrigation water, drainage canals, electric power and lights and telephones.

Loans of $7,374,000 were made to farmers in October under the Federal farm loan system, raising the total paid out since the system's inauguration fifteen months ago to $21,000,000.

Frank Hatch of Modesto purchased from M. D. Vieira a registered Holstein cow, Isabelle Ormsby Hengerveld, for $750. She is a daughter of Sir Skylark Ormsby, sire of the Hatch herd of cows.

A watermelon weighing seventy-six and a fraction pounds has been shipped by the Turlock Board of Trade to Walter C. Maloy, general manager of the San Joaquin Valley exhibit train now in Illinois.

The California Packing Corporation, organized in 1916, has just closed a deal by which it has bought from the Government in the forests near Susanville 250,000,000 feet of timber to make its own boxes.

C. M. Conner, former farm adviser of Stanislaus county, will assume his new duties as adviser of Tulare county December 1. He is a graduate of the Missouri and Michigan agricultural colleges and has studied in the Philippines. Tulare county has six farm bureau centers and will increase the number to about fifteen.

MISSION OLIVES

Oroville, Cal., Nov. 17th, 1916.
Mr. W. A. Hayne,
Box 461, Marysville, Cal.

Dear Mr. Hayne: Answering your kind favor of the 15th, I am enclosing herewith photograph of some of this year's fruit on the Fogg grove, and you will note that they are above the average Mission. We also were able to harvest this entire crop before the frost, which shows that they are early ripeners.

We will be glad to keep in touch with you on this matter, and if we can be of any further service don't hesitate to let us know. Yours very truly,
(Signed) E. W. EHMANN.

I propagated the Fogg Orchard thirty years ago. The origin of the Fogg trees was directly from the old Mission at Santa Barbara. The trees I have now for sale are full brothers to the Fogg Olive Trees, and, like the Fogg trees, are propagated from the large size cuttings.

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Safety Razor
No. KJ10

Usefulness

—not the price you pay—is the quality that will appeal on Christmas morning to father, husband, brother and that boy in camp or at the front.

And the *daily* usefulness of a KEEN KUTTER Safety Razor will make daily grateful thoughts of you. *It costs but $1.00*, in a neat case with 6 blades.

For mother, wife, sister or sweetheart—a KEEN KUTTER Manicure Set will create long-lasting appreciation of your thoughtfulness.

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"The recollection of QUALITY remains long after the PRICE is forgotten."
Trade Mark Registered —E. C. Simmons

Leather is honeycombed with pores. That's why sweat, moisture and dust so easily weaken your harness. Eureka Harness Oil prevents this - protects the leather fibre - keeps straps and tugs soft, pliable and strong. Keeps harness jet black.

Eureka Harness Oil

Standard Oil Company
(California)

Iver Iverson Wins Rural Press Dairy Prize the Second Time

Prof. F. W. Woll, Superintendent of Dairy Testing, under date of November 24 writes:

"I beg to inform you that our records show that five grades owned by Iver Iverson of Arcata, California, had the largest average production of butterfat for the month of October, of this number of grades in a herd entered in the State Dairy Cow Competition, among those eligible to compete for the Pacific Rural Press prize. Mr. Iverson is, therefore, entitled to this prize. The five grades averaged 879.2 pounds milk and 51.952 pounds butterfat; average per cent 5.91. The production of the individual cows ranged from 59.277 to 45.006 pounds butterfat. The production of five grades in other dairy herds in the competition that competed for this prize during the past month was as follows: F. Beebe, 46.721 pounds; G. E. Trigg, 46.538 pounds; Hollow Hill Farm, 44.202 pounds; F. Stenzel, 43.571 pounds; Southern California State Hospital, 40.406 pounds; Bohnett Bros., 35.513 pounds, and J. M. Christen, 17.779 pounds."

DEVELOPMENT IN BRENTWOOD DISTRICT.

The Brentwood district is fast becoming a dairying center on account of the fine crops of alfalfa that are now being raised in that locality and the low transportation rates on dairy products to the San Francisco and Oakland markets. H. S. Nelson of San Francisco has a new dairy in this district, the buildings for which have just been completed at a cost of $20,000, and the whole plant is of the most up to date and sanitary type.

Among other recent purchasers of land in Brentwood irrigated farms are Andrew M. Davis, Jr., and George A. Davis, who purchased 215 acres in alfalfa, on which they are erecting farm buildings. They intend stocking this property in the spring. The San Joaquin Farming Co. of Stockton has just purchased a tract of 177 acres, which they propose to plant to walnuts, intercropping with beans. Mr. Van Tonninger and Mr. Von Tienon Jansse of Antioch have bought 45 acres in alfalfa. The Brentwood people themselves are showing their appreciation of the worth of these lands. Lee Durham, cashier of the Bank of Brentwood, has bought 20 acres and his brother-in-law, A. V. Joslin of Lakeport, is also a buyer of a 20-acre alfalfa tract. Another local buyer is Ralph Crowthers, who has purchased 25 acres. Peter Tripodis, who bought a tract of alfalfa land last spring, is having particularly good success in the manufacture of cheese.

BEET LABOR FURNISHED.

Sugar beet growers around Visalia and Corcoran are being offered the most favorable contracts and the highest prices ever paid. According to Field Man G. E. Daniel for the San Joaquin Valley Sugar Co., the company is offering to furnish and supervise all of the hand labor to hoe, thin, top, and load any crop on 40 acres or more for three-eighths of the crop.

TOWER'S FISH BRAND
MORE THAN EVER your rainy days must be productive
Wet work requires
TOWER'S FISH BRAND REFLEX SLICKER
Cut full in shoulder, chest and arms—comfortable, strong long wearing. Waterproof absolutely.
SATISFACTION GUARANTEED
A. J. TOWER CO. BOSTON

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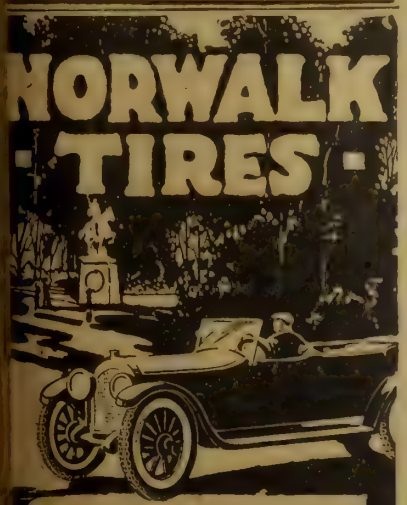
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These tires lead in mileage service, as actual records prove. There are many instances where Norwalk Tires have given more than twice the service of any other tire when used under the same conditions. Ask for literature and price list.
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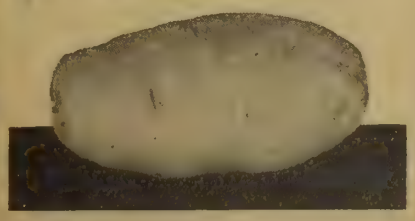
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Using a Bean Power Sprayer to keep your trees clean is just like taking out insurance on your orchard. With the Bean you will get results without trouble or needless delays, and big crops of healthy fruit will be the ultimate result. No orchardist ever made any money by experimenting with sprayers, so don't buy another make and then discover when it is too late that what you really need is a
Bean POWER SPRAYER
The 10-point sprayer
There are 10 big distinctive features that account for Bean superiority. Chief among them are THE BEAN PRESSURE REGULATOR, which keeps the pressure uniform at any desired point and permits the REMOVAL OF THREADLESS BALL VALVES IN TWO MINUTES, with full pressure going continuously. Eccentrics instead of cranks—Porcelain-lined cylinders—Elimination of stuffing-boxes.
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Bean Power Sprayers have led for 34 years because nothing has been overlooked that might add to the completeness, sturdiness and downright serviceability of the Bean.
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Please send me your sprayer book with full information about Bean Sprayers.
I have..... acres of..... and am interested in.....Power Sprayers.....Hand Pumps.....Accessories.
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Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

DUST RUINS WORKING PARTS.

[Notes from lectures by Prof. J. B. Davidson and others at Tractor Short Course, University Farm, Davis.]

Feel the dust that is removed by the air-cleaner on your tractor. It seems soft as silk. Put a little between your teeth. It feels like emery dust. When the dust of the field mixes with oil in the bearings and cylinders it makes a fine grinding mixture.

California is peculiarly afflicted with this gritty though almost impalpable dust, due to the nature of the soil and the long dry season. Eastern tractors may do without dust removers for the air before it enters the carbureter. But no California tractor should be run an hour without a dust remover in working order.

Analyses have been made of the so-called carbon scraped from cylinder combustion chamber, from under the top piston ring, and from the inner side of the piston head near the connecting rod wrist pin. You would scarcely expect to find dust in the latter place, yet over 7 per cent of the "carbon" found there was common windblown field dust. This has probably traveled through the carbureter and combustion chamber, down the cylinder walls, grinding them out more or less, into the crankcase oil, whence it has been splashed to all the bearings, including the wristpin in the head of the piston. Some of it that landed there has become caked, due to excessive heat at that point. The rest is still in the oil that is "lubricating" the bearings.

PERCENTAGE FIELD DUST IN CARBON FROM CYLINDERS AND PISTONS.

Ingredients of "carbon"	From combustion chamber	From under the upper piston ring	From inside the piston head
Oil	16.2	38.81	12.04
Carbon	45.24	29.59	74.12
Ferric oxide.. (worn iron)	14.29	18.36	6.8
Field dust...	23.87	13.24	7.04

HOW DUST IS REMOVED.

One of two general forms of dust removers is placed on most tractors used in California. The regrettable and expensive part of it is that the ordinary operator does not attend to them. One is the dry air cleaner; the other is the kind by which all air entering the carbureter first passes through water. The latter is conceded to be practically 100 per cent efficient, so long as water is replenished when needed (about once per day). It also moistens the air, which helps make a better explosion-mixture for use in the engine, as claimed by the manufacturers. In practice it has been found practically impossible to get operators to keep water in it, though the filling is no task.

The best known type of dry air cleaners draws the air through a curved passage with such speed that centrifugal force throws the dust to the outer side, whence it falls into a can. The one used on an orchard tractor on University Farm collects about an inch of dust in the bottom of a common pint glass jar in a day.

Another kind draws the air up and down past overlapping partitions, which catch the dust en route.

Ben Moses of the Yuba Manufacturing Co. mentioned in his lecture a man who had never discovered that he could remove the dust can. His air cleaner was nearly full. The Bean tractor air cleaner is covered with a sack to aid in keeping all dust out. The Case tractor used at the short course has a vertical two-inch pipe three feet long to place the air intake above flying dust. Many tractors have their own devices for cleaning the air.

LUBRICATING OILS.

What is a good oil? How can you determine the better of two oils? The navy has specifications for buying oil for their internal combustion engines. But it is very hard and takes a long time to make a laboratory test to know whether the oil they get is up to specifications. Such tests are not practicable or necessary for tractors. If you cannot get the kind recommended by the maker of your machine, make practical tests of the most promising oils available, and examine the motor for results.

There are three requirements for a tractor cylinder oil. It must not vaporize at cylinder temperatures, because then it would not lubricate so well. This could be tested by feeling the cylinder walls, which ought to have a wet, glossy, oily surface after the engine has run warmed up.

Get the cylinder oil that leaves least deposit. Fuel oil at cylinder temperatures would leave a sooty deposit of carbon. A rough, rather inaccurate test for this, as well as for the temperature of vaporization, is to put some of the oil on the exhaust pipe.

A neutral cylinder oil is required. Acid oils are corrosive. This is serious where they come in contact with high-carbon steels whose carbon makes them especially attacked and pitted. Oil companies use acid to make oil clear and colorless to meet popular demand. Then they should wash out the acid or neutralize it with alkali. Test acidity by putting a drop of the oil on a bright piece of copper. Discoloration indicates acidity.

USE ONLY CLEAN OIL.

With oils coming up to the above requirements, a cheap one may give as good service as more expensive oil. With cheap oil one can afford to discard it more often. Oil is changed on University Farm tractors every 60 hours of use. A tractor owner who used cheap oil took out shims from the connecting rod bearings only once in four years. He changed the oil every week and washed out the crankcase with kerosene.

WILL IT WORK?

[Written for Pacific Rural Press.]

A complicated but apparently workable labor saving plant to put up a large acreage of alfalfa is outlined by G. A. Smith of Corcoran. A 30-horsepower tractor is to pull

Ditching

—usually the hardest job on the place—make it the easiest and save time and help-hire besides by using

The Martin FARM DITCHER TERRACER AND ROAD GRADER

All Steel—Lasts a Lifetime

Simple and practical. Cuts V-shaped ditch up to 4 feet deep; cleans old ditches; grades roads; builds terraces, dykes and levees; works in any soil, wet or dry. 2, 4 and 6-horse sizes; large size fine for tractor. Write for catalog and list of users near you. No charge. No obligation.

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It will give you many ideas that will enable you to plan the best possible arrangement of your plumbing fixtures.

'The Book of Bathrooms' shows how by the careful selection of plumbing fixtures, you can give your bathrooms a tone both artistic and refined.

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Pull big stumps *by* hand

Showing easy lever operation

Clear your stump land cheaply—no digging, no expense for teams and powder. One man with a K can rip out any stump that can be pulled with the best inch steel cable.

Works by leverage—same principle as a jack. 100 pound pull on the lever gives a 48-ton pull on the stump. Made of the finest steel—guaranteed against breakage. Endorsed by U. S. Government experts.

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WRITE FOR THE CATALOG

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the whole outfit. After the alfalfa is mowed and dried, a side delivery rake throws two swaths in front of a hay loader being pulled beside it. The hay loader delivers to the baling machine platform as it also jogs along. The baler delivers baled hay to a wagon hitched alongside. When the wagon is loaded, a man with team replaces the loaded wagon with an empty one and the outfit moves on. The baler will as usual be run by a separate 10-horsepower engine.

OVERLOADING TRACTOR WASTES TIME ON REPAIRS.

[Written for Pacific Rural Press.]

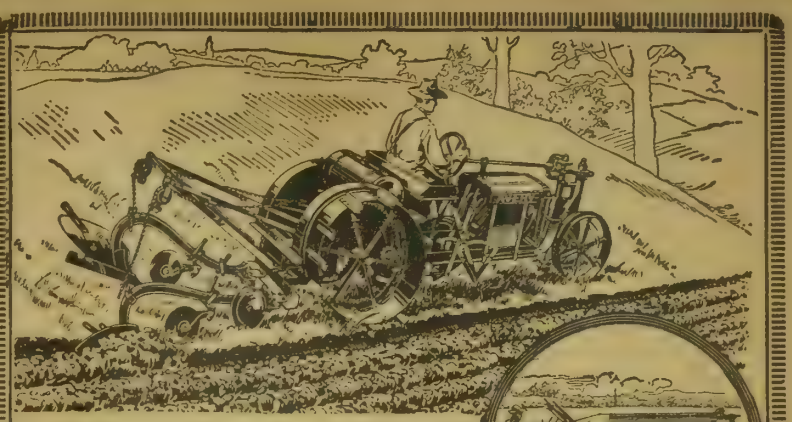
"One of the big mistakes people make is in buying too small tractors, whose manufacturers do not know what the tractors will be up against," says S. G. McQuiston of Hanford, who has just finished plowing 1,621 acres for grain in the Tulare Lake bottoms. Much of this has never been plowed before, having either been simply randalled for crops or having been allowed to dry out two or three years since the water has been off from it. Though the soil here is about as uniform as anywhere in California in large areas, being a heavy silt, which cracks in summer sun, still there are some places harder than others and the tractor load ought to be adjusted to it. Mr. McQuiston is proud of having started with an old abused track type tractor on the jobs just finished and having plowed six to twelve inches deep without putting the engine on the repair list for much loss of time. The reason the old engine worked so well, thinks Mr. McQuiston, is that he aimed not to overload her, though occasionally he had to speed up to get through a hard place. "Overloading a tractor, except for very short pulls, puts it into the repair shop too much," says he. It was a 60-horsepower tractor, pulling 15 disk bottoms cutting 150 inches wide. Whenever the tractor began to hammer he was there to fix it before further damage was done. Rough handling on rough ground, especially ditch work, is a fertile source of excessive twisting and strains on which repair bills will be large. If rough work is to be done, the driver can and should nurse his tractor through it with the fewest jerks and twists and strains possible.

STOVE-OIL FOR ENGINE.

[Written for Pacific Rural Press.]

With stove-oil for fuel to run a 12-horsepower Victory oil motor, F. P. De Borba of Santa Clara county has irrigated an 11-acre orchard two years without engine troubles. To start the "motor," he gives it a sprinkle of gasoline, then runs it about ten minutes on distillate. By that time the plates are hot enough to vaporize the stove-oil for practically perfect combustion. He has a plunger pump 120 feet underground, lifting water probably about 85 feet and delivering a four-inch stream. This irrigates the orchard by furrows in eight ten-hour days. Every morning, when the engine is to run all day, Mr. De Borba cleans the spark plug with gasoline and sets it to work.

With cauliflower now monopolizing the attention of shippers, they are paying little attention to cabbage, the market for which is dull at $18.00@20.00 per ton.



A New Idea in a Small Tractor Plow Outfit

Avery Two-Row Motor Cultivator

You can now get a small Avery 5-10 h.p. Tractor with a special hitch and lifting device and use your old horse plow.

Attach your plow to the drawbar and connect the lifting chain and you have a complete tractor plow outfit. If you have hilly ground and want to use both right and left hand plows, attach them as shown here. You can raise and lower the plow without getting off the tractor. With the plow raised you can back up in short spaces easier than with horses.

This tractor is just the size for doing all the work on small farms or for light work on larger farms. The price is the lowest of any tractor built.

There is a size Avery Tractor to fit every size farm. Six sizes in all—from this small 5-10 h.p. up to a large 40-80 h.p. There is also an Avery Tractor Plow in light and heavy styles to fit every size tractor.

Avery "Yellow Kid" Thresher

Motorize all your farm work with an Avery Tractor and Motor Cultivator

Do your cultivating with motor power. The Avery Two-Row Motor Cultivator makes it possible for one man to tend 100 acres of corn. It will also cultivate cotton and other row crops. By getting a special planter attachment you can plant your crops with the same machine. You can use it too for many other kinds of light field and belt work.

Only with modern Motor Farming Machinery is it possible for you to raise the largest crops and to save them after you raise them. Here is an ideal Motor Farming Equipment—an Avery Tractor and Plow to prepare your seed bed and plant and harvest grain crops—an Avery Two-Row Motor Cultivator to plant and cultivate your row crops—and an Avery Thresher to thresh your grain crops.

The AVERY is the most complete and up-to-date line of Motor Farming Machinery built. Write today for complete catalog and ask for special information about the machinery you are particularly interested in.

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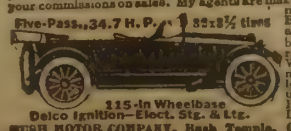

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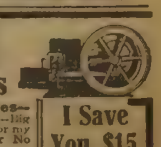

I Save You $15 to $200

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Frank Helm was looking around last week for 25 registered Holsteins to add to his city milk herd at Fresno.

Six cows on a farm in the Buena Vista section, Tulare county, produced $119 for their owner for one month recently.

George A. Smith of Corcoran is putting up equipment for one of the most compact, convenient, and sanitary certified milk plants in the State.

The Tulare Cow Testing Association is prosperous and growing, partly perhaps due to dairymen's reluctance to hunt labor to milk unproductive cows.

Dairy Superintendent F. E. Gillam of the Tagus Ranch, Tulare, reports sale of Tagus Colantha King, a young grandson of Colantha Johanna Lad, to Heath & Bundy of Farmersville.

S. Sauseata, who bought registered Holsteins from several California breeders for shipment to a ranch in Chili, has been disappointed since October 22d in not being able to get shipping space for his cattle.

W. J. Higdon of Tulare profits greatly by the world's record recently made by A. W. Morris & Sons. His herd sire, Prince Riverside Walker, is out of the dam of the world's record cow and is sired by Prince Gelsche Walker.

W. J. Higdon of Tulare is consigning to the Guaranty Sale a senior yearling son of Prince Gelsche Walker out of a cow whose record is over 27 pounds. Mr. Higdon has his eye on some of the blood that is to be sold at Sacramento.

The October cream check for L. C. Glover's half share in 100 dairy cows on 180 acres in Tulare county was $540, not including calves. Yet he made a higher rate of profit per acre than this on the barley he raised this year on another part of the ranch.

The Tagus Ranch of Tulare has just finished culling down their Angus beef herd and will hereafter raise only breeding stock, according to Manager H. C. Merritt, Jr. Heretofore they have been producing beef for the market. They have 110 purebreds of all ages.

R. F. Guerin of Visalia has two cows in fine shape for the Guaranty Sale at Sacramento. Gayety Girl 2nd has a record of 27.42 pounds butter. Lady Leola, whose record is 28.80, is nearly dry, so her bag does not show up so well, but this will insure early returns to the buyer. The cows are both large and of beautiful dairy type.

The Fresno milk distributors adopted daylight deliveries November 20. The drivers leave at 6 o'clock in the morning and return to the barns by 6 o'clock at night. The distributors recently had to face a rise in wholesale prices and claim that by curtailing early deliveries they can keep the retail price at its present level.

The monthly report of the San Joaquin Cow Testing Association from October 26 to November 25 shows that the Gotshall & Magruder herd of Ripon led in average milk production with 914 pounds. Brume & Thorp herd led in pounds of butterfat, having an average of 36.2. The County Farm had the leading cow, which gave 1,995 pounds of milk, making 75.8 pounds of butterfat. C. Holman had the second best cow, which gave 1,758 pounds of milk and 73.8 pounds butterfat.

Swine and Swinemen.

Burrell & Corey of Hanford have sold practically all of their mules to the Government and have collected about 300 more which will have been inspected by the Government agent this week on their ranch.

Since Frank Brush won both championships at Omaha he is getting inquiries from all over the country for his Berkshires. He recently shipped two boars East and sold a sow bred to Baron Duke 20th to H. W. Rice of Hawaii. He also recently sold to F. L. Hall of Perris a son of Riverby Princess, the grand champion at the P. P. I. E., and sired by Winona Lee Champion 6th, grand champion at Oregon State Fair this year.

M. Bassett of Hanford has recently sold registered Poland-China boars to Roland Hill of Bakersfield, to the S. B. W. Co. of Shafter, to a party in China, to the Marin Cheese Co. of Petaluma, H. Coleman of Sanger, Luigi Marre Co. of Port San Luis, Dimmick Bros. of Lemoore, and sows to Marin Cheese Co. of Petaluma, Mr. Croco of Woodland, and Mr. Anderson of Tulare, besides others sold to people who came with wagons for them.

Will Bernstein of Hanford recently received three young boars, one from Thomas Hunter Co. of Ohio, president of American Recording Co., one from T. V. Purcell of Illinois, and the other from E. D. Frazier of Missouri. His 1917 California State Fair grand champion sow, which was also grand champion at Fresno and Hanford fairs, has nine fat, thrifty pigs about six weeks old; and her daughter has eight a trifle older. Of the latter, seven are sow pigs. Mr. Bernstein has 20 fine gilts that will be bred and entered in the Kings County Poland-China Breeders' Sale, February 20.

F. D. Ross of Hanford is to receive by express about the time this item is printed a son of the National Swine Show grand champion Poland-China boar, Caldwell's Big Bob, from F. B. Caldwell. The new boar cost a long price and will be put to work on arrival. Mr. Ross has 20 of his fancy medium-type sows reserved to breed to this big type boar, thus breeding for a combination of size and bone, with fine quality and early maturity. Mr. Ross offered $500 for Big Bob 2nd, the Iowa State Fair, 1917, junior champion, but the owners of that boar would not deliver him at that price. Caldwell had intended to fit for the 1918 fairs the boar Ross bought.

Beef Cattle.

Reports from Arizona say that cattle there have increased on the range the past year 136,174, sheep 86,134, and horses and mules 29,320.

Inspectors to be named by the State Cattle Protection Board, to detect the stealing of hides and cattle, will have no right to search premises under suspicion without the consent of the owners, according to a ruling recently given by Attorney-General Webb.

Sheep and Horses.

C. A. Shaler of Pasadena, formerly a big sheep grower of Waupun, Wis., is establishing a herd of purebred Rambouillets at Glenn.

This is the time to go into horses, believes H. C. Merritt, Jr., of the Tagus Ranch, near Tulare, who is raising purebred Belgian and Percheron horses.

The F. M. Mecham Estate of Petaluma reports having had an excellent demand for rams this season. It has only a few left on hand. It has an exceptionally fine lot of redpolled bulls from six to eight months of age.

J. P. Lemon of Hanford saved a 130 per cent crop of lambs from one bunch of range ewes and 132 per cent from another, the two bunches totaling 1,100 ewes. The lambs were all sired by registered Hampshire bucks bred and raised by Mr. Lemon.

YOUR ONLY OPPORTUNITY

To Secure Daughters of

King Mead of Riverside
Prince Gelsche Walker
Segis Pontiac De Kol Burke

Will be at the

GUARANTY SALE

SACRAMENTO, DECEMBER 5, 1917

Among the 15 outstanding animals in our consignment is

MISS FILLED KORNDYKE WALKER, by Prince Gelsche Walker, out of a 29.67-pound daughter of Korndyke Queen De Kol's Prince, sire of 90 A. R. O. daughters, including four above 30 pounds. Her full sister as a junior two-year-old made 23.17 and 94.87 in thirty days, both state records at time. She is a gem and, better still, she is seven months in calf to King Morco Alcartra.

PRINCESS HARTOG WALKER, yearling daughter of Prince Gelsche Walker, out of half sister to Tilly Alcartra, with 845 pounds butter in a year. She is three-quarter sister to a 24.46-pound senior two-year-old, half sister to the State record junior three-year-old, 36.81, and State record junior four-year-old, 34.25. Safe in calf to Sir Aaggie De Kol Acme, son of Aaggie Acme of Riverside 2nd, the new world record cow.

A DAUGHTER OF SEGIS PONTIAC DE KOL BURKE out of a 26.76-pound daughter of Changeling Butter Boy, next dam a 30-pound daughter of Tidy Abbekerk Prince. She is safe in calf to Prince Gelsche Walker.

MISS LUIT ARALIA BURKE, 17-pound two-year-old daughter of Aralia King, son of Aralia De Kol and Luit Burke, 32.76-pound daughter of De Kol Burke. She is due to drop her second calf December 15th by King Mead of Riverside.

A nice white bull by King Mead of Riverside, out of a 33-pound dam with a yearly record of 1,003 pounds butter. His dam has two four-year-old daughters above 27.50 and a three-year-old with 22.59.

The others are of equal value. They have everything that could be desired for high-class foundation stock, breeding, type and production, and they are bred to some of the best sires of the breed.

A. W. MORRIS & SONS CORPORATION

WOODLAND, CAL.

Bassett's Poland Chinas

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year — uniform in size, high in quality, quickly and economically matured and finished.

$30 UP.

Grand Champion Sow, P. P. I. E., 1915; Sacramento, 1916.

FAIR DEALING, UNIFORM EXCELLENCE, SATISFIED CUSTOMERS, BEST PORK PRODUCERS, RESULT FROM YEARS OF SELECTIVE BREEDING.

M. BASSETT Hanford, Cal.

Grand Champion Herd of Hampshires

COMPEER'S DESCENT 2d
One of Our 60 Matured Brood Sows.

BOARS
Big Husky Boars for November trade.

Write to

F. V. Gordon or F. A. Langdon
Llano Vista Ranch, Perris, Cal.

FOR SALE

One of the leading Shire Stallions of the West

DESFORD BANKER

Three Imported Shire Mares all in foal.
Two Stallion Foals and one Filly Foal.

SALVADOR STOCK FARM NAPA, CAL.

Over 100 silos have been put up in the neighborhood of Tulare in the past season. Practically all are filled with Indian corn.

SHEEP GROWERS SEND DELEGATES TO WASHINGTON.

[Written for Pacific Press by B. J. Morris.]

The Central California Wool and Sheep Growers' Association held an important meeting in Stockton, November 17. The meeting was called for the purpose of devising means to get the Federal Government to open the public parks, to the sheepmen. At the suggestion of Senator Phelan, the Association elected a committee to go to Washington and present their cause in person to Congressmen. D. J. Waltz and E. J. Murphy were selected and they plan to leave for Washington soon.

Another matter of significance was brought before the Association by Willard Clark of Orland. This is the untold hardships imposed upon sheep growers by the law that was passed at the last session of the Legislature prohibiting the camping of sheep on the public roads between sunset and sunrise. In discussing the far-reaching import of this law, Mr. Clark declared it was impossible to continue in the sheep business on a large scale and not break the law. As the law now stands, sheep cannot be kept on any public road at night. This makes it impossible to move sheep any great distance. It absolutely prevents the moving of the sheep from the valley ranches to the mountain pastures and vice versa. The sheep growers agree that the law would be unobjectionable to them if it applied only to the State Highway. But as it now stands it applies to all public roads.

A committee, composed of Willard Clark and T. A. Gianelli, was appointed to wait upon Governor Stephens immediately and lay plans to have the law modified at the next session of the Legislature. A clear presentation of the facts must lead the members of the Legislature to see the justice and the necessity of the sheep growers' contentions.

Chas. Kimble of Hanford sold two carloads of purebred Rambouillet breeding ewes this week to C. A. Shaler, president of the Windell Orchard Co. of Glenn. Mr. Kimble also shipped a carload of purebred bucks to Watson & Smith of Cedar City, Utah.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

Poland-Chinas.

MAKE BIG MONEY with our famous Whitten Ranch Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. Special sale of service boars and bred gilts. Prices reasonable; satisfaction guaranteed; everything immune. Send for free illustrated book, "Hogs for Profit," packed with valuable information. Ranch in Tulare County, but address owner, R. H. Whitten, 519A Marsh-Strong Bldg., Los Angeles.

HIGH DOLLAR'S ASSURED for the hog-raiser. The scarcity is bound to make pork high for years to come. Improve your herd with a good Poland-China boar. 20 of the finest you ever saw, from six months to 18 months of age. Price from $40 to $100. Sows sell in the Kings County Poland-China Breeders' Sale, February 20th. Bernstein's Ranch, Hanford, Cal.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

MY POLAND-CHINAS are prolific and profitable. Write for description and prices. Dr. J. A. Crawshaw, Hanford, Kings County, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

REGISTERED POLAND-CHINAS — J. H. Hansborough, Route A, Modesto, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

READ OAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd, and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRES—Fine, growthy, May pigs, both sexes, sired by Star Leader, reserve Grand Champion P.-P. I. E. Prices reasonable. Anchorage Farms, Orland, Cal.

BERKSHIRE GILTS—Rival's Champion Best and Bandmaster blood lines. D. B. Wentworth, Napa.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

BERKSHIRES—Sons and grandsons of world's champion Star Leader. Reasonable. Kounias Registered Stock Farm, Modesto.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

FOR WELL-BRED BERKSHIRES, write Glenwood Acres Stock Farm, Paso Robles, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

DUROC-JERSEY PIGS FOR SALE from prize-winning stock. Price, $10 to $25 each. They are all in good condition. For further particulars write to W. C. Chisholm, Route 4, Santa Rosa, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC-JERSEY SPRING BOARS—Cholera immune; write for pedigree and prices; satisfaction guaranteed. Buchholz Bros., P. O. Box 246, Merced, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 138 Taxpayer. A few weaned sow pigs for sale. F. M. Barney, Hanford, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

DUROCS OF GUARANTEED BREEDING—Pigs $15 up, sired by State Fair prize winner. H. E. Boudier, Napa.

RANCHO DEL SUR DUROC-JERSEYS — Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

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DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

DOS HERMANOS DUROCS—Young boars and gilts. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND of Chester Whites. Am entirely sold out of bred sows and gilts. Have a very few open gilts of March and April farrows, also 6 boars, same age; have 9 young tested sows to offer for late December shipment; these have each farrowed once and will be bred to farrow again in late March or early April. Fall pigs, both sexes, are now being weaned; will be ready for shipment during December. Good breeding stock is getting very scarce and is rapidly increasing in price. If you want some of this easy feeding, mellow type, get busy with your orders. C. B. Cunningham, Mills, California.

HIGHLAND STOCK FARM CHESTER WHITES—Are you looking for the easy-feeding, early-maturing breed of hogs? Then drop a line for booklet and prices to R. L. Robinson, Box 142, Fair Oaks, Calif.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

YOUNG BULLS sired by Grand Champion King Hengerveld Ormsby, grandsons of Pietertje Maid Ormsby, 35.55 pounds 7 days, test 5.31 per cent. Kounias Registered Stock Farm, Modesto.

BUENA ALTA HERD registered Holsteins, blue ribbon winners at State and county fairs; heifers and bull calves for sale. F. A. Heroux, 629 Fifty-sixth street, Oakland, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TOYON FARM HOLSTEINS—Sons of Finderne Soldene Valdessa for sale. Toyon Farm Association, First National Bank Building, San Jose.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

YOUNG REGISTERED HOLSTEIN BULLS ready for service. W. H. Ginn & Son, Corcoran, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Calif.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY COWS for sale. O. J. Ames, Oakdale, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS — Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

GUERNSEY BULLS, ready for service. Calla Grove Farm, Manteca, Cal.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

VERAMONT STOCK FARM — Purebred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS — Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS and ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena.

KAUPKE BROS., WOODLAND, CAL.—Breeders and Importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, Importers of Hampshire sheep.

HORSES AND MULES.

FOR SALE—Percheron horses and mares, age 4 to 10 years; weight, 1200 to 1600. Price, $200 to $300 per span. S. L. Skaggs, Madera, Cal.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

STOCKTON FOR PERCHERONS—Best by State Fair test. Winners for the last five years. H. G. Learned, Stockton.

MISCELLANEOUS.

WE ARE BUYING HOGS of all sizes, weights and breeds; any number from one to several thousands considered; we pay spot cash on delivery. What have you? Durbin & Forbes, 722 San Fernando building, Bdw. 4170, Los Angeles.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend Sts., San Francisco.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

100 TON BARLEY STRAW, bean straw and hay; want feeders to eat it. Address Box 880, Pacific Rural Press.

FOR SALE—Sixteen head of Shorthorn grade yearling steers. R. D. Westfall, Colusa, Cal.

Percheron and Belgian Stallions Imported and American Bred

Pion 121249

First Prize 2-year-old and Reserve Champion, California State Fair, Sacramento, 1917.

Offering a few 2-year-olds and upwards, with heavy bone and high quality, that weigh a ton or more. If you are looking for the best come and see them or write for particulars.

EVERY STALLION GUARANTEED AS REPRESENTED

Prices and Terms Reasonable

N. W. THOMPSON

PATTERSON, CAL.

FARMERS NOT A POISON POWERFUL DISINFECTANT

FLUSH COWS AFTER CALVING

Most valuable for bringing after-birth and also for treating barren cows and controlling abortion. B-K kills the infecting germs, heals the uterus, removes the slime and acid—no odor—no straining. More effective than lysol, Lugol's solution, carbolic and cresols—much safer. Send for our Bulletin 52 "Contagious Abortion" and testimony from leading breeders. Special Trial Offer

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Better California's Beef and Beef Markets

[Written for Pacific Rural Press by Roy E. Miller, Fresno, Cal.]

A concerted effort to increase beef production in California is under way among the cattlemen. Along with more and better cattle the demand is for better marketing facilities. The movement accords strictly with Food Administrator Hoover's policy for national food conservation. The cattlemen would go beyond Mr. Hoover's plans, applying his announced principles with local considerations in view to stimulate the cattle farmer to greater efforts.

The new State Cattlemen's Association met in San Francisco, Friday, November 23, to complete organization with expectation of furthering State and National aims. L. A. Nares of Fresno, president of the association, hopes for no less than a complete unification of efforts on the part of the various associations. "We aim to get an increase in the beef supply and to retain for the cattle raisers some voice in formulating the rules for California," he said. The closest co-operation, he believes, will enable the cattlemen, large and small, to secure protection against disease and theft, obtain better animals and secure regulations most suited to California conditions. One of the measures the various members will be asked to support is recording brands with the California Cattle Protection Board, as required by law and urged by Dr. J. P. Iverson, executive officer of the board, in a recent issue of the Pacific Rural Press. Mr. Nares says the $2 fee for registration and the fees for slaughtering are not excessive and that strict enforcement of the rules will save the cattlemen hundreds of thousands of dollars annually.

WANT STABLE PRICES.

Stabilized cattle prices, based on the market value of meat, rather than the uncertain value of range feed and forage, appear to be favored by the members of the Central Cattlemen's Association, controlling nearly one million head. They say it is difficult to estimate the forage, while it is comparatively certain how much weight a given amount of corn will put on hogs, recently given an estimated minimum price of $15.50 per 100 pounds by the food administrators. Most agree that a fixed minimum would be valuable, but none is ready before thorough investigation to name a probable figure.

MARKET FACTORS.

Owing to a shortage of feed the market is glutted with underfed steers and prices have fallen somewhat. The shortage is severe on some of the ranges, and some owners have sacrificed at as low as 7 cents. Alfalfa is generally too costly to use for a carry-over feed. A moist, warm winter would solve the problem in most places. Good prices are expected next year, and Assistant Administrator Merritt is expected to take action soon to determine the relation of the California livestock market to that of the nation and the world. It is felt here the United States has the market for its surplus and can set the price. "Meatless days" have no terrors for the grower because Europe has slaughtered 40,000,000 animals and will want our surplus for years to come, Mr. Nares believes. "Six months' campaigning will increase our grain acreage," he said, "but it takes years to increase livestock. We should start today to bring this home to California."

He favors a campaign for intensive feeding, to prepare a steer for slaughter in two years instead of three or more. Proper feeding will bring the animals to a weight of 900 to 1,000 pounds in two or two and a half years, when pounds cost less to put on than later. They make good prime beef for the consumer and quick profit for the farmer. Contrary to current opinion, the cattle supply has not been greatly affected by vealing calves. About 72 per cent of those killed in California were bull calves.

HOW THE UNITED STATES MAY HELP.

If the State takes a further hand in regulating the cattle industry, Mr. Nares expects the food administration to recommend uniform rules, furnish market reports and statistics to the farmers, urge killing at two years, arrange for exchange of breeding stock, furnish money for buying better bulls, and direct the farmer how to choose animals for killing and for breeding purposes. An early step would be to register the number of animals.

Nobody seems to know even approximately how many cattle there are in the State. The latest available figures are based on the national census of 1910. Until this chaotic condition is removed, not much can be expected of the efforts of the officials to stabilize the cattle industry in California. Action by the food authorities is expected at an early date.

AERATES DAIRY UTENSILS AWAY FROM FLIES.

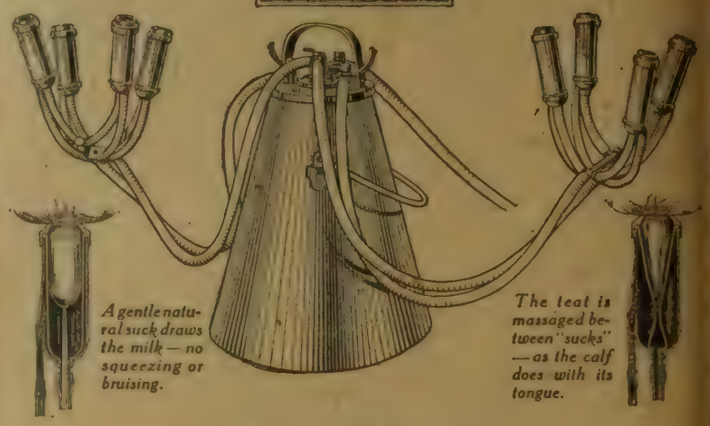
[Written for Pacific Rural Press.]

A neat aerator for dairy utensils is the screened shelf projecting about 20 inches from J. E. Worthington's dairy house about three feet above ground. It is about three and a half feet high and four and a half feet long. The top is sloping and is also screened, so the utensils are in sunshine all afternoon. A hinged wooden roof protects the aerator from rain in winter.

AN AVOIDABLE WASTE IN HOG SHIPMENTS.

A loss of live weight of hogs and waste of feed result from the practice of buying local hogs in small lots and holding them in local stockyards until a carload shipment is collected. Specialists of the U. S. Bureau of Markets point out that at this and other seasons, when runs are light, it often takes local buyers four or five days to assemble enough small lots for a carload. As facilities for feed and watering are inferior in small yards, the hogs make no further gains on their feed and often suffer actual loss of live weight. It would do well to specify a certain day for the delivery of lots from the various farms and load and ship without holding.

EMPIRE MILKING MACHINES



The Simplicity of

EMPIRE MILKING MACHINES

The calf is the model of the Empire Milker. The soft rubber lining of the teat-cup takes the place of the calf's mouth and tongue. In hand-milking you *squeeze* out the milk but the calf *gently sucks* it out—and so does the Empire Milker.

After every suck the calf swallows—and his tongue massages the teat backwards *from tip to udder.* This is a provision of Nature to prevent congestion and sore teats. It occurs regularly, from 48 to 52 times a minute.

Hand-milkers do not relieve and massage the teat—neither do some milking machines.

The Empire does. A simple arrangement, called the Pulsator, stops the sucking and lets air flow in between the rubber lining and the walls of the teat-cup. This makes the rubber lining gently massage the teat *from tip to udder,* just like the calf. With the Empire Milking, sore teats do not nor cannot occur.

With the Empire Outfit you have: An air-pump, to do the sucking; a teat-cup instead of the calf's mouth and tongue; a Pulsator, to time the sucking and massaging just right; and a bucket to catch the milk.

Many a 10-year old boy or girl is running an Empire Outfit these nights and mornings. With two double units a boy or girl can take the place of two hand-milkers and milk from 20 to 40 cows in an hour and a half. The cows like the gentle uniformity of Empire Milking, giving down readily and usually producing an increase in the yield.

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Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,
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Visitors welcome. Correspondence solicited.
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Young bulls from dams and grandames in Register of Merit.
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Fine individuals, with Register of Merit backing.
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With or without registration papers. Service Bulls from cows with yearly records. Jersey females. Prices right. Tuberculin tested.
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Quality counts.
Stock for sale.
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Bulls for sale from Register of Merit cows. Write for information.
W. J. HACKETT, Ceres, Cal.

Field and Stock Notes From Monterey

[Written for Pacific Rural Press by D. L. Schrader.]

After spending two months in Monterey county, the greater part of the time among the ranchers and stock men, the writer could not but be impressed with some important facts, and the most important is that the range land of the county will not support much over half of the stock that it did ten years ago. The main reason for this is, we believe, due to overstocking. As beef prices have advanced, the temptation has been to increase the number of stock more and more, with the result that the important feed grasses, such as bur clover, bunch grass, and filaree have been gradually getting less and less, while much poorer feeding grasses, such as foxtail, needle grass, and poverty grass have been increasing. This is due largely to the fact that the more valuable grasses are fed down so closely that they don't have a chance to seed, and, furthermore, the seed has no protection from the old grass when it starts out of the ground.

OVERGRAZED RANGES NEED A REST.

The solution of this problem is difficult, but most stockmen agree that the matter can be helped by taking the cattle off of certain sections for two years at least, and allowing the grass a chance to seed and catch up. It is thought that bunch grass, filaree, and bur clover, being the natural grasses, if given a chance would crowd out the poorer kinds, such as foxtail, poverty, and needle grass. Little has been done in seeding the range to other grasses.

A large part of Monterey county is rough and unfit for anything but range feeding, and with a world shortage of meat we should keep up our ranges to their fullest feeding capacity.

RAVAGES OF THE COYOTE DISCOURAGING.

Almost as important is the loss of young calves, pigs, turkeys, chickens, goats, and lastly the number of deer, being killed by coyotes. J. M. Pfeiffer of Big Sur has found the carcasses of twelve does on his ranch in the last year that had been partly eaten by coyotes; several that were heavy with fawn had their insides torn out and the unborn fawn had been eaten. Edward Brinnen of San Ardo informed the writer that he had lost 75 head of hogs this season, ranging in weight from 30 to 75 pounds. They were feeding on the stubble and the coyotes had killed them. Two of the larger ones were found with their hams entirely eaten away and had to be killed.

A great many have given up the idea of trying to raise turkeys, as the shortage of help does not permit of a herdsman, and if allowed to run by themselves in the stubble they soon disappear and only the feathers tell the tale. All agree that the control of the coyote should be under State jurisdiction, as the coyote is a great traveler and knows no county boundaries.

In our travels over the county we were impressed with the great shortage of purebred breeders. Most stockmen are using purebred sires for their beef cattle and most dairymen the same for their dairy herds, but practically all purebreds are shipped in from the outside.

A. J. Molera of Monterey, who has a large stock ranch down the coast, thirty miles from Monterey, is the exception. He has a choice herd of 150 head of registered Shorthorns, 24 head of Jerseys, 12 head of Holsteins, 100 head of registered I. O. C. hogs. This season at the State Fair he bought his foundation stock from a purebred herd of Shropshire sheep. Included on the ranch are a number of imported Percheron mares and stallions. Mr. Molera farms about 800 acres of his 5,000-acre ranch. He had a large crop of spuds, oats, beans, hay, and corn this year.

In a good many ways this has been Monterey county's banner year. Sugar beets, the big crop, have averaged a large tonnage per acre, with an exceptionally high sugar test. The blight did not show up at all this season. The fall season has been an ideal one for harvest, and at this writing, November 16, it is almost over; another week will see the finish. Beans, a very important crop this season, have averaged up well. Small whites and pinks are the main varieties planted. Chevalier barley did exceptionally well and a big price was received.

Lockwood Valley, the wheat district, turned off a big crop, many places averaging 18 sacks to the acre.

In spite of dairy labor difficulties, J. O. Frazier of Tulare bought 43 additional grade dairy cows recently.

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They are less susceptible to diseases, require less attention, can consume greater quantities of roughage and turn it into milk and butterfat, and are more persistent producers than any other breed. Write for free information about the Profitable Breed.
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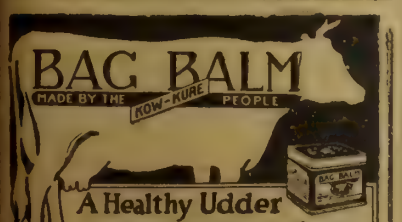
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means comfort for the cow and a generous, easy milk flow. Bag Balm, the great healing ointment, will keep the udder free from sores, chaps, cuts, bruises, cracks, bunches and inflammation. Bag Balm is especially effective at the calving period when caked bag frequently occurs. Its penetrating and softening effect is immediate. Every dairy should keep Bag Balm on hand.
Sold by druggists and feed dealers, in big 50c packages. Write for free booklet, "Dairy Wrinkles."
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Largest Herd in the State
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Mature Stock and Weanlings of both sexes. Sure to please.
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WE ARE OFFERING FOR SALE A NUMBER OF YOUNG BULLS
Some ready for service—sired by Prince Alcartra Korndyke and out of dams with records up to 30 pounds in seven days and over 800 pounds in a year. We have priced these extremely low in order to move them quickly and make room for the coming crop of young calves. Order one of them now and have the advantage of the larger records that their dams are sure to make at next freshening.
The first daughters of Prince Alcartra Korndyke are now finishing their yearly test and will average well over 650 pounds butter under ordinary herd conditions and stand well up in the list for the Association prizes.
Look for our consignment at the Guaranty Sale, Sacramento, Dec. 5.
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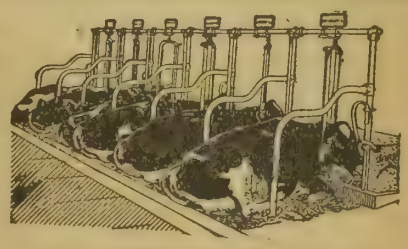
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Can be installed in almost any barn, old or new. Does away with 75 per cent of the disagreeable labor in cleaning barns. You can install it yourself. No upkeep expense. Lasts a lifetime. The cost is not great and once installed is a constant satisfaction.
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ON THE DAIRY RANCH
Whether you do the work yourself, or hire it done, labor costs money. You can't afford to waste the time and energy called for by the old wheelbarrow method. Besides, it's mighty hard to get good milkers and ranch hands today at any price. You can end your labor problem by installing
LOUDEN LITTER CARRIERS FEED CARRIERS
One man with Louden equipment can do the work of four men with wheelbarrows. There's a saving for you! If you are doing your own work you can do in an hour what it takes half a day to do in the old way.
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Illustrates and describes scores of barns—and tells how to build them for convenience and economy. Worth a dollar of any dairy rancher's money. Send a postal for this free book and a copy of the Complete Louden Catalog.
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VETERINARY QUERIES

[Answered by Dr. H. R. Wintringham.]

[Subscribers wishing an immediate reply should send money order for $1.00. No charge for questions answered through this department. Name and address of subscriber must accompany each query.]

A Refractory Sore.

To the Editor: I have a cow with an old sore on her udder, between her two front quarters. It has been there for several months. I have used Tr. iodine, sheep dip, etc., but can't heal it up. She became fresh about two months ago and is healthy in every way seemingly. What can I do to heal this sore up?—A. C. D.

Paint this sore with equal parts of tincture of iodine and compound tincture of benzoin twice a day and persist in the treatment until the wound is healed.

Contagious Skin Eruption.

To the Editor: I would like to know what is the matter with my pigs. They are about six weeks old, have a breaking out of little lumps all over legs and stomach. They did well up to ten days ago. It seems to be spreading through the bunch.—W. M. C.

This is a contagious skin eruption. Dip these pigs in a 2 per cent solution of liquor cresolis compositus every third day.

Probably Glanders.

To the Editor: I have two horses that run at the nose. One coughs and rattles in her throat. The other blows his nose quite often. They have little bunches under their jaw. They are both fat and full of life. What can I do to cure them?—Subscriber, Monterey.

Have these animals tested for glanders.

Ditch Water Unsafe for Stock.

To the Editor: Can you advise whether or not disease is spread among cattle and horses by ditch water? Will appreciate an answer.—J. B. C., San Francisco.

Many diseases can be spread by ditch water, some of a very serious nature.

Prolapsus of the Rectum.

To the Editor: I have two pigs which crowded out the rectum. Kindly advise me what to do.—M. Z., Lakeport.

Give the pigs a good purge with Epsom salts, two ounces to each 100-pound weight.

CATTLEMEN, ATTENTION!

With the object of determining the effect of the "Meatless Day" on the demand for marketable beef cattle, cattlemen are requested to address the California Cattlemen's Association at its office, 320 Sharon building, San Francisco, and furnish complete data as to the exact number of really fat cattle they have available and in prospect, price placed on same and shipping point, in order that the officers of the Association may be in a position to make proper representations to Mr. Ralph Merritt, the Food Controller, on the subject and secure such relief as the situation warrants.

CALIFORNIA CATTLEMEN'S ASSOCIATION.
By L. A. Nares, President.
By David J. Stollery, Secretary.

Jack London Ranch
Registered Beef
Shorthorns
and
Duroc Jersey Hogs
ELIZA SHEPARD, Manager
Glen Ellen, California

14 HEAD PUREBRED
RED POLLED BULLS
from 6 to 8 months old
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For further information address
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SHORTHORNS
Paicines Ranch Company
Offers for Fall Delivery, both Registered and Unregistered
Weanling Bulls and Heifer Calves
ENTIRE HERD TUBERCULIN TESTED
For further particulars and prices apply to
PAICINES RANCH COMPANY
Railroad Terminal: TRES PINOS. P. O. Address: PAICINES
Telephonic and Telegraphic Address: HOLLISTER, CAL.
DAVID J. STOLLERY 320 SHARON BUILDING SAN FRANCISCO, CAL.

Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
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THORNTON S. GLIDE, Prop. DAVIS, CALIFORNIA
BREEDER OF
SHORTHORN CATTLE
AND
Shropshire and Merino Sheep
Shropshires sired by rams imported by me from England
The Famous Glide Merinos
Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
First Prize Breeders Young Shorthorn Herd at Sacramento

10 2-year Bulls SHORTHORNS 10 Bull Calves
We have just received a shipment of yearlings and 2-year-old heifers, bred to a son of Cumberlands Type, the bull that won 36 Grand Championships at 36 Fairs. This is the best lot of females we have ever offered for sale.
Better look them over soon, as they will sell quick.
H. L. & E. H. MURPHY, Perkins, Cal.

Champion Ram, P. P. I. E.
SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

SCOTCH SHORTHORNS
We have just purchased the entire herd of Shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.
FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.
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HOPLAND STOCK FARM
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Registered bulls—yearlings and two-year-olds—bred on same lines as Grand Champion Cow at Sacramento, 1917.
Boars and gilts by Iowana Riva Majestic, a son of Rivals Champion.
Prices Reasonable—On Application.
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Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
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Herd combines some of the strongest blood lines of this country and Great Britain.
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DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

CHEAP POULTRY FEED—HOW TO GET IT.

The knotty problem before poultrymen at the present time is cheap feed. This question must be solved or the whole business will go to smash. Under existing conditions every poultryman must solve his own feed problem and not be influenced by those who do not know what it actually costs to provide the feed necessary to produce a dozen eggs or to grow a fowl to maturity.

ONE SOLUTION.

Those who have a little spare land can raise greens that will supply fully one-third of the feed and at the same time promote the health of the fowls and increase egg yield. We have a patch of rape, planted early in September, that stands all of two feet high, with broad leaves that are so tender I eat some of them myself. The seed was put in during those hot days of September; we covered the ground with grain sacks in an effort to prevent the hot sun from burning the sprouting seed. Even then it did burn in patches, but we resowed the seed and covered it more carefully with the sacks. For over a month this patch has furnished my son's chickens (about one hundred) with all the green feed they would eat, and he has been selling eggs to the neighbors all fall. This rape has been well watered and fertilized, so is tender and succulent.

OATS AND BARLEY GREENS.

Oats sown now will furnish good egg-making food for a long time. The growth may be slow at first, but later on, after it has taken deeper root and stooled the hens may fill up on it and then will require only half the usual quantity of mash. This will bring eggs, especially if the hens are fed a supper of corn. Gyp corn does very well. Barley or oats greens make a firmer egg than any other form of green feed. Get that oat patch started right away, then sow mustard, a patch of rape, and any other hardy greens. Mustard is a quick grower, a sure egg-getter, and it is warming to the digestive organs.

PLENTY OF WATER AT PROPER TEMPERATURE.

Many poultrymen neglect to supply sufficient water or of proper temperature. An egg is largely water, and water that is warm enough, in early cold mornings, to tempt the hens to drink more, will save feed. If the water is left in the drinking vessels over night, in the morning it is very cold, and if the hens drink freely of it they get chilled and stand around all hunched up as if they had a touch of colic.

AN EGG-PRODUCING MIXTURE.

The following cooked mixture is being fed with good results on a ranch I visited a little while ago: They chop up pumpkins and several good-sized mangels, with a spade, adding half the quantity by bulk of oats and rice with hulls on, some home-grown red peppers, salt, and a little charcoal. These are boiled in plenty of water until the mangels are tender, then it is thickened with middlings, about 5 per cent of alfalfa meal, 10 per cent of cornmeal, and 5 per cent of meat scrap. It is fed at night and the hens are allowed to eat all they will, and they are giving plenty of eggs.

A COMPARISON OF EGG AND MUTTON VALUES.

The Los Angeles grand jury, in its investigation into the price of eggs, might have extended its work and took in the price of feed. If there is not some sort of compromise so that those who have the flocks can carry them through in fairly good shape, this country is going to pay a long price for eggs for a number of years.

With mutton chops at 35 cents a pound, which I paid myself just a day or so ago, and eggs—that is, fresh eggs—at 50 cents a dozen, any family would be foolish to buy the mutton. Eggs at 60 cents a dozen would be cheaper than mutton, with bone and gristle included, at 35 cents. Six persons could be served with two fresh eggs, either fried or boiled, and with the customary bread and butter and other items have any appetizing, nourishing meal; but just try to portion out one and a half pounds of mutton to six people and see if they would not look twice at the one who served them. A dozen eggs must, according to standard weight, weigh from 22 to 24 ounces, while the butcher man throws the meat at the scales and whips it off again, before you can get your eye peeled; but even if you catch him and make him put it back again he is only obliged, according to law, to give you 16 ounces and maybe four of them are bone and gristle.

These things all need to be shown to the consuming public who take things for granted.

FORMULA FOR LICE POWDER.

Please print a formula in your next issue for lice powder for chickens. As I have a large flock of them, I would like to have one that is not too expensive.—A. Soderquist, San Francisco.

Take flowers of sulphur and sheep dip, mix together carefully and when perfectly dry dust on the fowls. Be careful not to make too strong. Use one ounce of sheep dip to one pound of sulphur.

THREE RABBIT QUERIES.

(1) I have a few rabbits, but do not know how to tell between a male and female. Do you know of any way? (2) Can I breed a mother with a son? Can I breed a sister with a brother? (3) Have you a practical book on rabbit culture, and what is the price?—P. C. P., Westwood.

[Answers by A. F. Petty, San Mateo.]

(1) Any rabbit keeper can tell you. (2) It is always advisable to use a different strain from the does. Inbreeding is not best except you are breeding fancy stock. Do not breed brother and sister. (3) Breeding and Care of Rabbits, price $1, by C. S. Gibson, 1045 W. Warren street, Detroit, Mich., or Western Rabbit Book, 75c, Mrs. C. A. Rickey, 616 Benton Way, Los Angeles.

WHEAT FOR POULTRY.

To the Editor: Is there anything to prevent a farmer selling wheat to a neighbor for poultry feed?—H. R. J., King City.

Nothing except the price and a due regard for the depreciation of your farm if our allies' soldiers cannot get enough wheat to keep on fighting. Patriotism will lead you to fall in line with the Food Administration's plan to have all American wheat made into human food.

POULTRY NOTES.

Eggs sell in Germany for 20 cents each, it is reported.

Rolled oats with too much cobwebs in them for people to eat make capital feed for little chicks.

The main thing with chicks is to keep them busy all the time turning over clean litter.

Turkeys are being shipped on ice this year. Refrigerator cars in place of coops will save 100,000 pounds in flesh, it is said.

Over 1,200 Mammoth Bronze turkeys for breeding comprise the flock of George A. Smith of Corcoran, who selected the best stock he could find in the Eastern and Southern States.

Walter Wall of Linden sold $100 worth of eggs per month from the middle of June to the middle of October from 120 hens. He fed egg-mash, together with eight to nine gallons of skim milk a day. Mr. Wall thinks it pays better to feed skim milk to hens rather than to hogs.

Many orders are already being received by the Tulare Co-operative Poultrymen's Association for hatching chicks to be ordered for spring delivery. President E. George of the Association, who has heretofore tried out White, Brown, and Buff Leghorns and Anconas, has ordered Rhode Island Reds for next year.

Coulson's

The Best Egg Food on the Market

The reason for this is in the great variety of its ingredients, every one of which is bought specially for the purpose, and is not some by-product which has to be gotten rid of. The concentrated portion of the feed is selected, not just for the crude protein which it contains, but for its digestibility.

The result of all this is a healthful, well-balanced feed which will give results.

Send for our free book,

"CHICKENS FROM SHELL TO MARKET"

and full particulars of our method of feeding.

Coulson Co.

PETALUMA, CAL.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

MISSION HATCHERY CHICKS, January, February—R. I. Reds, Barred and White Rocks, Black Minorcas, Anconas, White, Brown, Buff Leghorns; first-class utility stock, well mated; hatched right in our large modern plant. 12,000 chicks weekly. Price and quality talk; see our free circular about them. Mission Hatchery, Box 107, Campbell, Cal.

OUR GEESE AND BRONZE TURKEYS win again; champion sweepstakes special for the best pair of birds in show; for size, vigor and quick maturity, ours are best East or West; stock and eggs in season; also Collie pups; correspondence solicited. John G. Mee, St. Helena, Cal.

SPRING CHICKS—We are booking orders now; we start our run in January; Rhode Island Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. Remember, order early. Campbell Poultry Ranch, Campbell, Cal.

SPRING CHICKS—We are booking orders now. S. C. White Leghorn, only selected and fully matured stock that is bred to lay used in the breeding pens, which assures strong and vigorous chicks. $12 per 100, $100 per 1000. H. A. Schlotthauer, Route A, Exeter, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.; large yearling hens; young birds of both sexes; egg orders now being booked.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; choice cockerels. Fairmead Poultry Farm, Fairmead, Cal.

MAMMOTH BRONZE TURKEYS FOR SALE—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

BUFF ORPINGTONS, Buff Leghorns, Bourbon Red Turkeys. Breeding stock. The Ferris Ranch, Route 2, 144D, Pomona, Cal.

Remember Tomorrow

Upon baby chick's health and strength NOW depends the sturdy growing youngster of tomorrow.

Upon proper nutrition NOW depends its vigor in later years. Future success is too important for you to take chances with improper feeding.

Play safe and pin your faith to

BESGRADE MILK MASH

It's a recognized standard among successful poultry raisers, it is pure, wholesome, dependable and economical.

Let us send you free feeding instructions.

Great Western Mills

9th and Alameda Street

LACTEIN==a TONIC and a FOOD

FOR CHICKENS OR HOGS

Lactein is pure fresh buttermilk, with the water taken out, then processed and modified so it will keep in any climate indefinitely. It makes healthy, vigorous fowls, more weight, firmer flesh and more eggs. One gallon of Lactein is equal to 40 gallons of the best buttermilk. For sale by dealers or shipped prepaid on receipt of price.

52 gallon barrels at 70c per gal., $36.40 per barrel.

25 gallon ½ barrels at 75c per gal., $18.75 per bbl.

10 gallon kegs at 80c per gallon, $8 per keg.

5 gallon kegs at 85c per gallon, $4.25 per keg.

MONEY BACK IF NOT SATISFIED.

LACTEIN FOOD COMPANY

HEARST BUILDING, SAN FRANCISCO, CAL.

Mrs. Best's Letter.

THE Y. M. C. A. IN THE WAR ZONE.

My Dear Friends: By the time this reaches you the first big drive of the Y. M. C. A. to raise $35,000,000 will be over, but that does not mean that subscriptions will not still be welcome. Thousands of country boys are in the camps and with our army in France and there is no way in which you can do as much for them as by supporting the great work of the Y. M. C. A. We cannot do much to improve their daily life except with gifts of food, tobacco, sweaters, etc., but the Y. M. C. A. has undertaken the great task of amusing and improving the soldier's spare hours and by contributing to that work we are helping our boys in a way that they need. By reason of different moral standards in France, many fine young country boys are for the first time in their lives meeting temptations of wine and women they never encountered at home.

The Y. M. C. A. is following the men wherever they go, providing buildings or tents to serve as club houses, furnishing writing paper, good reading, music if possible, and religious services several times a day. A prominent Y. M. C. A. worker made the statement at a recent meeting that often the morning religious meeting will be Catholic, the noon one Jewish, while in the evening the service will consist many times of the singing of Gospel hymns.

These huts, as they are called, are found at all camps, and the work that is done covers a large field. There are classes in languages, concerts, moving pictures, and professional entertainers are secured when possible. Near the front, in a Y. M. C. A. dugout, will be found hot drinks and boxes of biscuits and tobacco that are furnished the men just before an attack. It is the only touch of home the boys have, and if we want our boys to have that help in their time of need we must give and give liberally to the Y. M. C. A. fund.

Perhaps you would be interested to know that on the campus of the State University at Berkeley there has been $40,000 raised by student subscription—they hope to make it $50,000. That meant real sacrifice for some of those young people, the giving up of a new dress or suit, and a careful curtailing of unnecessary expenses. ROSABELLA BEST.

HEROIC WOMEN OF FRANCE.

[By Dr. Alonzo Taylor.]

My words are not powerful enough to do even scanty justice to the most heroic figure in the modern world and of ages past—the woman of France.

Of the healthy men who are not engaged in the military service in France, practically all are engaged either in transportation of or in the manufacture of munitions, leaving the agriculture absolutely to the women. Not only this, but they have stepped into the place of work animals; you can go into any section of France today and see women of magnificent, noble womanhood hitched to the plow and cultivating the soil. All of the agriculture rests upon their shoulders. The home, always an extremely efficient home, maintains a few old men, the wounded, and the tubercular.

Now, conditions being as they are, does it lie within the heart of the American people to preserve and hold to every convenience of our life at the expense of adding an additional burden to the womanhood of France? This is the exact question that is involved in our substitution of other cereals in place of wheat. The women of France must be enabled to hold up the morale of the French soldier until next spring. The morale of the house decides the morale of the soldier in the fighting line. We can do this by giving them the greatest possible freedom in their food supply, and of this wheat is the chief factor.

THE HOME CIRCLE

FOOD VALUES OF MILK AND CHEESE.

Average milk at 60 degrees F. weighs 1.029 to 1.034 times as much as distilled water. It consists of 87½ per cent water, protein in the form of casein 2.4 per cent, protein in the form of albumin 0.7 per cent, fat 3.7 per cent, sugar 5 per cent, ash 0.7 per cent. The albumin in milk is similar to that in the blood. Milk contains all of the four classes of nutrients adapted for human food—proteins, fats, carbohydrates, and minerals—in more nearly to proper proportion to serve as a complete food than any other natural food material.

Coagulation of milk by rennet for cheese leaves nearly all the sugar and albumin in the whey. Cheese is one of the most concentrated of foods on the average. Over one-fourth its weight is protein, one-third fats, and one-third water. A pound of cheddar cheese contains nearly all of the protein and fat of a gallon of milk and has nearly the same food value as two pounds of fresh meat, two pounds of eggs, or three pounds of fish. Digestion experiments have shown that there is very little difference in digestibility of cheese at various stages of ripening, but if not chewed thoroughly the digestive juices do not penetrate or digest.

WORTH A MILLION DOLLARS AND DOESN'T COST A CENT.

The thing that goes the farthest towards making life worth while,
That costs the least and does the most, is just a pleasant smile,
The smile that bubbles from a heart that loves its fellow-men
Will drive away the cloud of gloom and coax the sun again.
It's full of worth and goodness, too, with manly kindness blent,
It's worth a million dollars and doesn't cost a cent.

There is no room for sadness when we see a cheery smile;
It always has the same good look, it's never out of style.
It nerves us on to try again when failure makes us blue,
The dimples of encouragement are good for me and you.
It pays a higher interest, for it is merely lent—
It's worth a million dollars and doesn't cost a cent.

A smile comes very easy—you can wrinkle up with cheer
A hundred times before you can squeeze out a soggy tear;
It ripples out, moreover, and to the heart strings gives a tug,
And always leaves an echo that is very like a hug.
So, smile away. Folks understand what by a smile is meant,
It's worth a million dollars and doesn't cost a cent.

—Baltimore American.

Pictures from Home

OVER there, with thousands of miles of sea and land between them and home, are Our Boys, smiling and fighting—fighting with bullets, against a dogged foe; with smiles, fighting homesickness and dread monotony.

It's a part of the nation's job to-day to keep those boys cheerful, to hold fast the bonds between camp and home, to make light hearts and smiling faces—and these things pictures can help to do—pictures of the home folks and the home doings, pictures of the neighbors, pictures that will enliven their memories of the days before the war—simple Kodak pictures, such as you can make. These can help.

Kodak catalogue, free at your dealer's or by mail.

EASTMAN KODAK COMPANY

390 State Street Rochester, N. Y.

RISEN CORNBREAD FOR SUPPER.

The spoon breads are good for supper and always make a substantial dish with a meat stew. When company is coming or you want to surprise the family, try risen cornbread for supper. Do not attempt it for breakfast, because meal ferments so rapidly with yeast that the product is likely to be sour by morning. One cake compressed yeast, 2 cups sweet milk scalded and cooled, 2 tablespoons brown sugar, 2 tablespoons lard, 2½ cups white cornmeal, 1 cup sifted flour, 1 teaspoon salt, 2 eggs well beaten. Dissolve yeast and sugar in lukewarm milk and add melted fat. Stir in the cornmeal, flour, salt, and add well-beaten eggs. Beat thoroughly. Fill greased bowl two-thirds full. Set to rise in a warm place for about an hour. Be careful that it does not overrise. It should be baked as soon as light. The baking will require from twenty to thirty minutes, according to thickness of pone.

NEW PUMPKIN RECIPES.

1917 Pumpkin Pie—One cup molasses, 1 quart cooked pumpkin, grated peel 1 lemon, ½ teaspoon each nutmeg, cloves and cinnamon, 4 eggs. Heat the molasses and stir into the pumpkin; add the seasoning and beaten yolks of the eggs. Mix well; add the stiffly beaten whites of the eggs. Bake in a pudding dish. Serve cold. Mashed sweet potato may be used in place of the pumpkin if thinned with one and a half cups of milk.

Pumpkin Pones—Two cups cornmeal, 2 cups stewed pumpkin, 1 teaspoon salt, 6 tablespoons syrup. Press pumpkin through a ricer. Mix with other ingredients and blend well. Mold with the hands into small pones and bake in greased biscuit tin until a rich brown about thirty minutes. If too moist to mold well, add more cornmeal.

SCALLOPED FISH AND HOMINY.

Place in a baking dish alternate layers of boiled or steamed hominy (hulled corn) seasoned to taste, and minced fish with thickened milk sauce. Have a layer of fish on top and sprinkle over it bread crumbs. Place in oven to heat thoroughly and brown the top. Rice, macaroni, or potatoes may be used in this recipe in the place of hominy.

WATER SPOTS IN WOOL AND SILK.

Some silks and wools are spotted by water. A satisfactory method for removing such spots is to dampen the entire material evenly and press it while still damp. Either sponge the material carefully with clean water or shake it in the steam from a briskly boiling tea kettle until it is thoroughly damp, then press it.

YOUR SUGAR

in this Combination Order costs you but

4c lb.

Ask for Combination No. 12

20 lbs. Sugar (fine dry granulated)	80c
2 lbs. Sago, Tapioca or Pearl Barley	25c
3 lbs. Rice or 2 cans Carnation Milk	25c
2 cans Tomato Puree or 6 bars best Laundry Soap	30c
2 cans Oysters or 2½ lbs. Rice or Barley	25c
2 lbs. Tea (any flavor) or 3 lbs. fancy Coffee	$1.00
1 large bottle Flavoring Extract or 2 lbs. best Coffee	75c
2 cans Sliced Peaches or 1 bottle Tomato Catsup or Worcester Sauce	25c
2 cans Sardines or 2 cans Pork and Beans	25c
2 pkgs. Washing Powder or 2 cans Cleanser	10c
9 pkgs. Jello or 1 No. 3 pail pure Lard or 1 medium Crisco	80c

Total for all unchanged $5.00

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This book should be in the hands of every home lover in the Southwest. We will gladly mail a copy to you. Send your name and address today to

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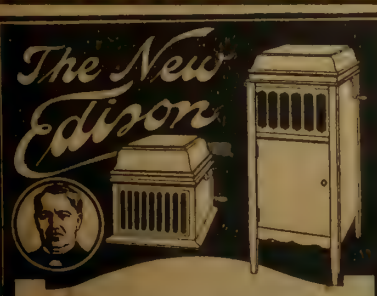

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Good Health.

[By H. E. Pastor, M. D.]

Wheat the Peerless Grain.

Wheat figures very prominently in the public eye at the present time, and we are officially exhorted to grow all we can, use as little as we can, and ship what we may thus save to our allies in Europe, who are fighting battles which are jointly theirs and our own. Wheat contains all the elements essential to human nutrition, and with butter or other digestible fat forms a perfect balanced ration. One of the peculiarities of wheat whereby it outranks all others as a bread-making grain, is that it contains enough gluten to impart to the dough an adhesive elasticity ideally adapted to the purpose. The "raising" or leavening property of dough made from wheat flour is dependent on the viscous elasticity of the mass, which enables it to hold the gas evolved from the yeast, which expands when exposed to a gentle heat and so forms a "light" loaf. Gluten is a derivative of the protein content of wheat, which varies in the different varieties, and which, in fact, determines the wheat's quality. The average protein content of wheat is about 12¼ per cent, and about five-sixths of this protein is gluten. Incidentally, it may be remarked that bran, or the outer husk of wheat, ordinarily discarded in the milling, contains the larger percentage of protein. It can hardly be doubted, therefore, that whole-wheat bread is preferable to the white or bolted article, as being more nutritious and wholesome. In the whole family of cereals there is no adequate "substitute" for wheat as a tissue-building food, and the many makeshifts latterly urged for such are justifiable as an emergency measure only.

Is There Any Cure for the Tobacco Habit?

Yes; we think there is. Let it alone. I am very dubious of the possibility of destroying the craving for tobacco by drug treatment. I might enumerate several alleged remedies for this addiction, but think they are more or less illusory, and that the only remedy is a resolute exercise of will power to abandon the habit. I have known this remedy to succeed in a number of cases. Where it has failed it has been due to the weakness of the patient rather than the remedy. In my own case I was cured of the tobacco habit an hour or two after I smoked my first cigar. I never ventured to go through that horrible ordeal again.

California Canned Tomatoes High-Grade.

The State Bureau of Foods and Drugs states that this season the deliveries of tomatoes to the canneries are a great improvement on those of previous seasons, very few moldy or sour tomatoes being offered, and these were quarantined by the food inspectors. It is said that in one or two instances attempts have been made to use inferior tomatoes in the manufacture of tomato puree or paste. The health inspectors are vigilant, however, and court action is threatened if handlers prove obstreperous.

He who lengthens his nights shortens his days.

The FOOD of The HOUR

is the food that proves its economy on a basis of food value—the greatest amount of nutriment at the least cost.

Ghirardelli's Ground Chocolate is an ideal blend of two ideal nutritious foods—cocoa and sugar.

By using Ghirardelli's Ground Chocolate freely and wisely—in place of other less nutritious and more expensive foods—you will save money and aid in food conservation.

Ghirardelli's
Ground Chocolate

Comes in ½ lb., 1 lb. and 3 lb. cans.

D. GHIRARDELLI COMPANY

Since 1852 San Francisco

For your bathroom

Chases the chills in a jiffy—you bathe or shave in comfort. Portable. Fuel consumed only when heat is needed—no waste. No smoke or odor.

STANDARD OIL COMPANY
(CALIFORNIA)

HEAT WITH PEARL OIL

PERFECTION OIL HEATER

SAN FRANCISCO.

San Francisco, November 28, 1917.

WHEAT.

The wheat market remains unchanged, with the demand at a standstill. The expectation of rain has been disappointed and until it comes no movement in any of the grain markets is expected.

(Federal Grain Corporation quotations for bulk grain. Sacked grain 7 cents per hundred more.)

Sonora wheat	$3.43
Northern Club	3.43
California Club	3.43
Northern Bluestem	3.50
Northern Red	None offering
Russian Red	None offering

BARLEY.

The barley market is without life and nothing but a good rain will start any movement in this grain.

Shipping, per ctl	$2.47½@2.50
Brewing	Nominal
Choice feed, per ctl	$2.47½@2.50

OATS.

Some inquiry for oats developed during the week, but no sales are reported on the street. Like all the grains rain is needed to cause any movement in oats. One grain man expressed the opinion that the showers of last night may stimulate inquiries after Thanksgiving day.

White Feed, per ctl	$2.65@2.75
Red Feed, per ctl	2.50@2.65
Red Seed, per ctl	3.10@3.25
Black Oats	3.00@3.50

BEANS.

Colored beans maintained their advance of last week, but the general tendency of the market was weak and downward. Blackeyes, large whites, limas (recleaned) and pinks all scored lower prices, and those which maintained their former quotations were weak and showed an inclination to slump off. Lack of demand is given as the cause of the weakness of the market, but it is not anticipated that this lack will be maintained after the coming holidays.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl	$9.25@9.50
Blackeyes	8.25@ 8.40
Cranberry beans	**12.00@12.25**
Horse beans	5.75@ 6.00
Small whites (south)	**11.75@12.00**
Large whites	11.25@11.50
Limas (south, recleaned)	12.25@12.50
Pinks	8.10@ 8.25
Red kidneys	**12.75@13.00**
Mexican reds	**8.75@ 9.00**
Tepary beans	**9.00@ 9.25**
Garbanzos	**7.50@ 7.75**

CORN.

There is nothing new in the corn situation. Sufficient arrivals of Egyptian corn are coming in to take care of the market, but quotations are unchanged.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	**$4.00@4.10**
California, sacked	**None offering**
Milo maize	**None offering**
Egyptian	**$3.00@3.25**

HAY.

Receipts for hay during the past week showed an increase, 1465 tons coming in against 1009 tons during the previous week. As has been the case for some time past a large amount of these receipts were for government requirements, and came in in cars obtained by the Government. The car situation shows no improvement, and as it is becoming late to take chances of shipping in gondola cars very little hay may be expected until the transportation problem is improved. The interior demand is better. Trade is very light in the city. At the same time the market is well maintained. As soon as these Government contracts can be cleared up, which promises to be shortly, it is hoped that more cars can be furnished for general shipments. The whole hay situation is dependent principally upon transportation.

Wheat, No. 1	$24.00@26.00
No. 2	21.00@23.00
Tame oats	26.00@27.00
Wild oats	21.00@24.00
Barley	21.00@24.00
Alfalfa	21.00@25.00
Stock hay	18.00@20.00
Straw, per bale	60@90c

FEEDSTUFFS.

The market for feedstuffs remains dead and no change is expected until after the rainy season sets in. There is no demand, and no sales are reported. Prices are nominal.

(Per ton, San Francisco.)

Beet pulp, per ton	**None offering**
Alfalfa meal, per ton	**$29.00@31.00**
Bran, per ton	41.00@42.00
Oilcake	None offering
Coconut cake or meal	None offering
Cracked corn	85.00@86.00
Middlings	52.00@55.00
Rolled barley	**53.00@54.00**
Tankage	None offered
Rolled oats	**59.00@60.00**
Rice middlings	None offered
Rice bran	32.00@35.00
Shorts	**45.00@47.00**

POTATOES, ONIONS, ETC.

All potato quotations were maintained this week at last week's figures. Tomatoes, however, showed a decided advance, selling at from $1.00 to $2.00. Celery, also, brought a higher figure, the best bringing $3.00 a crate and inferior celery but little less. Most of the celery is of a good grade. Peas and string beans reacted from last week's high figures, although wax were stronger and maintained last week's best quotations. Lack of demand weakened the market for onions and they sold at a lower level than the previous week.

Asparagus	None
Peas, large	10@12½c
String beans, per lb	8@10c
Wax beans, per lb	8@10c
Hubbard squash, per sack	$1.00@1.25
Summer squash, per box	**Nominal**
Cucumbers, per box	Nominal

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

Celery, per crate	$2.75@3.00
Tomatoes, per lug box	1.00@2.00
Potatoes, Salinas	3.10@3.25
Idahos	2.25@2.40
Oregon	2.25@2.45
Rivers, per ctl	2.15@2.40
Sweets, per lb	2½@2¾c
Onions, yellow, per sack	$1.90@2.10
Reds	None offering
Garlic, per lb	5½@6c

POULTRY.

Shipments arriving up to last Saturday brought higher figures than today's quotations. But the market was flooded this week with late arrivals, especially on Wednesday, and this caused lower prices than were expected for this time of the year. If the growers can regulate their shipments more evenly during the week before Christmas, especially so that there shall not be so many arrivals on the last day, they will average better prices than they will get by flooding the market at the last moment. Geese were in demand as a substitute for the more expensive turkey.

(Quotations are for stock sold on commission. Net returns to shippers are about 4c under quotations.)

Turkeys, live, per lb., young	28@30c
do, dressed, old	29c
Broilers, 1½ to 2 lbs	35@40c
do, 1¼ lbs	40@45c
do, under 1¼ lbs	40@45c
Fryers	30@32c
Hens, extra, per lb., colored	28@29c
Small leghorn	25@26c
Smooth young roosters, per lb. (3 lbs. and over)	28@30c
Old roosters, per lb	18@20c
Geese, per lb	18@20c
Squabs, per lb	**43@45c**
Ducks	21@23c
Old	18@20c
Belgian hares (live)	18@20c

BUTTER.

For the past week dealings in butter have been confined entirely to extras, there not being enough of the prime firsts to make a market. On the last day butter dropped a cent because of good shipments earlier in the week and the fact that a holiday would intervene before the next meeting of the exchange, thus bringing accumulated shipments to Friday's market.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43	42½	42½	43	43½	42

EGGS.

Like the butter market, two of the grades of eggs were without quotation this week, as the receipts ran almost exclusively to the other grades. There was a gradual recession in prices throughout the week and on the last day a drop of 2c in extras and 1½c in extra pullets.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	57½	56½	55	56	56½	54½
Extra pullets	55	52½	51	51	50½	49

CHEESE.

The cheese market was dull and inactive. No change in quotations were recorded at the exchange.

Y. A.'s	25c
Fancy California Flats, per lb	23c
Monterey cheese	18@26c

FRESH FRUITS.

Apples dominated the fresh fruit market. The supply is good and the demand adequate to take care of all receipts. First-class red apples are not plentiful and they are carrying a higher price than last week.

Apples, per box	$1.00@1.75
Pears, per box	1.00@3.00
Cantaloupes, per crate	Nominal
Apricots, per box	None
Peaches, per box	None
Nectarines	None offering
Figs, per box	Nominal
Watermelons, per doz.	Nominal
Grapes, Malaga, crate	$1.00
do, Seedless, lug boxes	Nominal
do, Muscats, crate	None
do, Verdell	$1.00@4.25

CITRUS FRUITS.

Good navel oranges are now coming on the market and are selling readily at $3.00 to $4.00. Otherwise the citrus fruit market is unchanged. The demand continued good for both oranges and lemons, but it is weak for lemonettes. The demand is increasing for good grapefruit at the present prices and the supply is easily taking care of it.

Oranges:	
Navels	$3.00@4.00
Valencias, fancy	3.50@3.75
Valencias, choice	2.25@3.00
Lemons:	
Fancy, per box	6.00@7.00
Choice	5.00@6.00
Standard	3.50@4.50
Lemonettes	2.50@3.00
Grapefruit, fancy, new	3.00@3.50

DRIED FRUITS.

The market for dried fruits is easier and lower. This is due to the difficulty of getting permits to make foreign shipments, and the difficulty of Eastern shipments on account of shortage of transportation. Apricots are practically off this market and no figure is quoted for them. Dried apples and prunes both show a slight decline in price.

(Net to growers, bulk basis, f. o. b. San Francisco.)

Apples, new crop	13½@14½c
Apricots, per lb	Nominal
Figs, black, 1917	6½@ 7½c
do, white, 1917	8½@10½c
Calimyrna, 1917	15½@16½c
Prunes, 4-size basis, 1917	6½@8c
Pears	6½@11½c
Peaches, 1917	9½@10¾c

BERRIES.

The receipts of berries continues light and quotations for strawberries are unchanged. A shortage of raspberries advanced the price of this berry $3 a chest. The raspberry market is considered drawing to an end.

Strawberries, Banners, chest	$8.00@10.00
Nicomas	9.00@11.00
Longworths	None
Blackberries, per chest	Nominal
Raspberries, per chest	$9.00@11.00
Gooseberries	None

HONEY.

There is no change in the situation of honey. The demand at reasonable prices is excellent, but the supply is very light.

Comb—	
Water white	15@16c
Light amber	13@15c
Amber	11@13c
Extracted—	
Water white	Nominal
Light amber	13@15c
Amber	11@13c

RICE.

The Pacific Rice Growers' Association has taken steps to hold growers down to a minimum price contract and to an agreement that all crops shall be sold through that organization. Whether they can succeed in this or not is now being tested in a Yolo county suit.

Paddy	$3.40@3.50
Clean Run No. 1 California	$6.50

LOS ANGELES.

Los Angeles, November 27, 1917.

BUTTER.

There was less doing in this market the past week. Receipts held up fairly well and extra creamery met with good demand throughout the week. Low grades, however, were slow sale and weak. Cold storage holdings increased last week 1,730 pounds, while the same week last year cold storage holdings were reduced by withdrawals of 40,502 pounds. The steadiness of the San Francisco market helped the trade here and Chicago was up ½c for the week and New York was 1c higher on extras, which had its influence and caused traders to maintain a steady market. Receipts for the week, 281,100 pounds, against 260,000 pounds the same week last year.

We quote:

California extra creamery	42c
California prime first	41c
California first	40c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	42	43	42	42	42	....
1916—						
Extra	38	38	37	37½	37	38

EGGS.

Light arrivals and the Thanksgiving trade at hand influenced a steady market the past week. Buying was only for immediate use. Withdrawals from cold storage during the week were 2,790 cases, against 2,960 cases same week last year, leaving the cold storage holdings now less than 30,000 cases and much the same as this time last year. The Eastern markets strengthened up a little during the week, which encouraged holders and helped maintain a steady market. Receipts by rail the past week, 487 cases, against 683 cases same week last year.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	55	54½	54	54	54	....
Case counts	50	50	50	50	50	....
Pullets	48	48	48	48	48	....
1916—						
Case count	50	50	50	50	50	48

POULTRY.

Very good demand was had the past week for all kinds of poultry, stimulated by the Thanksgiving trade. There were several cars of Eastern poultry in during the week, which made up for the loss by light local arrivals. Hens are 1c lower, while all else remains steady. While turkeys are held firm for the moment, they are not selling very freely at the high prices.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs	33@34c
Fryers, 2½ to 3 lbs	27c
Hens over 4 lbs	25c
Hens under 4 lbs	21@22c
Ducks	22@23c
Geese	18c
Roosters, 3 lbs. up (soft bone)	25c
Turkeys, heavy, 12 lbs. and up	28@29c
Turkeys, light	26@27c
Squabs, live, per lb	35c
Dressed, per lb	45c

VEGETABLES.

There was less life to the market the past week and many prices show declines. Potatoes are lower, both local and northern. Onions steady but demand light. Tomatoes weak and market dull. Cabbage firmer but dull. Celery steady and best in fair demand. Peppers unchanged. Sweet potatoes slow sale and weak. Cauliflower coming in freely and selling lower. Hubbard squash and pumpkins steady and in fair demand. Lima beans and string beans slow sale and weak.

We quote from growers:

Potatoes, Northern, per cwt	$1.75@2.00
do, local, per cwt	1.50@2.00
do, Idaho, per cwt	1.65@1.75
Onions, Yellow, per cwt	2.25@2.50
do, White, per cwt	2.00@2.25
Garlic, per lb	3@4c
Tomatoes, per lug	65@75c
Cabbage, per 100 lbs	$1.00
Lima beans, per lb	7@7½c
Bell peppers, per lb	4½@5½c
Chile peppers, per lb	3½@4c
Celery, per crate	$2.00@2.75
Eggplant, per lb	3@4c
Sweet potatoes, per cwt	$2.25@2.50
Cauliflower, per crate	1.50@1.75
Hubbard squash, per 100 lbs	1.00
Pumpkins, per 100 lbs	75c
String beans, per lb	6@8c

FRUITS.

This market the past week was without feature. Offerings only moderate and buying without life. Apples meeting with a better demand than anything else and the tone of the market firm. Pears also steady and in fair demand. Only cold storage grapes now on the market, so we drop quotations. Japanese persimmons coming in freely and meeting with fair demand. Quinces out of market. Christmas melons are the only ones worth quoting. They are selling fairly at quotations.

We quote from growers:

Apples—	
Bellefleur, 4-tier	$1.30
Jonathan, 4-tier	$1.75@1.90
Pears, per lb	4@6c
Local apples, per box	90c@$1.00
Christmas melons, per lb	1½c

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, November 28, 1917.

As the general run of the offerings during the past week has been below the average in quality, the prices have ruled easier, except on fancy stock, which caused active bidding, with very high prices resulting. Though the weather has been extremely cool and in some markets stormy, the demand has been in excess of the supply. Offerings have been light in all markets and the quantity will be considerably reduced during this next week. Shipments have practically ceased in all sections, with not over forty or fifty cars remaining in the State.

Spanish Almerias have been arriving in light supply in New York, with the widest range in prices ever known in New York, stock selling from 50c to $12 a barrel. It is not likely that very many more shipments will be brought over to this country, as the storage space on board ships is too valuable for necessary commodities. Following are averages for the week:

New York: Emperor grapes (crates), $1.12; Emperor grapes (drums), $4.00; Tokay, $1.03; Cornichon, $1.13; Malaga, $1.39.

Boston: Tokay grapes, $1.01; Emperor, $1.16; Cornichon, $1.15; Malaga, $1.39.

Chicago: Malaga grapes, $1.16; Cornichon, $1.30; Emperor, $1.23; Malaga, $1.37.

Total shipments for the week ending November 22: 352 cars grapes, 5 pears, 2 miscellaneous. Total shipments to date, 1917: 24,204 cars. Total shipments to date, 1916: 18,002 cars.

Special Citrus Market Report

Los Angeles, November 27, 1917.

Shipments of citrus fruits from Southern California from November 1 to 25: Oranges, 1563 cars, and lemons, 222 cars. Same time last year: Oranges, 626 cars, and lemons, 421 cars. From Central California from Nov. 1 to 23: Oranges, 28 cars, and lemons, 23 cars. Same time last year: Oranges, 338 cars, and lemons, 80 cars. There has been little improvement in the market situation of citrus fruits the past week. On the eastern markets good sound Valencias of medium sizes met with good demand and brought a little more money. Large sizes, however, were dull and weak. A good many Valencias arriving in bad condition, being delayed in transit by poor railroad service. This is a feature that will have to be taken into account this season. While there are many more old Valencias on the market than this time previous years, and there are still more to go forward, the early navels shipments are going to be much lighter this year than last. Some early navels have commenced to move to market. Shipments from Central California the past week reaching 28 cars. If the same ratio of shipments between this year and last continues, the market will absorb the increased supply of Valencias at good prices, as the total shipments by the first of the year will not vary much from a year ago, while the late shipments will show a marked reduction. Locally the market remains the same as at our last. Trade is taking hold of both oranges and grape fruit a little more freely, though prices are no better. Local packers continue to bid 2@2½c per pound for Valencias delivered. Grape fruit 2½@3c per pound delivered. Lemons continue firm and the best in good demand at 3@3½c per pound delivered.

AUCTION SALES.

New York, November 26.—Twenty cars of Valencias sold. Oranges higher on 150s, unchanged on 126s and larger. Valencias averaged $1.90 to $5.55. Lemons, $7.00.

Boston, November 26.—Fourteen cars sold. Market higher on both Valencias and lemons. Valencias averaged $2.00 to $4.40. Lemons averaged $5.35 to $7.35.

Philadelphia, November 26.—Six cars of Valencias and one car of lemons sold. Market unchanged on Valencias of good condition and quality, but lower on poor stock. Unchanged on lemons.

200,000 POUNDS OF BUTTER A DROP IN THE BUCKET.

The announcement that the steamer Sonoma had arrived in this port with a consignment of 200,000 pounds of Australian butter provoked some little comment among California creamerymen and butter handlers. One of the best informed authorities on the butter situation on the Pacific Coast informs the Pacific Rural Press that the arrival of this consignment in our port had absolutely no effect whatever on the price market. The local butter supply is very short owing to the prolonged seasonal drouth and to the fact also that the Government contracted for large quantities of butter on this Coast for army and navy use. Moreover, the bulk of this consignment has already been distributed to remote points in Montana, Oregon, Washington, and other outside points. The quality of the imported article is fairly good, but must be classed as storage butter, as it has been in storage more than thirty days.

Japanese persimmons, pef lb.....3½@7c

WALNUTS.

The Association reports their shipments about finished and the season for good nuts with them is about closed. No more to be had from first hands. An advance of 2c is being offered by belated buyers for good nuts. There are still a good many culls to come forward that will be used for cracking purposes and they are finding a ready market at quotations.

Association prices:

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.90c
Jumbo	24c	17.50c
Culls	6@12c	.....

BEANS.

The market continues draggy and closes the week lower. Trade is holding back and buying very sparingly, waiting for lower prices. The country, however, is not pressing sales.

We quote from growers:

Limas, per cwt	$12.00
Large white, per cwt	11.50
Small white, per cwt	11.75
Pinks, per cwt	8.75
Blackeyes, per cwt	7.50
Tepary	8.00

HAY.

There was more in the past week and with increased offerings buyers held back and firmness noted last week was lost. But while the tone of the market is weaker no actual decline is reported and all choice hay found fair sale, low grades, however, dragged.

We quote f. o. b. Los Angeles:

Barley hay, per ton	$25.00@26.00
Oat hay, per ton	26.00@27.00
Alfalfa, northern, per ton	24.00@25.00
Alfalfa, local, per ton	25.00@26.00
Straw, per ton	9.00@10.00

COTTON.

Freer marketing and realizing by many longs in New York caused a decidedly weaker feeling in the market the past week. Both the eastern and southern markets closing lower than a week ago. In New York Monday spot was 29c and in New Orleans middling was quoted at 22.68c.

Special Livestock Market Report

San Francisco, November 28, 1917.

CATTLE—This is a dull week in the cattle market. Meatless Tuesday, turkey Thursday, and fish Friday materially restrict demand for beef, as well as for pork and mutton. Most of the cattle coming this way are Nevada stock and their condition averages fairly well. Last week's quotations stand.

Steers—
- No. 1, weighing 900@1200 lbs..9¼@9½c
- No. 1, weighing 1200@1400 lbs..9¼@9½c
- Second quality .....8¾@9 c
- Thin undesirable .....6 @8 c

Cows and Heifers—
- No. 1 .....7¼@7½c
- Second quality .....6¾@7 c
- Common to thin .....4 @6 c

Bulls and Stags—
- Good .....5¾@6¼c
- Fair .....5 @5½c
- Thin .....4 @4½c

Calves—
- Lightweight .....9 @9¼c
- Medium .....8¼@8½c
- Heavy .....7½@7¾c

SHEEP—The high-price wool market continues to dominate the mutton situation. Few farmers are parting with their sheep, especially if good breeding stock, unless forced to do so by feed shortage. The consumptive demand is not heavy. We quote:

Lambs—
- Milk .....15 @16 c

Sheep—
- Unshorn wethers .....12 @12½c
- Unshorn ewes .....9½@10 c
- Shorn sheep .....1½@2c less

HOGS—The local situation has not altered through the week. The quality of the supply compares well with recent arrivals, and easily meets the demand. In the East the situation is somewhat interesting. The supply there is light in all markets, and packers, who have large and urgent Government contracts to fill, have been forced to advance prices in order to induce a movement of volume their way. An advance is noted in the East. We note no change in local quotations.

Hogs—
- Hard, grain-fed, 100@150.....14½c
- Hard, grain-fed 150@300.....15½@16c
- Hard, grain-fed, 300@400.....15@15½c

Los Angeles, November 27, 1917.

CATTLE—A steady market and fair demand for all good killing steers. Some fed cattle are coming to market and being in good condition help to hold the market up. Old cows continue dull and weak. A good many coming in.

Per cwt., f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt	8.00@9.00

HOGS—Receipts not heavy and what hogs coming in of good quality, which with the cooler weather, caused killers to take hold more freely and last week's prices were fully sustained. While the tone of the market was firm there was no disposition to advance prices as the pork market continues dull.

Per cwt., f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs.	$13.00@14.00
Mixed, 200@250 lbs	14.50@15.50
Light, 175@200 lbs	14.50@15.50

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—Offerings light and so was the demand the past week. The high prices causing killers to hold back and buy sparingly. Prices remain steady.

Per cwt., f. o. b. Los Angeles:

Prime wethers	$ 9.50@11.00
Prime ewes	10.50@11.00
Yearlings	10.50@11.50
Lambs	14.00@15.00

North Portland, Ore., Nov. 26, 1917.

The week's opening market was pretty well sprinkled with bright spots. The string of stock entering the yards was small for the early week's market and the amount of quality stuff was very small, but everything in the yards moved briskly, extending to the limitations of the supply which was about 1000 cattle, 2400 hogs and 100 sheep.

CATTLE—Regarding prices, best steers and best cows and heifers and canners were just a little bit stronger, while medium steers and medium cows were going at steady prices along with all other classes in the cattle section. The following quotations obtain in the cattle department: Medium to choice steers, $9.50 to $10.00; common to good steers, $7.25 to $8.25; choice cows and heifers, $6.75 to $7.75; canners, $3.00 to $5.25; bulls, $4.50 to $6.75; calves, $7.00 to $9.50; stockers and feeders, $4.00 to $7.50.

HOGS—The hog department showed considerable activity and strength this morning. Prime heavies and prime lights switched places as choice of the buyers, presumably on account of advanced prices of hog products and a decrease in the demand for block hogs. Quotations from the day's trading are: Prime heavies, $16.45 to $16.60; prime lights, $16.35 to $16.50; pigs, $14.00 to $15.50.

SHEEP—The conditions continue just about steady in the sheep market. The following prices generally obtain: Western lambs, $13.50 to $14.00; Valley lambs, $13.00 to $13.50; yearlings, $12.00 to $12.50; wethers $11.75 to $12.25; ewes, $8.00 to $10.00.

DRIED APPLE PRICES BOOMING.

Last year dried-apple driers of the Watsonville district bought culls at $12 to $14 per ton, according to E. Edmondson, who has fifteen acres of apples there; and they sold the dried apples at five to six cents all through the season. This year they began selling at nine and ten cents before they began to dry. Now the prices are fifteen and sixteen cents. The driers are paying about $20 for culls and $24 for orchard run. Whole orchards have been sold to the driers this year and the apples shaken off for lack of labor. At that, Mr. Edmondson says it pays better than the three carloads of fresh apples he has shipped and sold in Kings county. Mr. Edmondson has delivered his apples to the Association, which charges $10 per dried ton for handling the apples and pays driers $60 per dried ton for drying them. It is expected that Association members will receive $25 per ton fresh. The early apples dry away about six to one, while the late hard apples (mostly Newton Pippins) dry away about five and a half to one. Two years ago the early apples were sold to Chinamen at $6 per ton.

HIDES AND PELTS.

The life has dropped out of the hide market. Heavies and lights both finding light sale and prices weak. Pelts continue firm and in good demand.

HIDES—Green Salted:
- Heavy steers, per lb.....18c
- Light steers, per lb.....17c
- Kips and calf skins, per lb.....24c
- Bulls and stags, per lb.....15c

PELTS:
- California full wooled, per lb.....25c
- California medium wooled, per lb.....16c
- California short wooled, per lb.....15c

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
August 7	21.00	43.00	25.16	44.00
" 14	26.50	41.66	26.00	43.00
" 21	26.50	41.50	27.95	42.00
" 28	27.25	41.91	28.50	42.00
Sept. 4	30.00	42.10	30.50	41.33
" 11	30.20	42.00	32.00	41.00
" 18	30.41	45.00	31.09	43.00
" 25	30.41	45.00	30.50	45.50
October 2	31.66	44.90	32.16	45.91
" 9	32.91	44.90	32.83	46.33
" 16	33.50	46.25	33.50	47.00
" 23	32.75	45.41	33.00	46.50
" 30	32.59	43.50	33.00	44.83
Nov. 6	32.66	41.41	33.00	42.00
" 13	32.80	40.83	33.00	41.33
" 20	35.25	40.83	35.66	42.22

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
August 7	26.16	42.58	26.00	40.16
" 14	33.08	41.41	31.00	37.08
" 21	33.09	43.33	31.83	42.25
" 28	33.50	43.50	32.00	43.50
Sept. 4	36.13	43.80	32.00	43.58
" 11	37.90	45.08	36.00	44.91
" 18	38.83	47.83	37.00	47.83
" 25	39.75	47.58	38.66	49.50
October 2	39.75	47.00	40.50	50.83
" 9	42.25	47.10	43.16	51.50
" 16	48.50	52.59	49.32	54.50
" 23	47.01	54.83	46.50	56.16
" 30	47.09	56.16	43.33	58.00
Nov. 6	47.66	57.41	45.50	57.80
" 13	49.50	56.25	48.00	55.16
" 20	52.59	56.25	49.50	54.36

Publisher's Department.

"Please renew my subscription as long as Wickson lives. Long live Wickson."—E. E. Cook. So say we all of us. As Prof. Wickson is very cheerful these days, we conclude that he bears out his looks in being healthy and contented. A man of the Professor's temperament never grows old. So we expect to have Mr. Cook as a subscriber for many years.

If our car of paper comes in this week, the Rural Press will again appear as a 32-page paper. If the car does not arrive on time, we will issue a 24-pager next week—and the week following no paper, unless that car of white news does show up. In the meantime the publisher is going to "shuck" the responsibility onto someone else and go to Chicago to attend the International Livestock Show, also the annual meeting of the Standard Farm Papers. Then he is going to take a couple of days off and visit his mother and people at Kansas City. When he gets home he will look around and see if that car of paper arrived—it was scheduled to get here November 1st. We have a sympathetic feeling with the farmer who is trying to ship hay these days.

Old Subscribers Are Our Good Friends.

A little seven-line notice in "Publisher's Department" drew my attention last week. If I am about to be dropped, please be easy about it, for it would mean a whole lot to be cut off from the Rural. Rather than have either fate, dropped or cut off, it is preferable to pay up arrears. Please credit my account $2.50 and continue sending as you have been doing for thirty-five years. Congratulations upon the good, reliable paper you are giving your readers. Very truly yours. L. A. J., Guerneville.

Classified Advertisements

MISCELLANEOUS.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero St., San Francisco.

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ALFALFA HAY—First-class alfalfa hay for sale in carload lots, freshly baled from the stack. Address: Quail Ranch, Pixley, Cal.

WANTED—A second-hand, reversible, 6-ft. disc harrow. State make, price, and condition. S. L. Wadlington, Chico, Cal.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market St., Stockton, Cal.

EXPERIENCED TRACTOR and Caterpillar man wants steady position as repairman or foreman. Box 165, Route C, Hanford, Cal.

COUNTRY LANDS.

WANTED—To hear from owner of good ranch for sale; state cash price, full particulars. D. F. Bush, Minneapolis, Minn.

CENTRAL ALBERTA FARM for sale, going concern, fully equipped, 1,142 acres in one block, clear title, 600 under cultivation, best black loam clay subsoil, all fenced, good buildings, abundant good water, ideal for mixed farming. Owner made fortune on grain. Only one mile from railway station on main line. Elevators and growing town. Cheap for cash; no agents. Address Felix Ohberg, Amisk, Alberta.

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FOR RENT, $300 PER YEAR—Santa Cruz Mountain ranch, 60 to 100 acres under plow; 350 acres grazing, brush, timber; house, barn, etc. Seven miles depot. For particulars address Box 890, Rural Press.

EIGHTY ACRES of Kings County land, six miles from Hanford, all under irrigation, producing corn and alfalfa. Mrs. E. Gallup, Hanford, Cal.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

SEEDS, PLANTS AND TREES.

STRICTLY FANCY SEEDS—Alfalfa, all clovers and grasses, Washington Hybrid No. 143 Seed Wheat ($2.50 per bushel, recleaned). Free Sweet Clover bulletins. Nitro-Cultures for Legumes. Ralph Waldo Elden, Central Point, Oregon.

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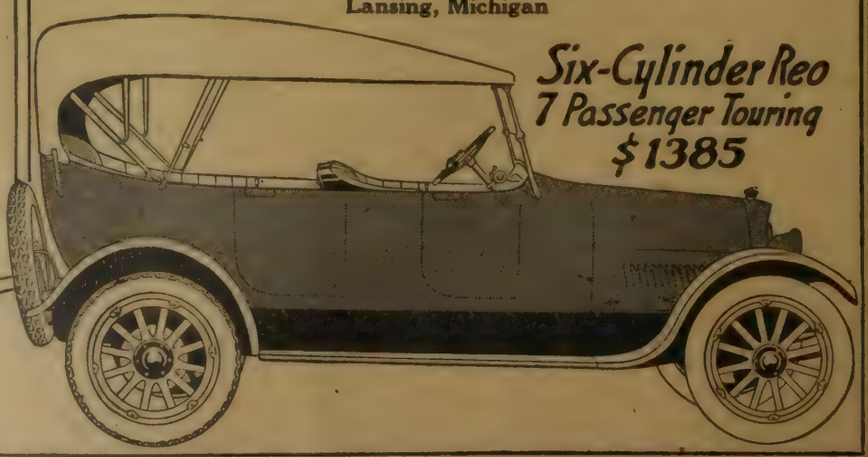

Vol. XCIV—No. 23 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO DECEMBER 8, 1917 LOS ANGELES

7-1-19 Library

Greater Wheat Acreage in California

On What Grounds Can the Claim for Increased Acreage of Wheat in California be Justified?

[Written for Pacific Rural Press.]

AT THIS TIME, when Uncle Sam is making prodigious efforts to increase the wheat acreage of America, wheat growers in unirrigated districts of the Sacramento and San Joaquin Valleys seem to feel that Uncle Sam's appeal must be made on the basis of their patriotism rather than on the basis of the price he has fixed for the 1918 crop. For high as that price is compared with past prices, it barely offsets the increased cost of production.

Two main reasons are found for this attitude, both of which Uncle Sam can remove. The most insistent is that the only dependable and efficient farm labor we have is being taken in the draft or is being taken to supply vacancies left by those drafted from other lines of work or by those who have left their usual work to help in the military and naval preparations.

Machinery Scarce and High Priced.

The labor situation was acute before these dependable workers left the farms, but hope was placed in the multiplication of tractors and tractor machinery. Uncle Sam tried to get iron and steel prices reduced and nominally succeeded. But he took so much of the output that for a while tractor and implement manufacturers were unable to get enough to keep going full force. Even since more of the raw material has become available, its cost to the manufacturer has been so high, due to competition for what Uncle Sam left, that prices of machinery have steadily advanced. That would not be so bad; but when the machines cannot be obtained in time to put in the crops because manufacturers cannot keep up with their orders, the situation puts a distinct damper on prospects for increased wheat acreage. It will be foolish to sow wheat on ill-prepared ground when by waiting and preparing the seedbed a good crop of something else can be grown.

But even some farmers who have tractors and machinery hesitate to increase their acreage materially, because of fear that engine drivers and laborers will be unavailable for the harvest. Many of them will patriotically put their crops in if they can, and hope that somehow labor will be provided for harvest. In some counties engine drivers seem to have had no preference in exemption; and it is not known what the future will be. It is said also that California hired tractor operators do not generally know enough to keep their machines in repair, a condition which the University Farm tractor course is designed to overcome.

Barley Pays Better.

Another leading objection to wheat planting in many districts is the fact that grain farmers whose ranches are good for either barley or wheat feel that they can make more money from barley if it stays at present prices. This is no more mercenary than those captains of industry who magnanimously consent to allow Uncle Sam to reduce their profits to 9 per cent on capital invested, or other guaranteed percentages. The grain grower who can make more money out of barley will scarcely, at that, make as much profit as our captains (and others) of industry are guaranteed. Yet many farmers plan to increase wheat acreage and reduce barley acreage for patriotic reasons alone. In doing so they take far greater risks than the captains of industry; for, in addition to facing dangers of a dry season, rust, smut, shrivelling and beating out of the grain by wind, labor and machinery shortage, with consequent inability to harvest the crop, they are facing a fixed price for their product while the captains have a fixed percentage of profit, with consumers paying all the losses. Uncle Sam could get more wheat in place of barley and at the same time greatly increase the efficiency of farm labor and all other man power by forbidding use of barley or other feedstuffs in the making of beer. That feedstuff could then be made into the meat and fat that Uncle Sam and our allies need so much.

GRAIN GROWERS on unirrigated ranches seem generally to feel that there will be more money in barley or other grain, considering the exacting nature of wheat, its lower yield, and the greater risk of disease and weather. Many are, however, increasing wheat acreage, charging the difference to patriotism. In irrigated grain districts, especially the Tulare Lake region of Kings county, the fixed Government price, artificial control of moisture, and newness of the land, considered in connection with uncertainty of barley markets due to prohibition of liquor traffic and substitution of gas for horse power, make wheat growing attractive financially as well as patriotically, thus stimulating greater production.

Facing Dry Season.

Just now, in many parts of California, wheat growers are fearing and trembling on account of the late dry fall. It is nearly useless to plant wheat after New Year's—except in some upper coast valleys, which we are not now considering. Some districts find dry sowing all right, provided rains come before New Year's. Others believe they cannot prepare the seedbed until rain has softened it and sprouted foul weeds. Where wheat can be irrigated, such problems are not serious, though over-irrigation brings rust. Barley will make a crop if planted a month or two later than wheat as a general rule.

Many ranchers are stating their intentions to increase wheat acreage; others are expecting a decrease; manyothers are hoping that conditions will be quickly changed and assurances given to justify increased wheat acreage and crops. It will be noted that growers of irrigated wheat are much more optimistic in regard to profit and correspondingly less worried about the labor shortage.

We print below the expressions of representative growers interviewed in the San Joaquin and Sacramento Valleys by our staff:

Liberty Farms Corporation, Kings county—Will finish planting 20,000 acres of grain in Tulare Lake bottoms by mid-December. Of this, 11,000 acres are wheat on the lighter sandy soils. General Manager J. H.

(Continued on page 592.)

The picturesqueness of California agriculture can scarcely be better exemplified than in the 28 to 32-mule team being driven with a pair of lines from the driver's seat high in air over the rear ones, pulling a combined harvester and thresher around hills or level plains so big that they make only one or two rounds per day. They handle well on turns on steep hillsides and can double or quadruple their pulling power when occasion demands; but in many fields a tractor has replaced the whole team.

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What Farmers Think of It.

WE SHALL ENDEAVOR to enrich our columns during coming months with a series of special articles upon subjects of direct and fundamental importance in connection with current conditions of world affairs and the relations of California agriculture thereto. The plan will be to present the views and experiences of practical men which will contribute to a broader and deeper understanding of the problems of production under the peculiar circumstances which now prevail. The fundamental questions from an agricultural point of view are these:

1—Can it be done? Is increased production of crops and products, held to be particularly desirable at this time, practicable?

2—What is required? What conditions of financing, labor supply and marketing are essential to make increased production reasonable?

3—When and how to do it? What methods of operation must be adopted and what land, stock, implements or materials must be employed to increase the chances of success and profit in increased production?

Answers to these questions are indispensable to safe effort and investment in the increase of crops or animal products. The abundant exhortations to greater production which come from non-agricultural sources naturally ignore such questions, through ignorance of them, and the public mind has no understanding of the chief factors influencing production. It is therefore the duty of those who have such knowledge to make it known so that the public interest may be safeguarded and the success of stimulated agricultural production may be guaranteed.

It is our intention to secure special articles covering the foregoing characters and considerations directly from the pens of representative and successful California farmers whenever practicable and otherwise to secure them from men and women of such standing by our experienced interviewers.

It is not expected that single articles will necessarily cover the whole field of a special subject. It is desired rather that each writer shall take whatever aspects of a subject appeal to him on the basis of his own thought, experience or direct observation.

In securing such articles the staff will use its personal acquaintance to the limit, but in the nature of things the staff cannot fully know the personal qualifications of twenty-nine thousand subscribers and their families. Therefore, a general invitation is extended to readers to submit contributions of the character indicated, to the end that the anticipations set forth in this announcement may be fully realized and practically valuable patriotic service may be rendered.

WHAT CAN WE DO WITH WHEAT?

IN accordance with the foregoing editorial proclamation, we take our first step in this issue toward occupying the farmers' point of view and sketching the outlook from it, in the article on wheat which has been carefully prepared by our associate, Mr. Hodges, with the assistance of the group of practical wheat growers whose names are mentioned. It presents concretely California aspects of the national cry for wheat—not all of them, of course, for there are others which we hope experienced readers to bring out in the discussion which we invite readers to undertake, and there are others which we ourselves reserve for later statement—because it would be a suicidal editorial policy to write ourselves all out in one article. Let others go to the subject and see if we can get at quite a full understanding of this wheat problem, and we ask them to be quick about it. We make our first dash at wheat, not because we consider it the most important thing on the horizon, but because with rainfall wheat one has to get in pretty soon or stay out for this year. But rainfall wheat is not all that California can do. One can start somewhat later with irrigated wheat if he chooses the short-season varieties which California has had most successful experience with and is safest in growing, even if the California price-fixers did ban them. In order to round up the phases of the problem for this week's offensive, we call attention to an important review of possibilities in irrigated wheat just issued as a circular by the College of Agriculture at Berkeley and available to anyone on application. It is prepared by Professor Frank Adams, the leader in irrigation investigations in this State. In this way we give readers wheat-dry and wheat-wet at one glance, and open both aspects of the question for general discussion. And we appeal to our lady friends on the farm to help us with this undertaking. If any of them are sure that the old man knows something important about wheat growing and refuses to write it to us for his country's saving, make him live on cornbread without milk or eggs until he comes through. Put him on chicken-feed, for that is all he deserves!

SOMETHING DOING IN SUGAR BEETS.

MR. HODGES is now down on his knees in the sugar beet field, pulling the weeds out of the beet-growing proposition, for that crop must be taken or left pretty soon also in some parts of the State, though it may be studied longer before action in some other parts. But we cannot wait for Mr. Hodges' analysis of the situation, which will, we expect, open the matter for action in an early issue. One of our readers forces the issue at once by declaring he is out of the beet game, and we have to tell at once what is being done to make the crop more satisfactory to growers. Surely one of the by-products of the war will be the awakening of the public mind to what needs to be done if the farmer is counted upon to feed the public without starving himself to death. This unfairness to the beet grower which the war is disclosing is not a new thing. It has existed for decades and many farmers who have good beet land have quietly turned to other crops because they could not get their labor cost. Of course the factories have in the past been largely held down to low beet prices by competition with German and other foreign sugar, against which it has not had adequate protection because politicians argued that Germany would always be sweet to us and therefore we need not worry about American sugar, and we are suffering now for that crazy political tenet. But we doubt if beet growers ever got what belonged to them, even from such a bad situation. However that may be, it is clear enough now that they must get their share or this country must go sour. And the public mind is suitably aroused. We are not aware that the grand juries of two counties ever before turned from their smelling functions around county institutions to issue indictments of those who will not pay the beet grower enough to make him stay in and appeals to the National Government to fix a beet price which will do this. The details of such transactions are given on another page. When district attorneys and grand juries wake up to farmers' things, as described on another page, there is surely something doing!

WHAT CAN BE DONE WITH COWS AND HENS?

IN due time we shall do the best we can with expositions of the more obscure and difficult problems of how to keep our cows and hens from the butcher. Consumers are getting excited about the prices they have to pay for milk and eggs. They had better do a little more thinking about how they can get along without them, for they may surely have some experience in that line unless they are willing to make it possible for the dairymen to keep on milking and the poultrymen to keep on hunting eggs. The Food Administrators are doing their best to suppress profiteers and gamblers in these products and we hope they will be able to clear away such operations, which are a curse to everybody. It is, however, very clear that any critic of present prices to farmers who will count the cost of a sack of feed or a bale of hay, of the cost of a milker's services, or of a can which he pours into, or of everything the poultryman has to purchase, will soon see that former prices to producers made him better able to pay taxes and go on with his business than he is now. Under the old conditions he was able to hire service and buy raw materials and thus a great producing business with a fair profit grew up. Under those conditions the operations of the cow and chicken men made a market for trainloads of hay and grain and they became manufacturing factors, supporting a whole countryside of field croppers on distant and cheaper lands. It was not the most economic form of production, for it wasted too much in paying transportation costs and profits to distributors, but when supplies could be had at favoring prices it built up large industries near consuming centers, employed many laborers and made thriving towns with all the appliances of civilization and good citizenship—and it gave the master producers fair reward for their efforts and investments. But conditions have changed, and we are now in the woes of a transition period which will continue perhaps until milk and egg-producing animals are forced back to the lands which can feed them and the farmer who keeps them reduces his operations to the area and herd or flock size to which he can minister with his own labor and that of his family. Some close-in producers of milk and eggs have had premonition of this, and during the last few years have been changing from places where they had to buy everything to other places where they grew everything and bought or hired nothing. They are the ones who are getting their reward for embarking upon more reasonable farming, and they are building up an enduring prosperity for the communities in which they established themselves—for they are transforming their own coarse products and their own labor into finished products of high market value. They are entitled to their reward and they will continue the development of the State on a sound, producing basis. But there are not enough of them to meet the requirements of a transition period and thus arises the present situation in which consumers have to pay high prices, from which the bulk of old-line producers get nothing and may have to retire from production unless their unavoidable requirements are met in some way. And thus arises also the situation for consumers in which they must cheerfully and generously meet the producers' requirements or they will force him to retire from activities which are now essential to the support of the nation in the present cruel crisis of world affairs. They must help the producer to get the labor he needs; they must protect him from exploitation and profiteering in his purchase of supplies; they must understand that he is now suffering and needs help and encouragement. High prices are the sign of his economic agony, not an exponent of his prosperity, as too many ignorantly believe. Everyone should remember that high prices are hard to get and that is the real reason why they are high.

Thus we have outlined a theorem. What reader will help us to demonstrate or disprove it by the

citation of his own experience or observation of the facts and his best thought about ways to escape? It seems to us that the good old dairy and poultry craft is drifting toward the breakers. Who will give us a breeze to seaward or push out a plank on which survivors can float to the shore?

WHAT PEACH GROWERS DID FOR THEMSELVES.

ONE of the snappiest speeches at the recent Fruit Growers' Convention was made by Mr. Sutherland of Fresno, secretary of the "California Peach Growers"—which is the snappy title of one of our youngest co-operative concerns. The three objectives of the concern were co-operation, standardization and price-fixing, and they reached them all in their first drive. Peach growers have had no trouble since "over the top" was called by Granville Kimball of Fresno county. Co-operation is the way to avoid trouble and it is the growers' own fault if they have troubles. The "Peach Growers" started with the good will of their kind and they now have 6,000 grower-members. In 1914 dried peaches netted growers an average of less than three cents per pound. In 1916 there were produced 30,000 dried tons and nearly 10,000 tons were carried over from 1915 crop. Both new product and carry-over were handled by the new association and netted growers $5.26 per ctl. The crop of 1917 was the largest ever produced and it has already been practically sold to net growers eight cents per pound or better. Mr. Sutherland's philosophy of co-operation is very simple: "If growers do not get what belongs to them from a good product, they must blame themselves. If they blame themselves hard enough, they will organize. Organization is the only thing and it must come; besides, it is getting here very fast. Inflated prices are prevented by an organization which has force enough to net the grower what he is entitled to. The grower cannot afford to let the price go too high. It is his business to get a fair return and everybody will be happy!"

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Is It Melilotus or Alfalfa?

To the Editor: In our alfalfa we find four or five plants that appear to be of a different variety from the rest. These roots are still growing, although the rest have quit some time since. They are now about 16 inches high and are a bright green color, while the dormant plants are a bluish green and not more than 3 or 4 inches high. If they flower and produce seed, will they be likely to perpetuate their vigor or will they revert to the ordinary type? A late growing alfalfa would not be of any value for making hay, but it would help immensely in saving the hay already stored in the barn. The new plants are not close together.—Samuel Haigh, San Jose.

Many such observations have been reported to us during the last thirty years. Naturally the finder of such plants thinks he has discovered a winter-growing alfalfa. But in all previous instances such plants have proved to be melilotus alba (sweet clover) and not alfalfa at all. The foliage is similar save the contrast in color which you note. Pinch the leaves and smell your thumb and see if you do not get the characteristic fragrance of sweet clover. We cannot describe it, but your nose will know. Melilotus seed is a too frequent impurity in alfalfa seed; it is usually counted a pest in alfalfa because inexperienced stock let it alone. If your plants do not give themselves away by this test, they may be a hardy alfalfa of which several kinds have been recently introduced and you may expect them to reproduce themselves from the seed.

English Walnut in New Mexico.

To the Editor: We find that the English walnuts of California are too tender for this climate and sometimes badly freeze back. I have been growing some stocks of our native black walnuts with the intention of grafting them to the English walnut. Would that make the latter any hardier?—J. K., La Luz, N. M.

It is hardly to be expected that grafting the English walnut on another root will make the wood less subject to frost injury unless it causes it to become more mature at the time when the frost strikes it. Your native walnut root may do this by checking the growth and maturing the wood longer before frost comes, but that can only be determined by trying it and watching the results. English walnut wood is quite hardy against frost when it has a chance to get ready for it. This is shown by the behavior of the tree in some places at the East, where it goes through a hard winter. On the other hand, there are places in California where the new growth is cut back by much lighter freezing because it has no time to get ready for it by maturing its wood. We find that the varieties we have introduced from France do that much better than the soft shell seedlings which are largely grown in Southern California.

Will a Dust-Sprayer Do?

To the Editor: As a constant reader of your estimable paper, so indispensable for anybody who cares for growing things, I wish to ask this question: I have a four-acre orchard of pears, apples, walnuts, almonds, peaches, plums, prunes, cherries and apricots—a family orchard. I have an American Beauty sulphur blower and do not want to go to the expense of buying a $200 power spray outfit. Can I spray efficiently against the prevalent pests and diseases with powder sprays?—M. H. B., Merced.

Your machine is well adapted to dust spraying and by using the arsenate powder, dust Bordeaux sulphur and other dust preparations you can do good work if you will get the right dust for each of the several things you will have to fight and apply it properly. It must be said, however, that some pests are only effectively reached by liquid sprays and such sprays are the chief dependence of growers for these and for others which are also in the dust category. It is also true that for small scale operations you can get power sprayers from various manufacturers for a fraction of the cost you mention, so your comparison is not quite fair.

Star Thistle.

To the Editor: We are farming a large acreage to grain here and find that the "star thistle" is making fast inroads on us and that the land is becoming more and more foul each year. What are the proper methods to eradicate this weed?—D. L. C., Chico.

Star thistle is one of the weeds to be controlled by killing the seedlings early in their growth. In land which must go to grain this can be measurably done by fall work (when you have enough early rains to start the weeds)—plowing shallow or disking as clean as possible before sowing. After the grain is up a few inches, harrowing with a straight tooth harrow will help the grain and hurt the weeds, if they are just starting. Land can also be cleaned before sowing by pasturing with sheep—when the weeds make an early start. But the best way to get the star thistle, when practicable, is to change to a hoed crop. In this case the land can be cleaned by frequent surface working during the winter and the cultivation of a spring or summer planted crop, like beans, corn, Sudan grass, etc., will keep on killing young thistles as long as the harrow or cultivator can be run through the rows.

Stalk-Bundling of Fig Trees.

To the Editor: I have fig trees one and two years old at Merced. We have them covered with corn stalks to protect them from freezing, as I have found this method about the most reliable for that locality. The foreman has had them covered much heavier and tighter than I have ever done myself. We have to cover early, before the foliage is off, for the reason that our worst freezes in 1916 and 1915 came between the 15th and 25th of November. Is there danger in smothering the trees if too well protected?—Owner, San Francisco.

We apprehend no danger from the bundling so long as the material is dry, that is if the stalks were well matured and are not wet inside by rain. If the interior gets moist, it will ferment and heat and that condition may injure the bark. Such occurrence depends upon the thickness of the covering and the tightness of the binding. If either prevents the entrance of air enough to remove excess moisture and reduce the temperature, if fermentation begins, there will be danger of injury. It would presumably be greatest to the tenderer wood of the branches. It would not be smothering; it would be rotting that you have to look out for.

Strawberry Crown Borer.

To the Editor: Enclosed find strawberry plant inhabited by small white grub upon mailing. Will you kindly tell me what to do to rid my patch of these grubs, which have taken a liking to my plants? I am losing half of my patch. Is there any spray that one can use at a certain time of year to keep out the moths that lay the eggs, or do they gain entrance by other means?—C. R. B., Sunnyvale.

The pest is the "strawberry crown borer" (Ægeria rutilans), which is capable of doing just what you describe. The moth has transparent wings and roughly resembles the moth of the "peach root borer," which is known in your district. The best way to kill out the worms is to levee around the patch and hold the plants under water for four or five days. This should be done earlier in the fall to check the worms before they get so much headway, but they can be drowned now, as they work all winter and a new brood of moths emerges from April to June and lays eggs on the plants. It has not been found practicable to control them by spraying.

Soil-Blasting for Tree Planting.

To the Editor: I intend to plant a number of Bartlett trees this winter and have a notion to blast the holes. The soil is very loose on top; red soil to a depth of about 16 to 20 inches, and lower down is a kind of red clay, easy to work in winter but pretty hard in the summer time. What I want to know is about how much powder to use per hole, so I can figure on the cost, never having used powder before.—J. A. W., Placerville.

The conditions you describe are among those which make it very desirable to use powder if you do it right and settle the subsoil so that your trees shall not sink too much. The way to use powder and the cost of it is covered by the excellent pamphlets offered in the advertisements of the powder makers who advertise in our columns. It is obviously desirable to them to have powder-users get good results and they take pains to explain such matters fully. They are experts in that line: we are not.

Spineless Cactus.

To the Editor: Is spineless cactus a good and nourishable feed for cattle, hogs, and sheep? Also, how does it rank with alfalfa? And what tonnage should a person get per acre?—D. F. B., Del Rey.

Cactus is not in the same class with alfalfa as a nutritious food for stock. It comes nearer the nutritive content of green corn or sorghum. We have no idea what yield of it can be reasonably expected. We would like very much to hear from subscribers whether they find it of value or not and how they have used it to advantage.

Food for Barley and Oats.

To the Editor: If I plant barley mixed in the oats, will the barley take out a different substance from the soil than the oats, and in that way give a heavier yield?—Reader, Roseville.

Not so that you would notice it; but in some other way taking two chances on soil, season and the enemies of both grains, you might possibly come through with more grain by sowing both than one. But from what we know of your section we would rather chance it on barley alone.

Holding Over Seed Corn.

To the Editor: Please advise me as to holding over last year (1916) corn for next year seed.—H. O. S., Laton.

If it is desirable and the seed has been kept dry, we know no objection to it.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., December 4, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	3.38	7.26	10.62	60	38
Red Bluff	.16	1.90	6.13	64	36
Sacramento	.06	.76	4.03	66	40
San Francisco	.44	.83	4.53	64	46
San Jose	.44	.95	3.52	68	40
Fresno	.04	.39	2.19	72	38
San Luis Obispo	...	.57	3.72	74	36
Los Angeles	.06	.42	2.56	74	48
San Diego	...	.25	1.48	68	46

Infectious Diseases and Milk Production

By J. J. Frey, Deputy State Veterinarian

DAIRYMEN, veterinarians, health officials and the general public agree that infectious disease eradication is beneficial to milk production, else they would not have required the enactment of laws providing for such eradication. Just how the beneficial effects are to be expressed in terms of milk, however, is not so clearly understood.

The infectious diseases to be considered in this connection may be divided into two classes: The acute, which appears quickly, often unexpectedly; and the chronic, which affects his animals so gradually that he usually does not appreciate his losses. To the former class belong anthrax, hemorrhagic septicemia, blackleg, rabies, and mammitis; to the latter, tuberculosis, actinomycosis, and contagious abortion.

THE DEADLY ANTHRAX.

Anthrax is the most destructive of infectious diseases commonly met with among dairy cattle. This year in particular its ravages have been unusually extensive, due probably to long continued hot weather and feed shortage. Positive instances have been recorded where anthrax organisms have been known to remain in the soil for forty years, so that for practical purposes, once the disease appears on a place it may be considered infected for a lifetime. Especially is this true of moist, boggy places. For this reason too much emphasis cannot be laid on the fact that all carcasses should be thoroughly burned. This done, they can never exist as a source of future infection; on the other hand, carcasses buried near a watering place, where they usually are found, even though buried deeply, will prove a dangerous menace for years. Earth worms and burrowing animals may at any time bring infection to the surface, or the anthrax organisms, being very prolific in almost any organic medium, may simply grow to the surface by progression when the ground is moist, there to sporulate (go into resistant stage) and await their victims.

The question of the secretion of anthrax bacilli in milk is not to be passed on lightly. Some investigators have been unable to demonstrate its presence in milk from affected animals, but the most ardent believer in this theory would hardly risk its use himself. The fact that anthrax bacilli so thoroughly engorge the smallest capillaries of all the tissues, and the fact that hemorrhages found in autopsy of these cases prove the rupture of these capillaries and therefore liberation of anthrax bacilli, render it highly probable that in some cases at least anthrax organisms are discharged in the milk. Further, the contamination of milk from exterior sources is likely during the prevalence of an infection. This may take place by introduction of infected dust particles or by contact with infected hands of attendants. These facts make it important that quarantine be established in dairies where anthrax exists.

VACCINATION AGAINST ANTHRAX.

Vaccination in any form, for the production of active immunity, depends upon the production of a mild form of the disease. All animals are not susceptible to vaccination, or to the disease in the same degree, and there is no means by which we can recognize this difference of susceptibility before inoculation; therefore we must adopt an average dosage. Where we do this, it will be seen from the facts just given that, if we select a dosage small enough to be certain that no untoward results will occur, some animals will not be affected by it at all. In simple language, it will not "take." They will, therefore, remain susceptible and a danger to the herd. If, on the other hand, a dosage large enough in order that an immunity will certainly be established in every case is given, then animals with a low degree of resistance will contract the disease in such severity as to cause death, and therefore menace the milk supply.

HEMORRHAGIC SEPTICEMIA.

The second of acute diseases mentioned above is hemorrhagic septicemia. Although it is more common among cattle in mountain ranges, yet we cannot eliminate it from consideration as a possible source of loss to dairymen. Ordinarily bovine septicemia is not transmissible to man in the sense that it would produce fatalities, but large numbers of these organisms in the milk would be quite certain to cause serious intestinal disorders.

This disease is considered chiefly because of its similarity to anthrax, which is apparent to the casual observer, and with which it must not be confused. It is not practical under some conditions to try to differentiate between the two diseases except by post-mortem examinations.

BLACKLEG.

Blackleg is a disease common among young cattle, especially among well-conditioned yearlings. Although it bears some resemblance to anthrax, it is an entirely different affection, and is usually easily distinguished from it. Blackleg rarely kills more than a few animals in a herd. The sick ones will often be noticed to be lame two or three days before they die. This is in most cases the first symptom and results from the fact that the bacteria are localized in the muscles, causing an inflammation, with consequent pain and swelling. Later the animal will leave the herd, be seen lying near a watering place, and often in a couple of days dies. A product variously known as blackleg filtrate, blackleg agressin and blackleg germ-free vaccine has been discovered, which will produce a lasting immunity to blackleg, with absolutely no danger to the cattle, provided there is no danger of natural infection for a short time following the use of this product.

Also a curative serum, similar to that used in anthrax, has been produced and is a combined serum and virus vaccination, which produces best results in herds where the infection exists.

Blackleg is of chief concern to the dairyman by causing losses among his promising young stock. It is not communicable to man and its danger as an infection in the milk supply is practically nil.

RABIES.

Rabies is considered more as a possibility than a likelihood as a cause of losses among dairy cattle. It is the same disease known as hydrophobia in dogs, or simply as "mad dog." It is spread by the bites of rabid animals. Although the Pasteur treatment is applicable in case of man and certain valuable dogs, its cost makes it impractical for use on ordinary cattle. Eradication measures consist of killing and burning of all affected animals, muzzling of all dogs in the community and wholesale destruction of coyotes, squirrels, and other rodents which are capable of harboring and transmitting the disease.

This cow, though less gaunt than the one below, bears the outward signs of advanced tuberculosis. She has a persistent cough and is not only worthless but dangerous as a milk producer.

This is a more typical example of a tuberculous cow. Both are unfit even for the slaughter block. They should be eliminated from the dairy herd.

INFECTIOUS MAMMITIS, OR GARGET.

Infectious mammitis, or garget, as it is also termed, is due to a specific cocci infection. It is first manifested by hard lumps in the udder at the base of the teats and may become the agency by which one or more quarters of the udder are completely ruined. It spreads rapidly through a herd and is an occasion of much loss to dairymen because it attacks at the most important part of the milk cow. Cleanliness is the watchword for prevention. Also, milkers who handle infected udders should not be permitted to handle healthy ones.

TUBERCULOSIS.

Tuberculosis exists in a large percentage of herds in California, as elsewhere, and this in turn is causing inquiry as to what losses they may expect from its presence. Because of its slow, insidious process the losses due to its presence are not often recognized except in a few cases where a dairy finally becomes so thoroughly affected and so many cases of generalized tuberculosis exist that the owner finds them no longer profitable as a dairy herd, and disposes of them to a slaughter house.

Tuberculosis passes indirectly from one animal to another in a herd and is therefore infectious. The disease gains entrance to the body tissue through the mucosa of the alimentary canal and is caught by the lymphatic nodes which are the police agents of the body. If the animal does not possess necessary natural resistance against the disease, or if at this stage something occurs which will interfere with the general health, the tubercle bacilli gain the upper hand and multiply rapidly, spreading through the blood and lymph streams to the lymphatic nodes in other parts of the body to the lungs, pleura, spleen, liver, intestines, peritoneum, bones, and, of particular importance to dairymen, the udder. When an animal reaches this stage it is called generalized tuberculosis, the animal becomes a "spreader" and therefore a danger to both man and other animals.

TRANSMISSIBLE TO MAN.

This brings up the subject of the transmissibility of tuberculosis to the human. This should no longer be regarded as a question, even though a few individuals still persist in maintaining that it has never been proved, because the tubercle bacilli cannot be taken from a cow and actually used to produce the disease in man. Certain facts, however, may be regarded as establishing the fact of this transmissibility.

In California, research so far conducted shows the percentage of tuberculosis among dairy cows to be approximately 15 per cent. About four out of every 100 cows are so

(Continued on page 599.)

Grape Growers' Labor, Markets, and Planting

Written for Pacific Rural Press

PRESIDENT Wylie M. Giffen of the California Associated Raisin Co., points out three great possibilities in the solution of ranch labor problems, with especial reference to vineyards, of which he himself owns many hundreds of acres. The permanent solution, says he, is more small places owned by families and more families in attractive quarters on big ranches. Where families operate their own small places, they can usually depend on getting efficient labor when it is needed (this labor is, of course, entitled to the same wages as outsiders would demand). Where large ranches provide attractive houses and surroundings for married men, they get a class of help which is less inclined to move on at the end of a few days and can be more readily hired for the year around.

This leads to the second requirement, which is such a diversification of crops on each ranch that the men with families will be kept busy throughout the year and so there will be the least possible rush demand for transient labor.

In Mr. Giffen's opinion, our transient labor is helped on its course of inefficiency by the specialization of our crops, which requires that a large proportion of them be sent on their vagabond way after a few weeks' work at most. They get the habit and do not stay as long as they might.

INTOXICANTS DECREASE EFFICIENCY.

The third and perhaps most immediately important possibility is to get from the labor we now have at least 33⅓ per cent greater efficiency by closing all saloons. With intoxicating liquor abolished, the same men we now have would get a third more work done. Quite a few men also would be released from their present occupation of reducing labor efficiency by means of liquor; and they would be added to the ranks of productive labor.

Mr. Giffen is not convinced of the desirability of importing Oriental labor, especially unless their complete return to Asia could be made certain at the end of the war or whenever desirable.

A tendency to make machinery save labor is considerably in evidence; but no machine is known that will greatly help in picking, when labor shortage is most acute. The past season having been a long period of good weather during harvest, enabled growers to save all their grapes in spite of the greatest labor shortage ever known. The higher cost of labor was pretty well justified by the higher cost of living and the higher price of raisins.

SMALL VINEYARDS BEST FOR ALL.

In the southern San Joaquin Valley the average-sized vineyard is about 30 acres. Many families make comfortable living from 20 acres. Where vineyards are only four or five acres, they are usually part of a ranch growing peaches or other fruits or crops. This is often the most satisfactory; for where a family takes care of more than 20 acres they must hire help in picking, just when hired help is hard to get. On a 40-acre vineyard or larger, extra help is generally required for pruning also. With diversified crops, one harvest follows another and none is lost for lack of help when it must be had.

The tendency is already observed toward smaller vineyard units. The day when outside capital bought and planted large tracts is about past. Fewer such tracts suitable for vineyards are now available, and they have not paid so well as the small vineyards where home labor could be depended on.

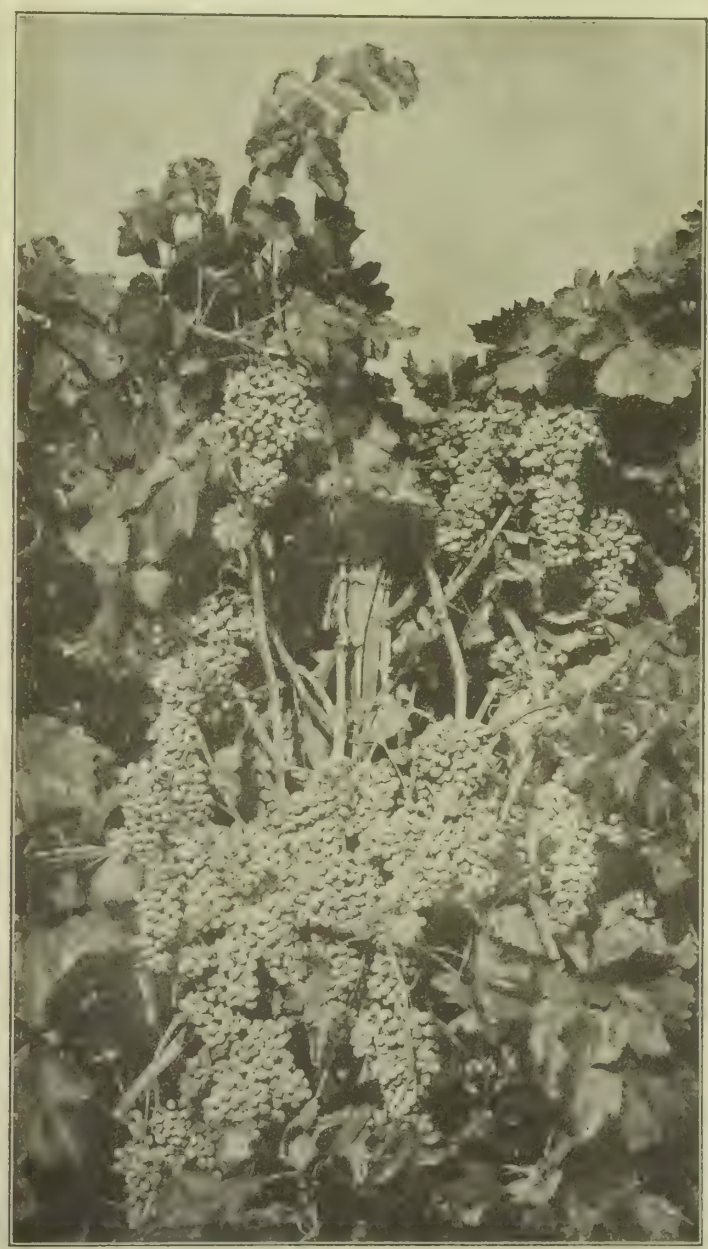
VINEYARDS ATTRACT BOYS.

It is a striking fact in Fresno county that the trend of young men is not toward city jobs, but rather toward the country and the vineyard. Boys receive and work their shares of their parents' vineyards, thus further reducing the average size. This is true not only of children of foreign-born parents, but also of Americans, and is building up a most desirable condition of country life. Most of them are able to finance themselves; and while the Growers' Association insures profitable markets, there is no trouble getting financial help from banks if vineyards are well cared for.

THOMPSON PLANTING GREATEST.

Muscat acreage has not increased appreciably, but Thompson Seedless acreage has jumped fast. The price paid to growers by the Associated for their entire share of the 1916 crop of Muscats was $84.18 per ton; while for Thompsons it was $131.51. This was higher in both cases than outside packers paid, according to Mr. Giffen, who believes the same will be true for the 1917 crop. He also believes that the price for Seedless raisins will be considerably ahead of Muscats for the next few years; but at the same time believes that where land is better suited to Muscats than for seedless varieties, Muscats will pay better through a long term of years. Just now there is plenty of seedless nursery stock, seedless prices were last year over 56 per cent greater per pound than Muscat prices (partly due to their being dry before the rains), and there is every prospect for a heavy planting of seedless.

Mr. Giffen himself has all the vineyards he can handle satisfactorily under present labor conditions, and he feels, too, that further big plantings during the war as an investment would be rather unpatriotic, because it would tend to prevent that much land from being used for grain, beans, corn, hay, vegetables, etc., which are needed by Uncle Sam and his allies.



Thompson Seedless are the favorites for planting on account of high prices and early ripening. Hundreds of acres are to be planted in anticipation of the continued existence of the California Associated Raisin Co., which insures markets.

TONNAGE BEATS RECORDS.

The 1916 crop was the biggest ever raised. The 1917 crop, according to conservative estimates, is several thousand tons larger than that of 1916 and double the biggest crop ever produced before the Associated Raisin Co. was organized, being at least 140,000 tons, according to F. A. Seymour, assistant to the president, as quoted in the Sun-Maid Herald and vouched for by Mr. Giffen. Of the 1917 crop, the Associated will handle about 120,000 tons, which is 75 per cent greater than the biggest crop ever produced before the Associated was organized. "What would have happened last year with the wet raisins!" exclaims Director Hector Burness of the company. "The packers would have repudiated their contracts, and with justification. The growers would have lost heavily."

Due to the advertising and specialty work of the Associated, says Mr. Seymour, the consumption of raisins has doubled, where the natural increase would not have been over 25 per cent. Sales of the 1917 crop to the present are over double those of last year to the same time, though practically no raisins of either crop were exported, according to Mr. Giffen.

TWO CENTS A POUND.

The 1917 crop is the last one under contract to the California Associated Raisin Co. It is the opportunity for outside packers to break up the company and bring back the "good" old prices of two cents per pound, divided by two because production has doubled. Vineyardists who sign contracts with outside packers are helping to bring the return of those "good" old days. One packer has salesmen out trying to induce growers to sign contracts by which the grower will get a stated amount less per pound for Thompsons than the opening prices set by the packer. No regulation is made in the contract as to what that opening price shall be; no way to prevent the packer from setting it low in order to fix the growers' prices and then raising it to flood his own pockets with gold. Growers who lease their vineyards without inserting a clause binding the tenant to sell to the Associated are also playing for the return of the "good" old days. The contract proposed by the Associated Raisin Co. for the next term of years will be presented to growers about New Year's and will be quickly signed by all who remember the "good" old days before the present contracts were signed. In those days, Mr. Giffen himself says he sold raisins for two cents which cost him three cents to produce.

THOMPSONS ON ALKALI.

Thompson grapes stand more alkali and heavier soil than peaches, according to J. C. Rorden of Fresno county, who replaced peaches with Thompsons and alfalfa on such soil last year.

Porterville district expects to produce about 3,000 carloads of oranges this season.

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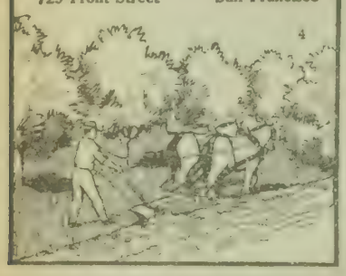

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Peach Borers Controlled

[Written for Pacific Rural Press.]

An eleven-acre apricot orchard in Santa Clara Valley lost 350 trees by peach borers, while a thirty-five acre orchard next to it lost only one tree from this pest. The smaller orchard is not losing any now, for it is being treated.

In ordinary years the borers begin working late in April or early in May. Eggs are laid in March or April, and treatment should be applied before that time. A general practice in Santa Clara Valley is about as follows:

Dig carefully around the crown, exposing it fully six inches under ground. Dig out the borers, which are indicated by bits of frass like the leavings in a wormy apple. Then apply whitewash containing salt to harden and make it stick better, and sulphur and crude oil to repel the worms. Many people use the whitewash instead of hot asphaltum, because, as C. H. Clement says, the whitewash can be applied at one-fourth the cost and is equally effective in his experience and observation. Cover the crown thoroughly with the whitewash and extend it a foot above ground. Then fill up the hole.

TOOL FOR DIGGING BORERS.

The tool generally used for digging borers in this district looks like a strap iron one-eighth inch thick, ten inches long, and an inch wide, with one end sharpened and an inch of it bent at right angles. The other end is split about three inches lengthwise of the tool and about two-thirds across its width. The wide fork is flattened, curved outward, and sharpened along its edge. The narrow fork is bent into a hook and sharpened on its end. This hook will follow up a single burrow, while the other parts will cut and scrape off the bark where considerable areas have been burrowed.

HOW THE BORERS WORK.

The borers do not penetrate the wood, but eat the inner bark, leaving the outer bark in place. They first tunnel, then eat around. Often one worm will eat over an area the size of a man's hand. If the tree is small, or there are several worms, they will girdle it.

Apples from Well-Cultivated Orchards

[Written for Pacific Rural Press by D. L. Schrader.]

Harvesting of Santa Cruz county's apple crop, the main one of the county, is nearly finished. In spite of the fact that the trees bore very heavily last year, they averaged up well this season. The hot days of September and October caused some sunburn, but only on trees that were suffering from lack of moisture.

Generally the trees this season were very free from the different pests that usually infest them. The exceptions to this rule were in the orchards that had received very little cultivation, pruning or spraying for the last two or three years. This was due largely to the poor market for apples during the years of 1913, 1914 and 1915. Many who owned orchards, but did not live on them, were not receiving enough revenue to pay the expense of upkeep. As a result of this negligence it will require a lot of extra work and time to bring the orchards back to their normal production. This is unfortunate at this time, as the prospects for good prices for the next year or two are very bright.

Very little trouble was experienced this season with labor, either in picking or packing. This is due quite largely to the fact that many came to the coast for work rather than the interior valleys on account of it being much cooler and more comfortable to work. Some trouble has been experienced on account of car shortage, but nothing serious.

The Black Grape of Corinth

To the Editor: I am sending you a sample of what I think are the currants of commerce. They ripen here when the raisin grape will not either ripen or cure in seasons like the past one. As they are grown on the northeast side of a building along with a raisin vine, I think they would be worth cultivating, at least for home use, if planted and trained along fences or the sides of buildings. When we bought this place seven years ago we found some very small vines that had been constantly eaten down by the stock and chickens. Not knowing what they were, we dug them up and planted them at the northeast ends of the buildings. As no particular care was taken of them, they struggled along for two or three years without irrigation and until two years ago did not bear fruit. The present season the Muscat grapes must have had 100 bunches on, but the season was unfavorable for ripening them. The currant grapes trained against the same building ripened fully and, being small, they dried in the sun without dipping in lye. — Samuel Haigh, San Jose.

[You have guessed right as to the identity of your grapes: they are the black Corinth or currant grape of commerce. Your observation as to their particular usefulness in such a case as yours may be useful to many. — Editor.]

EFFECT OF LIME APPLICATIONS.

Lime applied at the rate of 1000 pounds per acre produced a beneficial effect on the yields at two of the Lancaster fields, on the Vernon County Asylum field, and on the three fields at Chippewa Falls. In the case of heavy clay at the latter place a double application of lime was necessary to increase the yield of beets and of sugar. The improvement from liming these soils was very marked and suggests the advisability for farmers in this region of studying the effect of lime on their soils.

GRAPE ROOTS GO DEEP TO WATER.

Grape roots have been found fifteen feet deep to water by E. T. Hawley and Thos. Ballantyne of San Diego county. One was found one-eighth inch thick twelve feet down while digging a pit. Grapes do well where water is far down, if provided with enough and not too much while they are going down.

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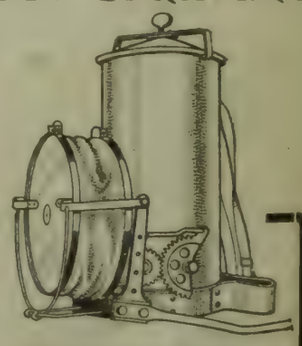

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Growing Braces in California Orchards

[Written for Pacific Rural Press.]

Ronald Filipo writes to the American Fruit Grower, in answer to a question in that journal, for information from those who may have tried the experiment of lashing small branches together in such a way that they will eventually grow as one and form a strong brace between limbs that might otherwise droop. Mr. Filipo says:

"Personally I have never tried this experiment, as I bought my orchard 'ready made,' but I have often noted fruit trees in California orchards—where they are largely owned by those expert fruit growers, the Portuguese—in which the main branches were braced by a natural bar formed by grafting a small twig growing from the inner side of one bough into the bough opposite. This twig gradually increased in size and no imaginable brace could be stronger. The time and money saved by avoiding the yearly cutting and placing of props must be considerable and the danger of losing productive boughs by breaking is greatly lessened."

[Mr. Filipo makes too broad generalizations. This method of bracing branches is not largely used in California, nor are our orchards largely owned by Portuguese, except in certain districts. But they are good orchardists. We might be better off if we had more of them and their tree braces.—Ed.]

Fruit-Pest Fakers Fined

[Written for Pacific Rural Press.]

It is announced by the United States Department of Agriculture that tree vaccination is worthless for scale. Claims that the insertion of a white capsule and a brown capsule containing potassium cyanide and other substances in the bark of fruit trees will kill scale on the trees led to a fine of $100 in the Federal courts upon the makers of the so-called "fertilizing scale treatment." The department tested these capsules for several years on fruit trees to determine whether their use had any deterrent effect on scale and whether the material also actually fertilized the trees, as asserted by the makers. The department found that the capsules did not kill scale and did not fertilize the trees, but on the contrary injured the tree, causing large cankers through which rot fungi may enter and finally destroy the tree. The department's tests were further supplemented and confirmed by the scientists of the department, who visited many orchards in Maryland and Pennsylvania and studied the trees which had been treated by the agents of the company.

The "fertilizing scale treatment" has been advertised and sold also as a remedy for other insects and for various tree diseases. Department specialists fail to find any reason to believe that the potassium cyanide and other substances inserted in trees in capsules have any value whatever in controlling plant pests.

NEWSPAPERS PROTECT TOMATOES.

Tomato plants are set in field from about January in Imperial county and protected by setting arrow weed sticks on the north, east and west sides and covering those with newspapers a foot high open to the south and held against the sticks by dirt at the bottom and branches of the sticks at the top. The severe cold of last winter had frosted some of the plants, but did not kill them.

SPRAYING IN FULL BLAST.

County Horticultural Commissioner Ladd reports that orchard spraying is in full swing in every section of San Joaquin county, particular attention being paid to peach, apricot, almond and such trees as are subject to fungous growths.

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As we specialize in fruit bearing trees, we are in a better position, perhaps, than anyone else to take care of your requirements along this line. We would be glad to have intending planters write to us regarding the number and variety of trees they will probably want.

The Muir Peach is in Great Demand

Growers throughout the San Joaquin Valley secured large returns from their Muir Peaches this year.

The California Peach Association strongly favors the Muir Peach, as they have found it the only variety that can be process peeled. We can say that if you have soil suitable for growing peaches, you will make no mistake in planting Muirs. We have an exceptionally fine stock of young, thrifty trees this year.

Notice to Planters

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

WHICH ORANGES TO PICK FIRST.

Outside rows are picked first by Fred Arth of San Bernardino county to avoid the greater frost hazard there. He notes, also, that folks like their oversizing coarser fruit picked first. I. C. Perry of East Highlands, superintendent of pickers for J. S. Edwards, leaves half of the fruit anyway at the first picking. But all oranges which show puffing tendencies are picked the first time over, because if left till the next picking a month or two later they would break at the depressions between puffs when squeezed in putting lids on packing boxes.

As the fruit is enlarging all the time, the largest is picked first. This helps in getting the sizes desired, also. The ripest, best colored fruit is also picked first, though none is picked until practically all would test more than eight to one.

WHERE CALIMYRNAS THRIVE.

Smyrna or Calimyrna figs thrive in only a few parts of the world. They do not want a high altitude, nor do they want rain or humidity in summer. They need regular irrigation, since allowing the trees to suffer before watering, causes split fruit. They must have capri-figs to carry over-wintering wasps, so the temperature must not get cold enough in winter to freeze the capri-fruit or make it drop. We have the exact conditions in the San Joaquin Valley and in parts of the Sacramento Valley. Calimyrnas have been grown in California since the capri wasps were successfully imported alive in 1900. The cost of caprification, according to Henry Markarian and Geo. Roeding of Fresno county is less than one dollar per acre.

LAWTON BLACKBERRY PLANTS.

Lawton blackberry roots spread afar and begin sending up new plants between the rows after the crop is off in August. These plants grow until early November, when they may be dug for transplanting until April, according to M. J. Moniz of Sebastopol. It is best to transplant them when the ground is in good condition, between January 1 and April 1. They begin to grow about April 1, and after that are harder to transplant and make them live. Plant them not less than eight feet apart. If nearer together there is not room to cultivate or pick and the berries will not size up, says Mr. Moniz, speaking particularly of unirrigated sections.

FIG CUTTINGS.

There is great variation in the amount of fruit on different fig trees in the proportion of splits and thickness of skins. Therefore, says Horticultural Commissioner A. E. Beers of Merced county, the wise grower will select his cuttings from the best trees only. Prof. J. Eliot Coit of the University of California points out that it is not generally realized how fast fig cuttings dry out, especially if there is a wind. They should be covered with wet sacks, etc., as soon as cut, or even put in a tub of water temporarily. They keep all right several weeks in wet moss or sawdust, but are better not packed in sand, which dulls shears used on them afterwards.

LEAVE AVENUES WHEN PLANTING VINEYARD.

In planting a vineyard provision may well be made for hauling the raisins out. C. A. Bloyd of Kings county accomplished this on twenty acres planted in rows east and west ten feet apart. The vineyard is about 660 feet long. Across each end is a drive, and one-third of the way from each end is an avenue across the rows, 12 or 14 feet wide, to allow harmless passage of teams and wagons. In stacking the trays they are all carried to the edge of a driveway, the farthest being carried 110 feet. After curing in the stack, it is easy to dump the raisins into sweat boxes on the wagon without wasting time to distribute sweat boxes and pick them up.

DEWBERRIES.

Don't let dewberries get overripe before picking for shipment, says Mrs. C. W. Carter of Tehama county, whose 100 hills yielded $87 year before last and are yielding a heavier crop this year. As dewberries ripen they get heavy and hang down in the shade of their leaves. If leaves are scarce and berries must stay in the sun, they get cooked and turn red, but not black, says Mrs. Carter. Early in the spring the Carters tie the vines up in bunches, cut out all old wood, manure, irrigate, cultivate, let the vines down, then flood once more under the vines in the middle of May and pick the berries after mid June.

PRUNE VARIETIES ALTERNATED.

Not knowing the future of Standard prunes, Jones & Sproule of Butte county planted 30 acres of Standard prunes 24 feet apart in the winter of 1915-16. Then they planted French prunes alternately in the rows, but not between the rows. The plan is to remove one variety or the other when they have borne five or six years, meanwhile getting a double prune crop from the land. At that time they will know more about which will be best permanently.

PRUNING YOUNG APRICOTS.

One of the most successful apricot growers in Imperial Valley is E. H. Ericksen. Here is how he pruned his latest planting, now in its fifth year: Headed 16 inches high; first year's growth cut back to about 14 inches, attempting to get the best distribution of framework limbs and cutting out the rest; second year's growth cut back to three feet; next to 2½ feet; last year to one foot. Exact measurements at University Farm have shown, however, that the trees make greater diameter if they are not headed back at all.

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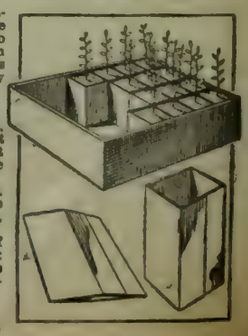
These pots are the up-to-date method of plant growing. Don't take our word for it: try them yourself. Write for samples of pots or protectors. Tell us which you are interested in.



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How Can Farmers Afford to Grow Beets?

To the Editor: We have just received a request of the State Food Administrator to raise beets another year. We are good, patriotic citizens and want to do what is right by our country, and I wish to ask: Does our Government want us to raise beets badly enough to help us with our taxes, etc.?

This year we did not make enough above expenses to pay taxes and worked long hours and hard. Labor is scarce and high; to get the beets thinned we had to drive about sixteen miles a day to get Japs and pay them outrageous prices. The laboring classes in the cities demand higher wages to live. Why should we work harder, for less, than before the war, just because we help to furnish the food supply of the world? No; we will not raise beets again unless prices go up on them so that we may make decent wages. This is the fact, though it may seem like croaking. There are many who think the same about this beet business and other products. When the farmers go on a strike, the world will realize what they have been doing. There is no class of people that work harder. I am sending this to you, as your paper seems about the best one that gives the farmer a square deal.—Beet Grower and Orchardist, San Juan Bautista.

FOOD COMMISSIONER MERRITT ACTS.

In connection with the foregoing it is pertinent to state that last week Food Commissioner Ralph Merritt made an announcement promising the sugar beet growers better prices than they have heretofore received. The new price is to be not less than $7 a ton for beets running to an average of 15 per cent sugar, and a pro rata increased price for beets that yield more. As the majority of Southern California beets yield considerably more than 15 per cent sugar, it is estimated that the new price equals about $8.50 a ton. The present average price is $6.50 a ton.

In addition to this improved price, Commissioner Merritt points out to the growers and the public that the sugar factories are now under license by the Food Administration and will be permitted to make only a fair and reasonable profit, which will be fixed in Washington. The regulated price at which sugar is now sold by the companies is 7.25 cents a pound.

A GRAND JURY DECLARATION.

The Los Angeles County Grand Jury is inquiring into the matter, and Thomas Lee Woolwine, District Attorney, has reported to Commissioner Merritt on the "grave state of affairs" in the beet growing industry in the south. "Facts developed by the County Grand Jury now in session," said Woolwine, "will be communicated to Food Commissioner Merritt. He will conduct a separate inquiry into the alleged profiteering by sugar refiners charged by some who have lately testified before the Grand Jury, and also into the marked decrease in acreage under sugar beets—a decrease which the growers attribute to the unprofitableness of the industry under the existing contracts with the refiners."

These are the contracts at $6.50 a ton, which Commissioner Merritt proposes to have changed to $7, at a 15 per cent sugar average, or approximately $8.50 a ton for average Southern California sugar beets.

Woolwine, in his statement, added: "It seems to be established beyond question that the beet growers cannot afford to plant and grow their product unless some arrangement is made by which they may get a higher price for their beets. The necessity for prompt action in this matter is seen when we consider the necessity of planting very soon for next year's crop."

"One of my tenants," said John R. Newberry, a large land owner of Riverside county, "had about 150 acres in beets this season. He had a good crop, but lost exactly $1,602."

BEET PRICES IN TULARE COUNTY.

The price to be paid for sugar beets for the Visalia and Corcoran factories is $5.50 for 15 per cent beets and 30 cents per ton for each additional per cent of sugar and one cent per ton additional for each cent advance per hundred pounds of sugar based on the San Francisco cash wholesale market quotations. The bonus per ton enables growers to know from weights and market reports just how much they are entitled to. The Government has fixed a price of $7.25 per cwt. of sugar; but Field Man G. E. Daniel for the San Joaquin Valley Sugar Co. thinks this figure will be made higher. F. A. Cleveland, the largest beet grower of Corcoran, says the average sugar content there last year was 22.7 per cent. At the contract being offered, if the Government price remains, $7.25 for sugar beets testing 22 per cent will bring the grower $9.35 per ton.

SOUTHERN CALIFORNIA BEET GROWERS ACT.

The Association of Sugar Beet Growers of Southern California, in session in Santa Ana, December 1, passed a resolution urging all members to turn over their private books of account to the State Conservation Board in order to facilitate the establishment of a cost accounting system on the sugar beet as an aid to the move to regulate sugar prices. The action followed an address by R. S. Vail of Riverside. The beet growers said they represented 375 men engaged in the industry and farming 58,000 acres in beets. They also authorized a committee to present the local sugar beet situation to the Orange County Grand Jury, now in session, and ask that body to investigate the discrepancies said to exist between the returns to growers and the costs to consumers.

THE BEET GROWERS WILL BE HEARD.

In accordance with Mr. Woolwine's appeal to the National Government, Mr. Hoover has called a public hearing on the question in Washington for Saturday, December 8. The call says: "I suggest that you come to Washington together with Andrew Cook, E. D. Plavin, Frank Merkle, I. Tawa, E. Thomas and V. E. Wire. Also that you invite two representatives of beet sugar companies who are familiar with the other side of the question in order that further discussion of the situation may be had."

PRICE COMPARISON.

The following comparison in prices obtaining last year is made by the United States Department of Agri- between those of this year and those culture, as follows: Wheat, $2.006 and $1.363 per bushel; corn, $1.751 and $1.13; oats, $0.623 and $0.445; $14.29 and $10.36 per ton; cotton, potatoes, $1.221 and $1.12; hay, $0.233 and $0.155 per pound; eggs, $0.374 and $0.281 per dozen.

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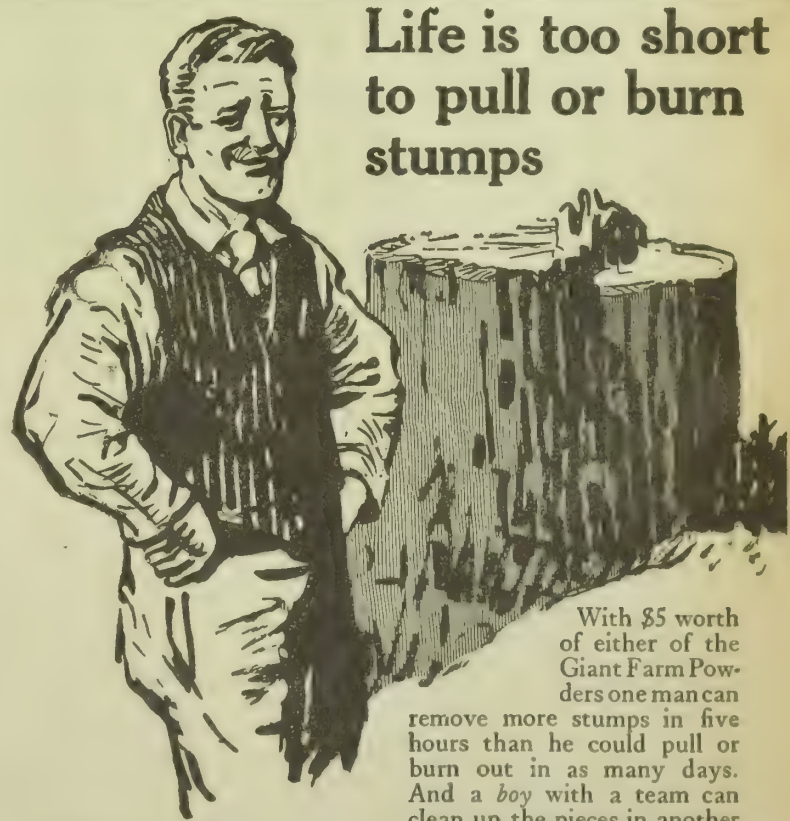

With $5 worth of either of the Giant Farm Powders one man can remove more stumps in five hours than he could pull or burn out in as many days. And a *boy* with a team can clean up the pieces in another five hours. There's no way in which land can be cleared so easily, quickly and cheaply as by using one of the

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What Kind of Farm Labor Does California Require?

To the Editor: I feel it my duty to object to M. F. Tarpey's request for cheap Chinese farm labor, as set forth in his article headed, "Development of New Labor During the War." I am not an I. W. W., but a hard-working California farm boy and want to do my duty to ourselves, our allies and our next generation.

Our State, our Nation and our agricultural papers have been clamoring for our sons and daughters to return to the soil and develop small home ranches, and they have been on the right track to develop the real stability and lasting existence of our Nation. It is the development of our enemy's farm lands into small tracts worked by people of their own race that has given Germany her greatest power.

There has been considerable agitation for the importation of cheap labor on the farm. Nobody has agitated for cheap bank help, cheap ship builders, or cheap factory help. They seem to wish to dump all cheap help onto our farms. Then these same agitators complain that our boys don't seem to want to return to our farms. They call our out-of-doors California farm life drudgery, and surely if we have to compete with ignorant, cheap Chinese help for wages and work among this class of companions, it would be drudgery, and eventually it would drive every native-born boy away from the farms.

Our much desired small home farms are becoming popular. A family can live on a small acreage at home together, and by all working systematically they can save their wages and interest on their savings. They can save from a wage on the farm that will represent a living in a civilized American-living manner. They cannot afford to hire several Chinese; they do their own work. If the man owning thousands of acres can hire cheap Chinese help, they surely can produce for a price for which the home ranch family cannot live; hence they must give their home over to hired Chinese help and go to town, where they can get a living wage.

After the war you can rest assured that the large land holder will put up the greatest protest ever heard when this Chinese cheap help's time is up to go back to China, and they will never return. By that time there will be none of our own boys left on the ranches.

Surely this labor is not going to encourage the small farms that should make up the area here in California especially. On the contrary, it would surely create lordly landlords and the monopoly of large tracts, with no country public schools near and no children to go to them.

How could it be otherwise? Can you ask your sons (even those who are anxious to work on the farms) to work for Chinese wages? Why should a lad, willing to work on a farm, be asked to work for less than his companion who works in the machine shop? Can you expect him to stay on the farm under such conditions? Should not we correct the conditions as fast as possible instead of undoing more in the one move than has been accomplished in establishing better ranch conditions in a decade?

I think the Government should use some very drastic measures if necessary before running our sons and daughters of moderate means from the ranch by compelling them to compete with cheap Chinese help. They have drafted our sons to go to France. Let them draft every available business man and force every wealthy landlord to go to work where he would best fit, before we ever consent to destroying the farm firesides of the settlers of small means who do their own work.

I have a son and have always had my heart set to send him to Davis Farm School, to teach him to love home farm work, and not to consider it a drudgery as compared to other trades. I would not cherish the hope of his being a lord over many acres, watching a bunch of cheap Chinese laborers do the work, but in the hope that some day, by renting a ranch or by working on farms, he will be able to have a small farm home and do much of his own work and be at home with his family.

I trust our Government will not pay attention to the cry of our landlords and ship in cheap Chinese labor, and in that one move destroy more agricultural home life development than they can repair in a generation. E. W. BENTLEY.

Napa, Cal.

[You are right on the general considerations which you state and in the specific aspirations which you entertain for the development of California by home-making white laborers who are citizens, etc., but you ignore the conditions which now prevail and the emergency which exists, viz.:

1. There is no such supply of labor as you and practically all other California farmers prefer.

2. There is a war on and the winning of it depends upon immediate increase of food production. The present discussion is on that basis and not on the general question of desirability which you urge.

3. There is no issue of cheap labor. That issue is dead. Farmers are willing to pay all that the current prices of products will bear and leave them a living margin of profit. They cannot get this with the present outlay for labor, because the labor is not worth what it costs. Farmers require an ample supply of able and dependable labor and are willing to pay well for it. Without being assured of such supply they cannot undertake the increased production which national interests require.—Editor.]

Packing Imperial County Lettuce

[Written for Pacific Rural Press.]

A great system for efficiency in lettuce packing for long distance shipment was observed in the Brawley sheds of the California Vegetable Union last January. Lettuce was picked directly into shipping crates in the field, the tap roots having been cut off one-half to one inch below the surface. The crates were about 12 inches deep, 18 inches wide and 22 or 24 inches long. Three slats made each side, end and the bottom, being nailed to inch-square pieces in the corners. These were hauled full of lettuce on flat wagons, carrying about 100 per load securely tied on with ropes.

The lettuce was unloaded along one side of the shed from a steady stream of wagons, and trucked back as it was unloaded, keeping each lot in a separate stack. Before packing, each head was trimmed and sorted. A full crate was set on an up-ended empty one and two sorters worked on each full crate. They cut off the tap root smooth and short, removed dead leaves, and threw out bad, soft, or immature heads. The good ones were cast into bins beside the packers. Five sorters kept three packers not very busy. Before packing a crate, heavy white paper was laid across it and endwise to cover the bottom and sides and lap over the top. Those packed the day we watched were laid four across the bottom each way in the bottom layer, four one way and five the other in the middle layer and four square on top with bigger heads. A layer of ice chipped by motor at the shed was shoveled on top of the second layer. The packed crates were then trucked into iced refrigerator cars.

THE WOMEN NEED FARM HELP.

To the Editor: I have just been reading in Pacific Rural Press "Development of New Labor During the War," by M. F. Tarpey of Fresno. I fully agree with Mr. Tarpey and hope our Government will very soon do as France and England are doing—send the Chinese farmers here to do the drudgery on the farms until the war is over. I know of some farmers who are doing little or nothing with their land owing to the scarcity of good farm laborers and the very high wages demanded by very poor labor. I hope the Pacific Rural Press will help the good cause along. The American women cannot do the heavy labor on farms and many of them would be glad for Chinese labor while our men are in the war. I read the Pacific Rural Press with much interest and benefit. —Farming Woman, Sonoma county.

HOT BED FOR TOMATOES.

Some 14,000 tomato plants are raised each year for his own use by S. Dalforno of Merced county. The seed is planted about January 15 and the hotbed fixed shortly before that. A hole 4 feet wide and 14 inches deep has been dug east and west. Six inches of fresh horse manure are laid in the bottom and 4 inches of fine dirt spread over it. A board frame is built around it so panes of glass rest on the frame, sloping toward the south. After sowing the seed, one-half inch of fine field dirt is sprinkled over it by hand. The glass, being kept down, holds moisture, and no irrigation is needed until the plants are up. Then they are watered about once per week with a flat spray sprinkler. The temperature is kept from getting too hot by raising the glass or taking part of them off during warm days. The plants are ready to transplant to a cold frame in four or five weeks and are transplanted to the field when about a foot tall in April.

SHOE DRILL FOR GRAIN.

A shoe drill for grain leaves the seed down on firm ground, while a disk drill is likely to leave it on loose soil, from which the moisture evaporates quickly, and the seed has less chance to sprout into strong plants.

COWS HURT FROSTED ALFALFA.

Frosted alfalfa seems far worse damaged where cattle walk through it early in the morning before it has thawed out, according to E. T. McDonald of Imperial county.

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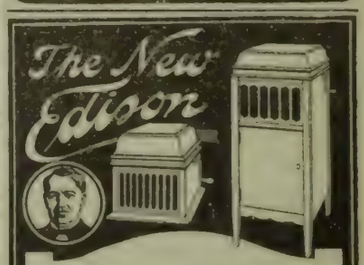

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

MOVE TO CONTROL FLOOD WATERS OF COLORADO RIVER.

At a meeting recently held at El Centro, plans were adopted for the formation of a board of control of the waters of the Colorado river. The meeting was attended by representatives from Mexican States through which the river flows, district officials and A. P. Davis, director general and chief engineer of the United States Reclamation Service. It is proposed that this board accomplish the impounding of flood waters of the river and apportion the water of the stream on a just basis. Engineer G. G. Anderson, who proposed the formation of the board, who said it could be accomplished without an act of Congress, said: "This board should be composed of representatives whose districts are mutually interested, their fair share of water from the river and of impounding water in the upper reaches of the river, and sold at a fair price to the districts. Mexico should be represented on the board, as her interest is equally as important as those of the States."

WHEAT SMUT.

Wheat smut lives three years in the ground, while barley smut lives only one, according to W. W. Mackie of the United States Department of Agriculture. If it infects the sprout before the latter gets above ground, it passes up the stem and infects the head. It is harmless if the plant gets up uninfected. As smut spores sprout only when the temperature is below 65 degrees, wheat that is planted shallow and sprouts in soil above that temperature is seldom affected. The greatest preventive used in California is bluestone dissolved in water. Archie McCormack of Solano county is one who recently treated his seed, adding five pounds of bluestone to the troughful of water after every ton of seed had passed through. He left the seed in sacks submerged long enough to wet every grain, drained them on a sloping board, and planted the seed within three or four days.

EARLY SWEET POTATOES.

A quarter acre of early sweet potatoes netted R. R. Cheatham of Coachella Valley 5 cents per pound in 1916. The seed potatoes were put into a hotbed about January 1 and the plants pulled off to plant in the field about March 1. Sandy loam was worked down and furrowed just before planting so that a waterline would show just where to set the plants to insure equal watering of all at each irrigation, especially until they should be well rooted. Heavy ground would make long vines and rough potatoes, according to Mr. Cheatham. The roots were soaked good after planting. A cultivator shovel was run behind the furrower so dirt was thrown toward the plants, leaving them on a flat ridge. Each row was watered with a slow stream seven or eight hours until it subbed clear across. The sweet potatoes had to be marketed quickly when dug, as they do not keep well in that hot climate.

MONTEREY COUNTY NOTES.

The spud crop of Monterey county averaged well and a good price was received. Very little scab or worms have troubled, but quite a lot of dry rot has been experienced, making it necessary to do a lot of picking over. Very few potatoes are moving now on account of car shortage and quiet market.

Black oats, the main grain crop, averaged well. The practise has generally been to rotate with barley. Beans are being tried out as a rotation crop with considerable success. Small and large whites do very well on the sediment soils. It is thought that tepary beans would be a profitable crop for the light, sandy soil of the side hills.

ALFALFA FLOODED—GREW SEED.

Winter floods covered A. H. Smith's 45 acres of smooth Peruvian alfalfa so deep with silt and sand that even tearing the roots with a renovator did not bring more than a third of the alfalfa through the silt. But that fall the thin stand was allowed to go to seed and produced five tons, enough to reseed his own field and sell 4½ tons at high prices.

SULPHATE OF AMMONIA.

Now that sulphate of ammonia is being so highly commended as a source of nitrogen fertilization, no doubt many of our readers will be pleased to have a detailed and finely illustrated account of its manufacture and the way it has been found to work in the soil for the benefit of the plant. Such a publication can be had free by applying to the Erickson Company, 381 Fourth avenue, New York, N. Y.

An increase of over 15,000 acres of grain is being scheduled for the coming winter by farmers in the Oakdale section.

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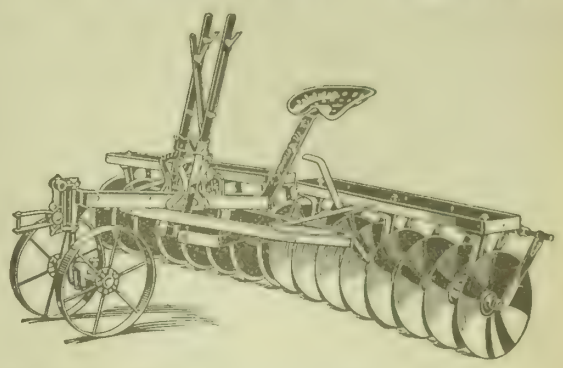
DISK HARROW BEARINGS



The loose, gritty, sandy soil of these Western States is hard on implement bearings, especially on ordinary disk harrow bearings which work close to the ground in a cloud of gritty dust that fairly eats them up. In Deering and McCormick bumper disk harrows the bearings are built to last and give good service even under these extreme conditions. If sand and grit does get into these bearings, most of it will drop through before reaching the boxing itself.

The grit and dirt that does reach the boxing, instead of cutting it all to pieces and wearing it out fast, has no effect except to polish the oiled surfaces of the hard white iron spools and boxes and to make easier running bearings of them. If these bearings are oiled regularly through the hard oil cups in the weight boxes, there is no wear out to them; after months of use they show a surface as smooth and hard as glass.

Everything else about Deering and McCormick bumper disk harrows is built with as much care and thought as is given to the bearings. You can get information that will save you money, time and trouble by dropping a line to the nearest branch address below.

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Greater Wheat Acreage in California

(Continued from first page.)

Eaton and Superintendent Howard Burns came last fall from Colorado, where they have seen wheat crops more than doubled by deep plowing and good seedbed preparation. Have prepared the Tulare bottom seedbed with special care and will irrigate all of it. Started seeding about November 20 with seven tractors pulling six drills each. Tractor drivers have been plentiful in this region, but they do not know their machines. They stay long enough to get a stake, as do the rest of California farm laborers, whose limit on one job is about two weeks. In Colorado the farm labor is dependable and stays steadily on one job. Considering the importation of farm help and tractor drivers from Colorado, which will be very easy, due to the high wages here and the mild climate.

KINGS COUNTY.

J. F. Michell, Kings county—Wheat prices never were so good—the world never needed wheat more than now. This is the time to plant wheat. Barley market prospects never were so poor. Los Angeles has gone dry. California will close her saloons, including those in San Francisco, at the next election. The United States will soon be dry. Barley cannot be exported in preference to wheat. The demand for brewing is diminishing. Tractors and motor trucks are replacing horses. Found this remarkably true in Arizona on a recent trip there to sell hay and grain, where horses used to be so numerous. The demand for feeding barley is diminishing. Three-fourths of the estimated 100,000 acres of grain to be planted on the eastern and southern Tulare Lake bottoms will be wheat. All land suitable for grain is being prepared, and more is demanded. Tractors are becoming universal.

Mr. Michell has grown grain over thirty years—much of this time in the Tulare bottom. Will plant 1,500 acres this fall, three-fourths wheat. Is hiring tractors, plowing the silt soil five to six inches deep, with irrigation, and cropping it every year with no diminishing yields yet.

While barley yield is greater and there is less risk of rust, frost, and smut, most of the big money in this district has been made from wheat. It averages 12 to 15 sacks per acre and 135 pounds per cwt., which now makes about $4.25 per sack. If it averaged only 10 sacks per acre, the gross would be $42.50. At present about one-third of this must be taken out for cost of production, leaving about $28 per acre profit. That is good money for the man with 1,000 acres.

KERN COUNTY.

J. Staffen, Kern county—Wheat growers have been only existing 30 to 40 years, but have made money the past six or seven years. Seldom have any rust, being located on east hills of the Coast Range. Has not had smut enough to injure marketability. Usually dip in bluestone mixture, 5 pounds per 60-gallon barrel of water, using a sack for about 40 pounds of grain to insure wetting it all. Treat 10 or 15 sacks at a time, shortly before seeding, and spread out to dry so it will not mold. Can plant within 24 hours.

Mostly summer fallow. Plow six inches deep after vegetation starts in spring. When it gets weedy, cultivate with a disk and leave until fall. After the first rains, drill 40 pounds per acre, 2 inches deep, with Buckeye seeder, which has springs to hold the drill to right depth on uneven ground. A cultivator follows seed tube to cover seed. Cross harrow after seeding. Gets eight or nine sacks average on light land, but about 16 sacks on heavier, more adobe nature of soil nearer the hills. Sonora is most popular because easiest to raise in that dry country.

FRESNO COUNTY.

J. J. Granville, Fresno county—Uses four tractors. Has kept the same man past two or three years on the engines. Plants mostly barley because the west side has been a special barley country for many years; probably because it is drier and barley stands more drouth. Mr. Granville is planting about 400 acres of wheat this year. Thinks street loafers who cannot prove that they have steady work should be rounded up and forced to work on farms.

Fitzwilliam Ranch, Fresno county—Will have 1,500 acres in wheat, all under irrigation, in 1917-18, as against 600 last season. Wheat nearly as sure as barley under irrigation, and sure of a better price. Only enough barley will be grown for their own use. This has always been in barley before. Been following irrigation with plowing ever since August. Labor very scarce and high priced.

YOLO COUNTY.

George W. Pierce, Yolo county—Wheat acreage within ten miles of Davis is not 5 per cent of barley acreage. West side of upper Sacramento Valley very little wheat. Does poorly, possibly on account of lighter rain, but more due to the north winds, which shrivel the grain. The plants do fairly well when wild oats do not choke them out. Pierce's own 100 acres of wheat last year scarcely returned seed, though it was put in the best he knew how. Wild oats were largely responsible for the failure. Forty years ago wheat made good crops continuously, using Propo and Australian. These were dropped in favor of Club and Bluestem. Club is most favored now because most hardy; but for several years wheat has not been successful around Davis. It does not generally do well, makes too much straw and too little grain, and rusts badly. Summer fallowing, tractors, and deep plowing do not affect the wheat growing depression. The east side of Sacramento Valley produces very little barley, practically all of the grain there being wheat. Let the districts suited for wheat grow more of it.

Clarence Day, Yolo county—Extensive wheat grower for fifty years. Operates three tractors. Wheat acreage will be reduced because the Government has taken so many tractor engineers. Says wheat acreage depends on whether tractor drivers are taken or seem likely to be exempted.

Lon Ulrich, Yolo county—The Government price does not justify the risk of rust, smut, and wind on wheat when barley is about present prices. Barley involves less risk. Has experienced rust twice on wheat. Two years ago had the best of prospects, but rust reduced the crop to five sacks per acre, shriveled so it weighed about 106 pounds per sack. Half of this was Club; the other half Bluestem. Has grown only Bluestem last year. Had 200 acres last year and has just finished sowing 260 acres of Bluestem on summer fallow. Has 700 to 800 acres to plow after rains have wet five or six inches deep. This will go into barley.

IRRIGATION.

A year ago Mr. Ulrich plowed 40 acres early in fall. Worked it down late in February and seeded wheat. There was no more rain. When the plants were nicely above ground he gave them a good irrigation. The crop averaged 21 sacks per acre, averaging 145 pounds per sack. A similar 40, sown in January and not irrigated, yielded 14 sacks per acre.

Brother-in-law drives tractor, else Ulrich would be "up against it" for a driver.

George N. Merritt, Yolo county—Has 700 sacks of wheat to plant if can get the ground ready to seed before New Year's. If can't plant early enough, won't plant wheat at all. If rain through December, wheat will come smutty whether dipped or not. More money in barley anyway; can raise twice as much per acre as can of wheat; but for patriotic reasons thinks should make the effort. Just sold two lots of Club wheat, about 250 sacks in each. From one lot had cleaned twice as much trash as from the other, yet both lots graded the same. Nigger somewhere.

For three years has been plowing about 14 inches deep. Is an eight-inch hardpan four inches under the surface. Subsoiler wouldn't affect this permanently. Plowing costs $6 to $7 per acre, including engine hire at $3 per hour and plow depreciation at $1 per acre.

SOLANO COUNTY.

Perry Anderson, Solano county—Will plant about 1,500 acres of wheat in the hills, as against 1,200 average. All land in Montezuma hills is summer fallowed and planted to wheat except occasional fields pastured one year for renewal of the soil. No wheat is grown on the reclaimed or bottom lands of which Perry Anderson has 500 acres and his sons 900. It is all barley, beans, and some asparagus. Wheat there rusts and does not ripen so well. Not enough barley is raised in the hills to furnish horse and mule feed.

In the hills there is little danger of rust unless grain stands too long after ripening. Last year smut was worse than usual. There was less bluestoning than usual. Andersons never have much smut and they always bluestone their seed wheat.

No trouble getting all the labor needed, including an engine driver. Labor for bean hoeing was scarce. Government wheat price will give farmers a profit. Has averaged 21 sacks per acre on a 300-acre field, but the average for Montezuma hills is 12 to 14 sacks, usually 130 to 135 pounds per sack. Andersons have had it average up to 145 pounds.

LABOR AND LABOR PRICES NEED REGULATING.

Peter Cook, Solano county—Operates five tractors. Three of his tractor drivers have been drafted. Fears inability to harvest a crop if he could get it planted right. Labor and the price of it need regulation before regulating farm-crop prices. Perhaps an army could be drafted to supply labor for food production and harvesting. Bona fide farm workers, especially tractor drivers, ought to be exempted from military service.

Archie McCormack, Solano county—Fields partly gentle hills, partly level land above high water line. Had over 500 acres of wheat last year. Will increase to 600 or 700 acres this year if the season is favorable. Just finished seeding a level field and on November 16 was bluestoning seed to plant the following week. Will take chances on getting it harvested. Very little land cropped every year. Increase of grain will be on land where grain was cut for hay last year; also some used last year for volunteer hay. Rust injures wheat on moist bottom land, where there is more money in barley and beans.

SULPHATE OF AMMONIA TRIED.

On a sandy soil near Glendale, Los Angeles county, sulphate of ammonia was applied to growing wheat on February 11, at a rate of 200 pounds per acre. The yield of the fertilized area was 2,114 pounds per acre, the unfertilized 822 pounds; an increase of 157 per cent.

LARGER AND BETTER CROPS

With a great world food shortage and with the great war depending on the ability of this country to supply the allies, every acre of land should be made to produce its utmost. This can only be done by feeding the soil, i. e., increasing the available supply of the elements required by your crops.

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PURE ANIMAL MATTER AMMONIATES

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are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

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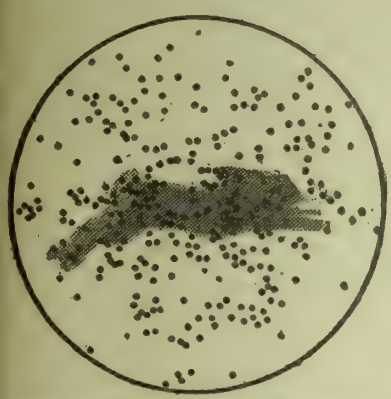
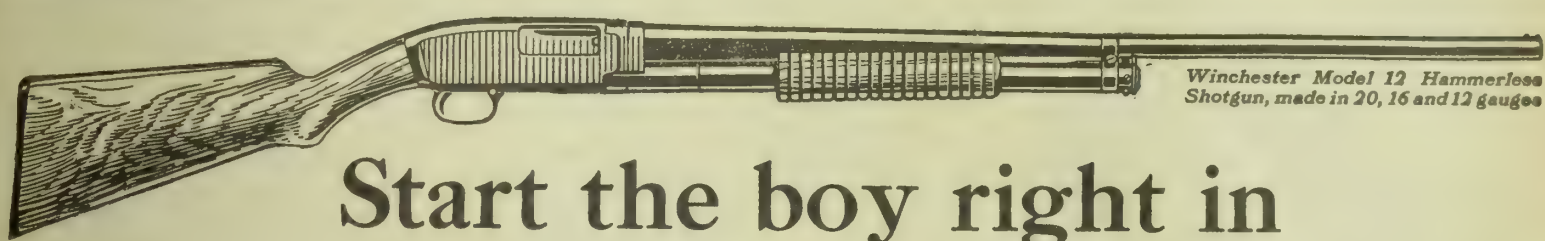


Dense, even, hard hitting, quick opening pattern of the Winchester 20 gauge



Winchester Model 12 Hammerless Shotgun, made in 20, 16 and 12 gauges

Start the boy right in with this 20 gauge gun

Old wing shots are coming to it; beginners are learning with it.

Start that boy of yours right in with a 20 gauge Winchester Model 12 shotgun, the sportiest gun of them all.

Light in weight, ideally balanced, quickest to get on the birds of any shotgun, your boy will take naturally to the Winchester 20 gauge. And when, later on, he gets out among good sportsmen, he will be glad you picked a real sportsman model for him at the start.

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For field shots at close range the Winchester light 20 and 16 gauge point quicker than any other. They work smoothly in whatever position they are held.

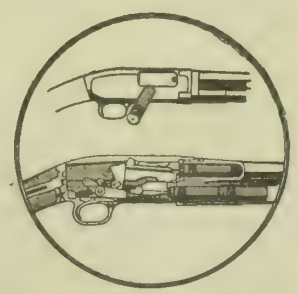
The best old wing shots follow sport for sport's sake. They are turning to the Winchester light gauge models—the Model 12, 20 gauge hammerless, and Model 97, 16 gauge hammer—because these guns test the sportsmen's skill and mettle to the utmost.

The barrel *is* the gun

Men who know guns realize that the accuracy and durability of a gun lie in the barrel. On the quality of the barrel depends the quality of the gun. There is absolutely no difference in the standard of quality of the barrels on the highest and lowest priced Winchester guns. With Winchester the barrel *is* the gun and the single standard of quality has been attained only by the most unremitting attention to the boring, finishing and testing of the barrel.

The Winchester barrel

The barrels of the Winchester Models 12 and 97 have been bored to micrometer measurements for the pattern they are meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until the pattern proves up to Winchester standard the guns cannot leave the factory. The Nickel Steel construction preserves the original accuracy forever. The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that, with proper care, will last a lifetime.



Quick feeder, sure ejector. Throws empty shells to the side, out of your way

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The Winchester catalog is an encyclopedia on shotguns, rifles and ammunition. Every hunter should have one. It gives detailed specifications of the Models 12 and 97 and describes at length the principles on which every one of the world-famous Winchester shotguns and rifles is built. Write today. We will mail you a copy free, postpaid.

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Take-down Repeating Shotgun. Made in 12 gauge, weight about 7¾ lbs; and in 16 gauge, weight about 7½ lbs. The favorite with shooters who prefer a slide forearm repeating shotgun with a hammer.

WINCHESTER

World Standard Guns and Ammunition

General Agricultural Review

Field Crops.

The California Vegetable Union has opened offices in Kansas City.

More than 25 cars of celery are shipped daily from San Francisco to Eastern points.

Warehouses in Butte county are filled with rice as soon as the grain, beans and raisins are shipped out.

It is understood that 150,000 sacks of rice have been sold to Southern millers through the Pacific Rice Growers' Association.

Organization of all the celery growers in the State into one corporation is projected by Harris Weinstock, State Market Director.

Barley planting in Fresno county is 47,290 acres, bringing the total grain to 81,450 acres. The barley crop will yield 1,380,120 bushels.

The Japanese melon growers in Imperial Valley have organized a marketing association which will hereafter handle all the melons raised by its members.

J. E. Kollar of Belleflower has just harvested $150 worth of late potatoes. The crop was planted September 1 from seed raised in the early crop this year.

R. M. Buckman of Farmington says the barley and wheat yield was the largest ever known around Farmington. A large acreage of wheat will be put in this fall.

Rice threshing is closing in the rice fields in the lower part of Kings county, where a large acreage was planted. Weather conditions this fall have been especially suited to harvesting rice.

Fresno county has reported to the United States Bureau of Crop Estimates that 41,800 acres of wheat were actually under cultivation this season and that the yield for 1917 will be 668,800 bushels.

Patric Cushing is cutting celery from a 30-acre patch on his ranch near El Monte. It is being shipped to Los Angeles, where it is bringing $2.25 to $2.75 per crate. The crop is valued at $800 per acre.

Egyptian corn does well in Tulare county. R. E. Clifford, with an 80-acre crop near Tulare, is, it is said, harvesting three tons to the acre. At the present prevailing price his crop is worth $160 per acre.

Many farmers east of Escalon would put in more wheat this fall if seed wheat was not so high. Mr. C. Manley is solving this problem by sowing 40 acres this fall for seed and preparing 324 acres for wheat next year.

R. L. Reynolds of La Habra is, it is said, harvesting a fine crop of green beans from a 20-acre patch. He is shipping at the rate of two tons per day, which at 8c per pound, the Los Angeles market price, is $320 per day.

A new mango spot disease, found only in the largest mango grove in the world, is to be studied by L. D. Wallays of the United States Department of Agriculture, who stopped in our office on his way from New York to Manila, where the trouble is located.

Two large ears of white dent corn grown on the Wilson ranch, near Clovis, were brought to Farm Adviser Smith this week. The corn was planted August 1 and the season proved favorable. Corn has been grown before, after August 1. Such planting is usually regarded as experimental rather than practical, on account of the possibility of early frost.

It is planned to plant 1,000 acres of wheat, oats and barley at the University of California farm at Kearney Park, near Fresno. The grain crops will be followed by milo and pumpkins The University is co-operating with the Food Administration to raise cereals and also to supply feed for hogs and cattle. Long-staple cotton may be planted on a commercial scale, experiments this year having proved its production possible.

At a meeting of sugar beet growers last Saturday at Santa Ana the Grand Jury of Orange county was called on to investigate the sugar beet situation. It was said that in Orange county, with its five beet sugar factories and its big beet acreage, a fuller investigation could be made than in Los Angeles. It is alleged that the growers are not receiving their share of the advance in the price of sugar; that the factories have been making a big profit and that growers cannot continue to devote their lands to beets unless they get better prices. It is claimed that from beets grown on an acre the sugar factory makes $196, while the growers get only $64 an acre on an average.

Twenty-cent grain bags will drive the wheat and barley growers of the San Joaquin Valley to demand elevators for handling their crops, according to men of the Wheatville section of Fresno county. A meeting is called for December 15 at the Wheatville store. The growers have invited Farm Adviser Leroy B. Smith and L. A. Nares to address them and give figures on the costs. It is claimed elevators can be built for the amount required for sacks for two crops. The price of sacks has gone up about 300 per cent in three years. The Food Administrator has recommended construction of elevators, which would leave the farmers no longer at the mercy of the speculators and the mills.

Deciduous Fruits and Nuts.

California producers have sold 3,944,050 pounds of evaporated peaches and 881,656 cans of peaches in the last six months to one customer—the United States Army.

The dried fruit business in the Eastern markets is now described as one in which scarcity of supplies controls the situation.

The largest almond orchard in the Oakdale section is that owned by N. J. Lund in Langworth. He has 110 acres in almonds, of which 80 acres are in bearing, although still not in their prime. Mr. Lund has just shipped the last of his crop, which amounted to 46 tons, not counting four tons of stick-tights, which went to Sacramento to be shelled. He received approximately $375 per ton for the crop.

The 1917 dried peach crop was large, but mostly of small sizes, according to Sales Manager A. J. Sturtevant, Jr., of the California Peach Growers, Inc. Muirs were about 32 per cent standards, 55 per cent choice, 10 per cent fancy and 1 per cent extra fancy, as against last year's grades of 26 per cent standards, 49 per cent choice, 18 per cent fancy and 4 per cent extra fancy. But they are much better cured; and the sizes may be increased next year by proper thinning.

The apple season in the Yucaipa Valley is drawing to a close. It has been the heaviest season ever known there. The packing house at Yucaipa has been working day and night since the season started and about 125,000 boxes have been packed and shipped or put in store. Apples have brought good prices and growers have realized good returns. There has been no waste, for practically all the windfalls and culls were either sold in packed boxes or sent to Redlands, where they were canned or dried.

Citrus and Semi-Tropical.

The Azusa Citrus Association is closing its 1916-17 season. Its shipments of oranges have reached 150,000 boxes. The member growers will receive over $240,000.

J. C. Forkner has contracted for 100,000 rooted Calimyrna fig cuttings made last winter and being rooted by Kirkman Nurseries of Fresno. They will be planted at Avocado, a thermal tract on Kings River.

Porterville packing house managers have been notified that an embargo has been placed on the shipment of oranges this season to London. The railroads have refused to handle any further consignments to the Eastern seaboard for export.

Citrus fruit shipments the past year from San Fernando were 268 cars of oranges and 12 cars of lemons. There were 110 cars of navels and the balance Valencias and lemons. There has been a steady increase in acreage in the Valley, but few oranges will be raised the coming season owing to the heat wave of last June.

Reports from Redlands say that shipments of Valencia oranges from that point up to November 1 had reached 5,100 cars and there was more to go forward. Many shipments had been held back late this year on account of the failure of the navel crop. It is said there will not be over an eighth of a crop of navels this season in the Redlands district and no shipments of navels are expected until February.

Fresno county oranges tested a satisfactory sugar content during the week ending November 24 and were well colored, only one house having resorted to sweating before shipment, according to Horticultural Commissioner F. P. Roullard. All of the grape inspectors were called off during the same week. No sugar tests had been needed for the month previous, and mildew has been scarce this year. Forms are being prepared for the nursery work which starts late this month.

Grapes.

E. Ilders reports that the grape crop in the Farmington section was light this year, though the returns were good because of the prevailing high prices.

The grape season around Escondido is drawing to a close. The crop this year was fine and very heavy, and the shipments so far have reached 100 cars.

The grape harvest is over and the yield was about two-thirds of a normal crop. But the price was good and both grape grower and wine maker seem very well pleased at the outcome, says the Napa Reporter.

Miscellaneous.

Apple, bean and potato stealing has become prevalent since these products have been commanding recent high prices.

Secretary of Agriculture Houston has announced that further advance of grazing fees on the national forests will be deferred for the present. He also announced that no change will be made at this time in the issuance of grazing permits for more than one year.

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The Sheldon was designed especially for the farm. Highly praised by users. Farmers everywhere call it the ideal mixer. Used today all over the United States. A big success. Small enough to be easily moved—big enough to keep 6 men busy. Low in price. Build your own silo, tanks, troughs, floors, foundations, buildings, etc., out of concrete with a Sheldon Batch Mixer.

Read What These Sheldon Owners Say

I and my hired man laid a feeding floor for my hogs, 24x24, in one day, also put floor in my cow barn. My neighbor liked it so well I am not able to keep it at home—ANDREW CHRISTENSEN, Hancock, Minn., Rt. 1.

We have used the mixer during past year for putting in cement foundations for a complete set of farm buildings, including silo, and like it very much.—DANA WEIGHT, Jamestown, N. D.

Last year I bought a cement mixer from you with which I am well satisfied. It did not take long for it to pay for itself and I surely can recommend it to anyone needing a big mixer at a small price—WM. PARES, Martinton, Ill.

I am more than busy with my Sheldon Concrete Mixer. Have more work than I can do. Just $10 a day when I work out.—JESSE L. WITTER, Wellsville, N. Y.

The machine works fine. Have already put the job of mixing concrete for the bridges in this township.—JOHN ROSS, Spartansburg, Pennsylvania.

Last spring we purchased of you a set of castings to make a concrete mixer. It was constructed per the plans furnished, and it surely worked great.—D. M. BAUBAKER, Freeport, Ill.

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Make your own concrete mixer. You can do it at a cost so low you can not afford to mix concrete by the shovel method. Along with our iron parts we send Free Plans and permit for making your own machine. A good way to get a practical mixer at a small expense. Or, we will sell you the complete machine, ready built.

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If you buy a Sheldon Mixer for your own use, you can make many times its cost in a season by renting it to your neighbors. Or, if you want to go out with the mixer on contracts, you can easily earn $8 to $10 a day. Our customers are doing it right now. The jobs go to the man with a Sheldon Mixer every time.

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Shows our full line of mixers which are sold direct to you on strong guarantee. Thirty days trial privilege. No other like it. Patented. Two engines, hand and power. Mixes 2 1-2 cubic feet a minute. One man can operate it, but it will keep 2, 3, 4, 5 or 6 men busy. Continuous chain drive. Tilting dump. Easily and quickly moved. All parts guaranteed. Does work equal to $400 mixers. Be sure to get the catalog. Write today.

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The Sheldon will pay for itself on first small job. Takes the backache out of concrete. Makes possible those many small improvements that add so much to the value of your land.

Wheat and rice growers assert that some method should be taken by the National Food Administration whereby the thousands of geese which eat their grain should be killed and put on the market to increase the meat supply.

In an interview recently with Mr. Robert Killefer of the Killefer Manufacturing Company, Los Angeles, the following question was asked: "What effect will the close of the war have on your business?" Mr. Killefer, speaking from his own viewpoint, stated that in his opinion they would be unable to take care of the orders that would be offered them; that during the past year they had received inquiries from several foreign countries (some now engaged in the war). Letters also from foreign countries not in the war (but who would be affected with the war's end) from a commercial standpoint, and who previous had not been heavy buyers of agricultural implements, were received. Correspondence was shown asking for quotations, prices, etc., from Russia, France, Mexico, Java and England; also from exporters in New York City and San Francisco, these coming up to the present time, and all dealing with "after the war" conditions. Mr. Killefer further stated that, owing to the embargo on shipments, they were holding up orders, long past due, for South Africa. Just now their great difficulty is the receiving of raw material.

THE WEATHER AND THE CROPS.

Except in the extreme northwest counties the rainfall during November was much less than usual. The deficiency was proportionally greater in the southern half of the State. This lack of moisture caused a shortage of feed for range stock, especially in the coast counties south of San Francisco and in the foothill districts of the southern portion of the Sierras. Some cattle have died on this account, but so far the losses have not been heavy. The dry weather also seriously hampered fall plowing and not so much of this work has been accomplished as usual. Should good rains occur in December the acreage in wheat will be considerably larger than last year. As near as can be determined, about half of the fall seeding of wheat, barley and oats has been done, but very little has yet germinated, and that which has come up does not show a good stand in most places.

The rain of November 30 was quite general over the northern half of the State. Grain and pasturage has improved greatly north of the Delta counties in the last two or three days. The weather was favorable for finishing the harvest of beans and for the digging of potatoes. These crops turned out better than expected. There were quite a number of frosty mornings in the Sacramento and San Joaquin Valleys, but they did no damage of consequence. The cool nights, however, prevented much growth and alfalfa and clover are now dormant.

An excellent crop of tomatoes has been secured in fine condition, and lettuce in the Imperial Valley is well advanced. The raisin crop in San Diego county was large and of good quality. Oranges and lemons are ripening satisfactorily and the fruit is sizing up well. Shipments of both are steadily increasing.

HORTICULTURAL LAWS FREE.

All of the horticultural laws of California, along with a directory of the horticultural officers, fully indexed for instant reference, have just been printed in a handy little volume issued by State Commissioner of Horticulture G. H. Hecke. There has been a crying need for such a collection for a good many years, and it will be much appreciated. Anyone who wants a copy may have it by writing to Mr. Hecke at Sacramento.

NEVADA HAS A PROSPEROUS YEAR.

The 1917 crop production of Nevada is above that of last year in most products. Barley, however, fell slightly below the output of 1916. We give the estimated production for this year and the December estimate for 1916:

Product—	1917	1916
Wheat (bushels)	1,169,000	1,592,000
Oats (bushels)	602,000	602,000
Barley (bushels)	480,000	492,000
Potatoes (bushels)	3,520,000	2,660,000
Hay (tons)	949,000	711,000
Apples (bbls.)	66,000	16,000

Following are the prices for the two years, the first price being that of this year and the second that of last year: Wheat, $2.20 and $1.40 per bushel; corn, $1.50 and $1.10; oats, 75c and 65c; potatoes, $1.45 and $1.07; hay, $15 and $13.70 per ton; eggs, 55c and 45c per dozen.

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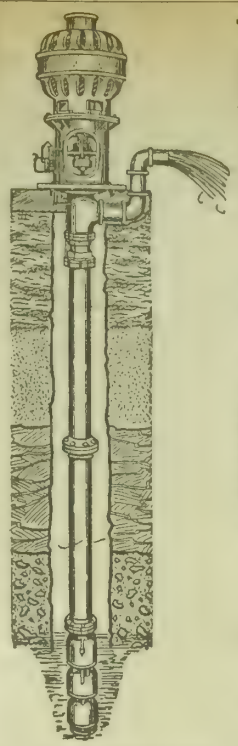

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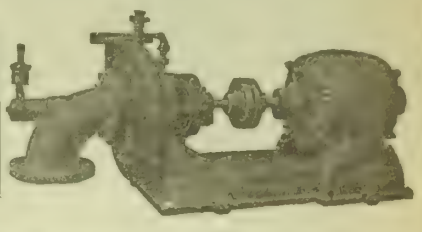

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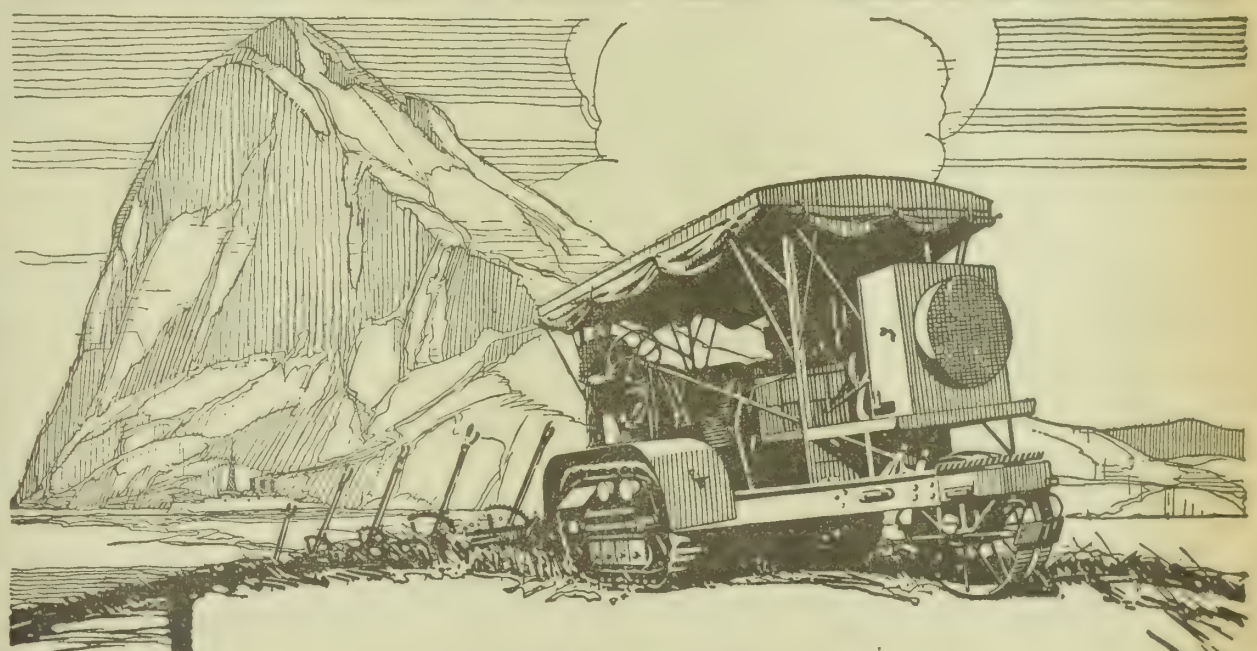


A GIBRALTAR *for* STRENGTH
Long experience in machinery manufacture—thirty-five years of it—careful selection of best wearing materials—right design and solid construction have made the "Caterpillar" Tractor a Gibraltar for strength.
Years of experience in tractor designing and building, and intimate knowledge of materials have contributed to the perfection of "Caterpillar" Tractor construction.
The "Caterpillar" Tractor, on that account, stands today without an equal for efficiency or economy. The records it has established in every class of work, in every part of the world, under every sort of condition, prove its superiority. What the "Caterpillar" Tractor has done for others in reducing costs and increasing profits, it can do for you.
We will gladly send you details on all models.
The Holt Manufacturing Co. Inc.
Stockton, California
Peoria, Illinois
Los Angeles, Cal.
Portland, Oregon
Spokane, Wash.
San Francisco, Cal.
CATERPILLAR
Reg. U.S. Pat. Off.

University Tractor Short Course—II.

Know These Things Before Buying Tractor

[From notes taken at University Farm Tractor Short Course]

ONE of the first things done after Prof. J. B. Davidson was called to head the Agricultural Engineering Department at University Farm was to find out how many days per year a tractor could be used on the Farm. At that time there seemed 187 days' work for a tractor, and one was obtained. Another has been obtained since then.

DEPRECIATION AND INTEREST.

Prof. Davidson's experience leads him to believe that very little shorter life results from proper use of a tractor than from idleness. The quicker you can wear out a tractor with proper usage, the more economical it is. In an Illinois investigation, tractor users' estimates of the farm life of a tractor averaged about eight years. In the present unsettled state of tractor designing, a tractor eight years old is not satisfactory, because so many improvements have been made since eight years ago in practically every make of machine. Tractors usually find the boneyard in less than that time, yet with proper attention they could run continually, within reason, for eight years or more. If eight years be accepted as the average life of a tractor, and if the tractor costs four thousand dollars, the depreciation will be five hundred dollars per year. If the tractor be used only fifty days per year, it will cost in depreciation alone ten dollars per working day. If it be used 250 days per year, depreciation will be only two dollars per working day. Therefore, the more constantly busy a tractor can be kept, the more economical it is. For this reason it is well to survey your farm work and outside work to find how many days per year you can use a tractor. Then add perhaps thirty to fifty per cent, because there are a multitude of uses that you will not foresee.

Figure the same way with the interest on your investment, remembering that a farm owner can get money from the Federal Farm Loan Bank for tractors at five per cent.

Depreciation and interest are fixed or overhead expenses. If the service rendered by the tractor be in the nature of rush work in which the seeding or harvesting of crops depends on getting the work done within a short time, a much higher value can be allowed per day to offset the overhead and show greater profit.

FUEL CONSUMPTION.

Fuel and lubrication are directly proportioned to the work done if the operator be skilled in regulating them and if the tractor is operating under a full normal load. It is easily shown by definite trial that fuel consumption of any engine is proportionately greater when working at a half load than at a full load, due to the nearly fixed amount required to run the engine itself. With a tractor the proportional loss is even greater, due to the additional power required to propel the machine over the ground. Therefore the tractor load most economical of fuel is the full normal load.

It is just as easily shown that with a given load or running idle, fuel consumption of any engine may be increased one hundred per cent without appreciably increasing its power. This will be due to ignorance of how to adjust the various parts. Lectures in this course give detailed instructions on these lines.

Extra fuel is required also when any parts are not properly lubricated or get gummed up or get dirt in bearing surfaces, such as bearings and cylinder walls. More fuel is required also when bearings are too loose or too tight, or when compression is lost due to ill-fitting pistons or scored cylinder walls, etc.

From the above it is seen that the fuel consumption is much less if the tractor is skillfully adjusted and if it pulls a full load. A tractor will generally pay these days if handled at all decently, but skillful management makes it pay much better.

REPAIRS.

Skillful management and common sense will keep repairs down to a minimum and avoid loss of time due to breakdowns. An automobile can be run into a shop when things go wrong, but a tractor generally requires that the doctor come to the ranch. With the competition of many manufacturers the system of keeping service men in various communities has grown up. These service men are expensive, and whether they are paid by the rancher or by the manufacturer, the tractor buyer in the end pays all the bills. It will be better for all when the time comes that all service men are paid by the rancher for each job.

A tractor operates under heavy load all the time and working long hours. Operation and avoidance of breakdowns require frequent inspection and adjustment of troubles at their beginning. A few loose nuts require a minute to tighten. If they drop off, or even permit working parts to rattle and pound, or bolts to shear, it is not long until a day's repair work and delay with the work may result.

To a large extent, a tractor driver will find it necessary to be his own service man. To do this he must know his machine and be willing to

4 H.P.—190 lbs.

The 4 H. P. Cushman Handy Truck is the most useful outfit ever built for farm work. Engine weighs only 190 lbs., and entire outfit only 375 lbs.

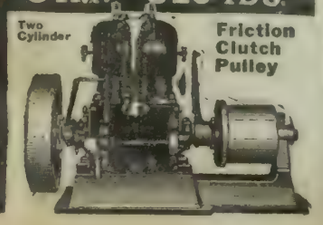
Besides doing all farm and household jobs, this 4 H. P. Cushman may be lifted from truck and hung on rear of binder during harvest to save a team. In wet weather it saves the crop.

Light Weight Cushman Engines

Built for farmers who need an engine to do many jobs in many places instead of one job in one place. Throttle Governed, with Schebler Carburetor. Run very quietly and steadily—not with violent explosions and fast and slow speeds like old-style heavy-weights. Engine Book free.

CUSHMAN MOTOR WORKS
956 N. 21st Street Lincoln, Nebraska

8 H.P.—320 lbs.



$175 F.O.B. San Francisco

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Will pull any farm implement that four horses will pull.

TRACFORD ATTACHMENT

A four-horsepower tractor at the price of one horse

The **Tracford** was placed on the market only after the successful completion of the most vigorous and severe tests and experiments. It puts at your command in the field or orchard and on the road the universally recognized power and stamina of the Ford automobile, the former increased ninefold and the latter unimpaired.

Simple -- Powerful -- Economical

SEND YOUR ORDER TODAY.

Hughson & Merton, Inc.

77 O'Farrell St. San Francisco

make a systematic inspection of nuts frequently and to feel of bearings. If bearings are too warm, it may mean a grease cup not turned enough or an oil hole gummed up. It takes only a minute to fix these, but without fixing it takes only a few minutes to burn out the bearings and then a day to fix them.

LABOR.

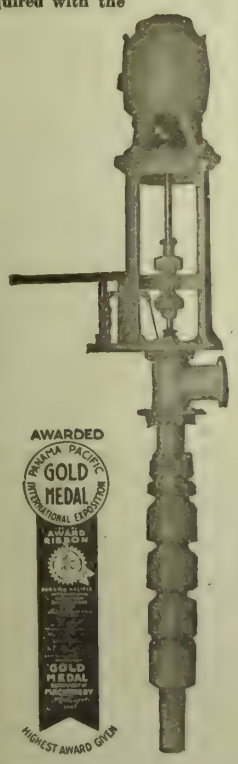
Where labor is hard to get, one man may be more easily obtained to drive a tractor and stay on the job than the four or five men whom he may replace. This is largely true because a tractor driver is likely to be a more intelligent, ambitious and responsible man than much of the farm labor. Efficient tractor drivers may be hard to get, but they are not as a rule like the class who quit any job as soon as they have a little "stake." Because a tractor multiplies the manpower of a man, its time may well be valued highly in considering its value versus its cost.

To make a tractor most economical, (1) there must be work adapted to it; (2) there must be enough days' work of definite value to reduce the overhead expense; (3) the tractor must be properly lubricated to reduce fuel consumption and repairs; (4) the operator must be able to detect trouble before it gets serious; (5) he must inspect the outfit frequently; (6) and must have ability to make adjustments not only of tractor parts, but also of fuel consumption; and (7) proper implements must be provided.

No Pit

is required with the

KROGH
DEEP
WELL
TURBINE
PUMPS



For bored or drilled wells from 10-inch inside diameter up; and for capacities of 250 gallons per minute up to 3000 gallons per minute. Built for pumping from any depth to and including 250 feet. They are absolutely balanced and are self-aligning. More water can be obtained from such wells than with any other type. Built in belted or direct motor driven types. If interested, write for Bulletin.

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Branch at
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BULL TRACTOR

The Best on the Market for the Price

We have two left over from our last shipment which we are offering at last year's prices. Also two demonstrators, good as new at less than cost

GRISWOLD LUMBER CO. CHICO, CALIF.

MACHINERY RUNS THE RANCH.

[Written for Pacific Rural Press.]

Church Bros. of Solano county believe in letting John D. do the work. We happened on the ranch when they were not at home—probably off in an automobile. We took note of several machines about the place. A 60 or 75 horsepower tractor had pulled a bean harvester into the back yard recently. The harvester is bigger than a house, being built to pick up bean vines from winrows, thresh them, and sack the beans. Its weight is probably enough for the tractor.

In the yard, where an acre or two were covered with corn shocks standing close together, were a tractor belted to a corn husker and a stationary gas engine belted to a corn sheller. The tractor had probably previously pulled a corn binder, for the cornstalks were all in bundles. The track was blocked by a bar thrust between drive gear and track to prevent the belt loosening. Two wagons were kept busy hauling the fodder a few yards to the husker. The beautiful yellow flint ears were elevated out to wagons after being husked in the machine. The stalks were shredded and blown into a great stack for winter feed. From the husker, corn had been hauled to the four-hole force-feed sheller. Cobs are stacked from this machine for winter fuel, and the shelled corn is elevated through a spout into grain wagons. A great stack of straw for winter feed and bedding indicated use of tractors in preparing the seedbed, harvesting, and threshing the grain.

GRINDS FEED AT HOME.

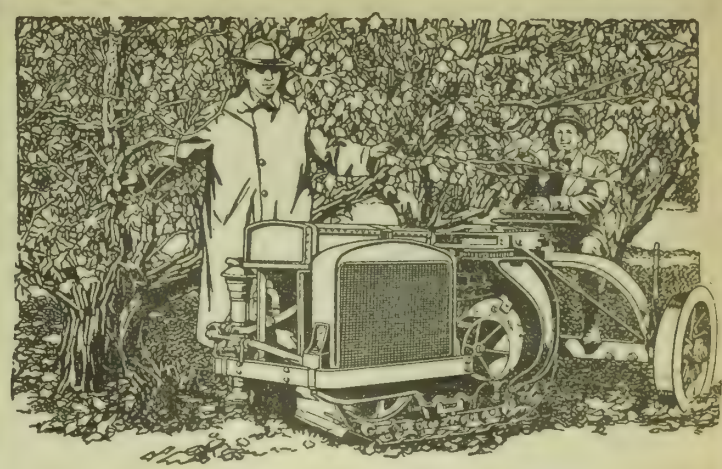
[Written for Pacific Rural Press.]

Ground feed for the hogs is considered economically a necessity by R. F. Guerin of Visalia, and he used to haul the grain six miles to town in an auto trailer to trade it for mill feeds. Often be received bum stuff in return. Patched sacks replaced his own good ones. Time and gasoline going back and forth were too valuable to waste. Not long ago he bought a grinder and set it on a platform several feet off the ground so whole grain could be unloaded from a wagon to the platform on a level and so the ground grain would drop by gravity into the sacking chute. One man dumps corn, barley, etc., into the hopper; another fills the sacks, and another sews them up. The machine grinds about 45 sacks per hour, and the Guerins think it will half pay for itself the first season.

The gasoline that might be used for a trip to town is now used on the motor of an old automobile whose body burned off and which is now fixed up as an engine on wheels. A belt pulley has been inserted behind the transmission, and stakes hold the outfit from sliding sidewise and loosening the belt. This motor also runs the silage cutter.

TAKE CARE OF TRACTORS.

The advice of American Thresherman may well be taken with advantage to the nation. "When your work has been finished," it says, "don't forget that the high cost of tractors will not permit of their standing out in the storm all winter. Machinery rusts out faster than it wears out."



Great Little Tractor

For Orchards and Vineyards

Built by Long-Established Concern

Here is the tractor that the owners of orchards and vineyards have wanted to buy for years. It is built by the Bean Spray Pump Co., makers of the famous Bean Sprayers and Pumps. It does what no other tractor has ever done before. Its patented front-drive offers exclusive features, which sooner or later you will want in a tractor. Don't buy any tractor until you know all about it. Don't find out about this too late.

Great Traction With Light Weight

This is the lowest-priced track-laying tractor manufactured.. It weighs but 3100 lbs. and costs less to operate than wheel-type tractors of equal power. Note how the track grips the ground, and compare that contact with the wheel-type's.

This means great pulling power with a very light tread. No other can work so well in light soil.

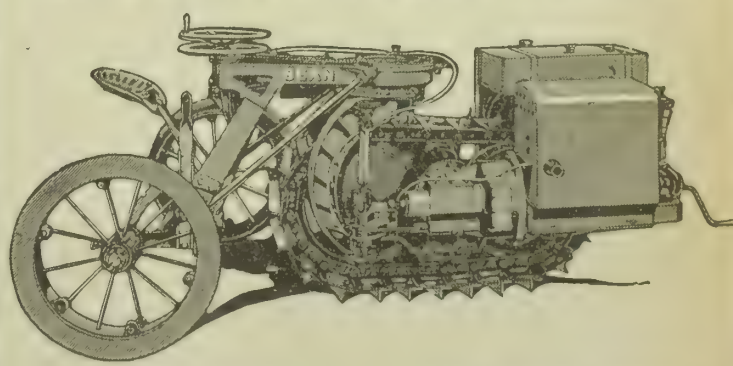
Handles Better Than Horses

This Tractor is handled more like horses than any other machine in existence. And it does what horses cannot do. It will pass under tree branches only 4 feet off the ground, plowing close up to the trunks. It works between 7-foot rows in vineyards, and cultivates right up to the vines without breaking off young shoots.

You can turn it all the way around inside a 10-foot circle (5-foot radius); and it pulls with its full power on these turns the same as on straight-aways.

When you hit soft spots or holes you simply "gee" or "haw" the track and pull out, as you would with a team.

BEAN TrackPULL Tractor



Pays for Itself

The Bean TrackPULL Tractor pays for itself in what it saves its owner. It is simple and strong and durable. Every part is over-strength. The motor is an automobile type, so you know how to care for it. The Tractor is rated at 6 h. p. at drawbar, and 10 h. p. at the belt. On account of the patent front drive principle and simple transmission the fuel consumption is far less than other types doing the same amount of work.

Get Catalogue Today

Send the coupon for our new catalogue. Send it today, for the price of this Tractor may have to be raised without notice. The necessary cost of materials, due to the war, makes a permanent price impossible.

NOW $1215

F.O.B. San Jose

Bean Spray Pump Co.
811 W. Julian St.
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632 N. Los Angeles St.
Los Angeles, California
Please send me your Tractor Book with full information

Name.....
Street.....
City.....
County.....State.....
No. of Acres.....Crops Grown.....

State Dairy Records

The University of California announces the completion of ten months' records, as follows:

Name of Cow—	Age	Days in milk at start of record	Milk lbs.	Butterfat Ave. %	Total Credit for butter-fat.
Interested Jap's Santa (J.)	4-2	5	12,109	692.943	5.49	748.378
May Wa Wa De Kol Burke 3d (H.)	6-11	5	21,306	668.303	3.14	668.303
Kornkyke Senorita (H.)	6-2	5	18,111	648.050	3.52	638.050
No. 811 (Gr. G.)	4-	16	11,561	558.024	4.83	602.666
Rose (Gr. J.)	8-	6	10,459	520.161	4.97	520.161
Goldie of Venadera (J.)	7-1	5	10,625	509.938	4.80	509.938
No. 812 (Gr. G.)	4-	18	9,381	489.422	5.22	528.576
No. 482 (Gr. G.)	4-9	5	8,943	466.496	5.22	489.821
Cherry (Gr. S.)	9-	5	11,611	464.078	4.00	464.078
Inge Dickeweare Wild Rose (G.)	4-11	7	8,598	461.522	5.37	484.598
Fern Ridge Pearl (G.)	7-3	6	8,262	451.782	5.47	451.782
No. 67 (Gr. H.)	4-	15	12,004	451.579	3.76	485.705
Lucia of Venadera (J.)	2-8	5	8,912	434.389	4.87	558.642
Murne (J.-G.)	6-	5	7,431	400.435	5.39	400.435
Brownie (Gr. J.-H.)	4-	5	10,184	395.625	3.88	427.275
Fayne (J.-H.)	6-	5	9,525	394.362	4.14	394.362
Marion of Rattler Valley (J.)	4-10	5	6,905	375.804	5.44	394.594
Olga Petrovia (H.-J.)	4-	6	9,391	368.128	3.92	397.578
Reddie (Gr. S.)	7-	8	8,161	363.484	4.45	363.484
Zama of Venadera (J.)	1-11	5	6,650	326.786	4.91	424.822
Tinlalata Cassie Lee (J.)	3-11	5	5,773	286.592	4.96	339.581
Lena (H.-D.)	1-11	5	7,804	280.631	3.60	364.820
Lita of Belle Vista (G.)	2-3	5	5,159	264.897	5.13	344.366
Snail De Kol (Gr. H.)	4-	21	5,273	235.788	4.47	254.651
Shilie De Kol (Gr. H.)	5-	6	5,182	255.529	4.35	225.529
Gretchen Sarcastic (Gr. H.)	1-9	5	5,340	192.086	3.60	249.712
Idlewild Sarcastic (Gr. H.)	2-	16	4,150	144.337	3.48	187.638
Black Bird De Kol (Gr. H.)	3-	5	4,044	136.128	3.37	160.631

Owners of Cows: 1, 3, 9, University Farm; 2, Palo Alto Stock Farm; 4, 7, 8, 10, Hollow Hill Farm; 5, Bomberger; 6, 11, 13, 20, G. H. Miller; 12, Napa State Hospital; 14, 16, 19, Bohnett Bros.; 15, 18, 22, F. Beebe; 17, 21, Dr. H. G. Gross; 23, C. R. Grice; 24, 25, 26, 27, 28, J. M. Christen.

Guerin to Sell Holsteins

As R. F. Guerin's two sons have gone to war and his alfalfa fields are getting old anyway, he proposes to sell his entire herd of over 80 mature Holsteins next spring, reserving only 50 heifers, daughters of the herd sire, which will also be sold. The bull is the only son on the Pacific Coast of Sir Veeman Hengerveld and is out of a 30.15-pound cow. The cows are a remarkably uniform lot of strictly dairy type, all herd sires having been selected for this purpose, and all having been grandsons of Hengerveld De Kol. Among the cows are six with records over 25 pounds, and they are prospects for better records. Three have 19-pound records made as two-year-olds last winter. One of the 25-pound cows averaged over 98 pounds of milk per day for a week, giving a maximum of 107 pounds. Practically all of the cows to be sold are to be tested this winter, and it is expected that many will have their former records raised. The first to be tested is a heifer out of a 20-pound two-year-old that bloated and died before her second lactation. Mr. Guerin expects to get the alfalfa plowed and reseeded and the ranch in better shape for dairying before the heifers come in. Meanwhile he is to build a hog shed on plans that will minimize labor, and will increase registered Poland-Chinas.

Bull Affects Many Generations

[Written for Pacific Rural Press.]

That a bull can impress his progeny several generations removed with capacity for great butterfat production has been repeatedly proved. A case related by F. A. Heroux of Oakland where a relatively unknown bull's granddaughters have all tested high is that of Prince Ybma Spofford 6th, a Holstein bull chosen by Cornell University for the test a few years ago. No females of this family have been sold by the University and all have been tested. The bull died young, having only 11 daughters, out of which three died when their first calves dropped. The rest all secured A. R. O. records. Six of these made over 30 pounds and two over 25 pounds. Their daughters have all tested over 20 pounds at early ages. With all the females of this family under control of Cornell University and all to be fed right and tested, owners of bulls related to the family will one day have a great talking point for their stock.

Alfalfa Alone Dangerous to Dairy Cows

[Written for Pacific Rural Press.]

"I fed alfalfa alone to my dairy cows for fifteen years, but quit it a good many years ago," said J. L. Blane of San Benito county. "There was too much sickness among my cattle and too much abortion. Their health has greatly improved. I now feed corn silage and oat hay, with bran and barley mixed—about one pound of grain per four pounds of milk, as nearly as I can control the feeding. I did feed oilcake meal until that became so scarce. Some of my cows give 50 pounds a day now and they average about 24 pounds, though about half are heifers. I've noticed that other herds fed alfalfa alone have more abortion, too. That diet seems to weaken their resistance to disease by overtaxing the digestive organs. The cattle become surfeited with protein, which they must eat in injurious quantities of alfalfa if they get enough carbohydrates. I would feed alfalfa now if I had it, but with enough carbohydrate feeds to balance its excessive protein, and also avoid waste of this expensive feed element."

CONCENTRATED BEEF FEEDING.

California, with 13 1-3 head of cattle per square mile, as against Iowa with 80 head per square mile, is depending altogether too much on grass (green and dry) to grow and fatten our beef. Our neighbors at the north are feeding beef cattle and drawing gross and net premiums on the markets. Iowa cattle are all grain fed. Transportation and marketing facilities handicap California, but not enough to exclude those several feeders here who have already for several years been growing grains for intensive feeding at home. There is also a tendency to fatten and market at earlier ages, a practice very commendable where it has been shown more economical than to hold stock a year or two longer on narrower margins above feed cost.

Owners of cattle now in the foothill sections of the San Joaquin Valley are anxiously waiting for rain to start new feed, as the stock is now on poor pasturage. The unusual weather conditions are said to have made water holes unhealthful and feed scarce and lacking in food value.

PRINCE ALCARTRA KORNDYKE

WE ARE OFFERING FOR SALE A NUMBER OF YOUNG BULLS

Some ready for service—sired by Prince Alcartra Korndyke and out of dams with records up to 30 pounds in seven days and over 800 pounds in a year. We have priced these extremely low in order to move them quickly and make room for the coming crop of young calves. Order one of them now and have the advantage of the larger records that their dams are sure to make at next freshening.

The first daughters of Prince Alcartra Korndyke are now finishing their yearly test and will average well over 650 pounds butter under ordinary herd conditions and stand well up in the list for the Association prizes.

Look for our consignment at the Guaranty Sale, Sacramento, Dec. 5.

J. S. GIBSON COMPANY BOX 97 WILLIAMS, CALIFORNIA

MORE PROFITS FOR THE DAIRY RANCHER

The most valuable by-product on the farm is manure—but it should be applied when it is fresh and contains its full share of liquid. The old wheelbarrow method is too slow—the manure becomes old before it can be spread. Besides, the wheelbarrow method costs too much—labor is too high to let a man stay on a job like that. Here's the solution to the problem—install

Louden Litter Carriers

You can get the fresh manure loaded onto a wagon or spreader and applied to the soil without delay—making the job mere child's play. Saves time. Increases fertility of your soil. Improves health of your cattle. Increases quantity and quality of your dairy products. And puts bigger profits into your pockets.

Big Book of Modern Barn Plans Free

Tells you how to build any size barn for greatest convenience and economy. Shows you how to cut your labor costs. Contains scores of illustrations and diagrams. Sent free, together with the Complete Catalogue of Louden Barn Equipment and Hay Tools.

California Hydraulic & Engineering Co.

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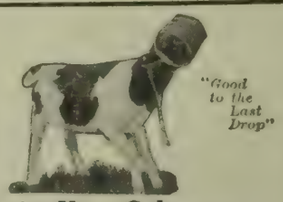


Raise Your Calves on
Blatchford's Calf Meal
and Sell the Milk

More calves have been raised on Blatchford's Calf Meal than on all other milk substitutes combined.

100 lbs. makes 100 gallons of milk substitute, costing only one-third as much as milk.

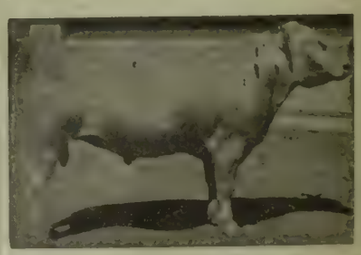
Prevents scouring and insures the early maturity of sleek, handsome calves.

It is steam-cooked and no trouble to prepare or use.

Write for Pamphlet "How to Raise Calves Cheaply and Successfully with Little or No Milk." At dealers, or

Coulson Poultry & Stock Food Co., Inc.
Dept. 9, Petaluma, Cal.

HOLSTEIN Friesian Cattle



PRINCE BUTTER BOY
First Prize Sacramento 1917

Herd Sires:
Prince Butter Boy
King Mead of Riverside
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STOCK FOR SALE

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Infectious Diseases and Milk Production

(Continued from page 584.)

badly affected with tuberculosis that it costs more to keep them than they would produce until they die. It would, therefore, be better for the owner if they died at once. Furthermore, their flesh is unfit for food, so that in any case they represent a total loss.

Since tuberculosis affects animals on an average about the same the country over, it is easily seen how high the estimated loss would run for the whole United States, or for all of California. Figuring on this basis, the loss from tuberculosis among California's 600,000 or more dairy cows, and assuming the average value to be $60 a head, is represented by the sum of $1,440,000 at the present time. Further, every day that these animals are kept on the farms represents an ever-increasing loss.

TUBERCULOSIS MAY BE ERADICATED.

Tuberculosis can be and is being eradicated in many herds, though it requires time and patience and attention to detail. The tuberculin test in any of its forms cannot be regarded as an absolute and infallible indication in every individual case, but to the herd owner it is a positive index as to the condition of his herd as regards the prevalence of tuberculosis. It is not an indication of the extent of the disease in the body of an individual animal, and therefore every reacting cow must be regarded as dangerous and eliminated from the herd.

ACTINOMYCOSIS.

Actinomycosis is a disease caused by a plant parasite known as the ray fungi. It is usually localized in the region of the jaw and is more commonly known as lumpy jaw. It is sometimes confused with the chronic irritation caused by the penetration of foxtail. The character of the pus will usually distinguish it, but a microscopic diagnosis may be necessary. When these open abscesses are found on the jaw of an animal, it should be removed from the herd.

CONTAGIOUS ABORTION.

Contagious abortion is a germ disease which occasions losses of millions of dollars in the United States annually. It only causes death of cows through a rare complication. Its losses are chiefly caused by the death of calves, also by rendering cows sterile and therefore useless for milking purposes. It is thought to even exceed tuberculosis in economic losses to the cattle industry. Conditions are especially favorable to its development in the dairies, that is where cows are kept in more or less confinement and bred to the same bull. It now exists or has existed to a large extent in the dairies in this State where more than ten cows are kept.

The death and expulsion of the fetus is the most prominent symptom and the one from which the disease takes its name. One or more other symptoms may be manifested. These consist of premature birth; retained afterbirth; persistent vaginal discharge; sterility; garget, which, however, may have other causes; scours and navel infection in calves, which may also have other causes.

COMBATTING CONTAGIOUS ABORTION.

The only reliable method of combatting it consists of general sanitation and irrigation of genital organs of cows and bull with standard disinfectants. This should be under the direction of one who understands the principles of hygiene and sanitation and utmost persistency and attention to details are necessary. Immunization experiments have thus far proved disappointing. A natural immunity is apparently established, however, and one of the brightest features connected with its eradication is the fact that by proper management a herd immunity may be obtained by natural processes. Cows seldom abort but once, a very small percentage abort three times, and heifer calves that grow up in a disease environment and coming from diseased mothers only occasionally abort. In the course of about three years, therefore, the disease gradually dies out, provided new susceptible stock is not continually introduced to become infected and cause trouble. It is therefore a mistake to dispose of an aborting cow to be replaced by new stock.

MANNER OF PROPAGATION.

To those whose cattle are free from the disease it is most likely introduced by the purchase or borrowing of a bull or buying new cows. It, therefore, is always wise to look well after the health of stock being brought on to the place from outside.

EFFECTS ON MILK.

The organisms are found in the milk, ofttimes in large numbers, and are believed to produce more or less severe intestinal disturbances in humans, especially young children. It would, therefore, seem a good practice that milk from herds at the height of abortion infection be pasteurized before consumed.

Don't wait till next spring to get your new

DE LAVAL

With butter prices soaring no cream producer can afford to go another month without a New De Laval Cream Separator.

This is true whether you have no separator, or an inferior or half-worn-out machine, or even an old style De Laval.

In cold weather your waste of butter-fat is relatively greater, either with gravity skimming or a poor separator; and at present prices for cream a De Laval would very soon pay for itself out of its own savings.

See the nearest De Laval agent right away and let him show you what the De Laval will save for you. If you do not know the local De Laval agent, write direct for any desired information.

De Laval Dairy Supply Co.
61 Beale Street, San Francisco, Cal.

Edgemoor Farm Guernseys

Imp. Itchen May King, 25174.

Pretty
Productive
Profitable

Few Animals of Either Sex for Sale

SANTEE, CALIF.

H. F. SCRIBNER, Supt. W. H. DUPEE, Pres.

INNISFAIL DAIRY SHORTHORNS

GLENSIDE ROYAL 408155
Grand Champion Sacramento, 1916; Modesto, 1917

Our herd of registered Shorthorns has been carefully selected from the leading milk producing strains of the breed and is being developed along the same lines in our hands. The herd is headed by

GLENSIDE ROYAL

a prize-winner at the 1913 International and grand champion at Panama-Pacific Exposition.

Sired by him and out of large cows of good milk production, we offer for sale a few choice young bulls.

Our entire herd is tuberculin tested.

Alexander & Kellogg, Suisun, Cal.
Farm on Grisly Island.

Where Disease Shows First

Just watch the milk yield for the first sign of weakening in the cow's system. If your cow is not giving the quantity or quality of milk you expect, it is time to give her medical attention.

For twenty-five years thousands of the most progressive dairymen have used Kow-Kure as their "first aid" when a cow shows signs of "falling off" or coming down with disease. Particularly before and after the calving period, the use of Kow-Kure is valuable. It is a sure preventive of Milk Fever and Retained Afterbirth, and will enable the organs to resist the diseases which frequently originate at this time.

Kow-Kure has a positive action on the genital and digestive organs, toning them up, making them perform properly and helping the system to function as nature intended. Kow-Kure has proven a prompt remedy for Abortion, Barrenness, Scouring, Lost Appetite, Bunches and other common ills.

A small investment will prove the worth of Kow-Kure in your dairy. Put it to a severe test; try it on your poorest milker and watch results. Druggists and feed dealers sell it; 55c and $1.10 packages.

IRY ASSOCIATION CO.,
Lyndonville, Vt.

Selling Purebred Hogs Promptly

[Written for Pacific Rural Press.]

"Yesterday an Imperial Valley farmer told Will Bernstein that R. H. Whitten was the darnedest advertiser in the State," said the subject of the remark at the California Swine Breeders' banquet during the State Fair. "I think I do sell out my own stock sooner than anybody else, not necessarily because my hogs are better than anybody else's, but because I study the game," went on Mr. Whitten. "Don't advertise until you have studied your hogs and found a reason why people should buy them. When anyone starts out to buy, there is a reason why; and the seller should find out that reason.

"Don't start an ad with 'For Sale.' Don't say 'registered hogs.' Everybody knows you wouldn't advertise grade hogs. Use your valuable advertising space to say something valuable.

"Study your customers' letters. They will tell you more than the customer dreams of. Then you can write him a letter that will picture just what he wants. If you don't, he will buy from someone who can give him a better picture. Remember that he is inquiring from several besides yourself. Write with a typewriter or very carefully by hand on neat letterheads telling your business in a persuasive way, and use 'slogan' envelopes.

"I sold a four-months boar to a man in Shasta county for $50. A neighbor saw the pig and wrote asking if I could duplicate it. I told him I had an eleven months pig for $250. He answered that a $50 pig was good enough for him. I showed him that the $250 animal would get him larger pigs that would sell for more, and showed him it would pay. He borrowed from a local banker enough to buy the $250 pig, and has said many times he was thankful I persuaded him.

SOMETIMES YOU GAIN BY LOSING.

"Satisfy your customers. You may lose by it, but you will gain more. A man came to my place and picked a pig for cash, to be registered in his name. He chased the pig around, though I told him not to. The pig got too hot and died in the automobile after my customer got away. He came back to tell me not to register it. I told him to pick another. He took one worth $5 more than the other, but I gained a fine booster. The more you argue with a customer the less you make from it.

"I sold a boar to another man. He wrote after a while that the boar was no good—wouldn't breed. I sent him a check to cover the price he paid me and told him to express the boar back to me collect and to send me a bill for the express charges he had paid. That fellow answered that he had decided to keep the boar. He wanted to beat me down on the price.

RANCH ADVERTISING.

"I have two signboards eight or ten feet long on my ranch gates. A black hog extends above and below each sign. It attracts notice and people remember it when they talk about hogs."

Hoof-Trimming Crate for Hogs

[By Prof. J. I. Thompson, formerly at University Farm.]

It is somewhat annoying and generally quite difficult to properly trim hogs' feet. The herd boar may be gentle enough so that his feet may be properly leveled and his toes shortened while he is lying down, but many hogs being fitted for show do not submit so readily to this operation. It is quite exasperating to have trimmed three feet and in your anxiety to get them as short as possible have pricked the sensitive part of the foot just enough to jog the hog's memory permanently, so that he immediately gets up and walks away whenever an attempt is made to finish the job.

Due to just such experiences as these, herdsman Jack Finlay and the writer worked out the plans for a crate herein illustrated and described.

The general plan is much the same as an ordinary shipping crate. It may be any length, but should preferably be from five feet to six feet long. The height can be about three feet. The width should be 24 inches on the outside. A dropboard is provided at each end so that the hogs can walk out instead of back out. The bottom needs chief consideration. It is made of three two by fours laid flat, one running along each side and the other directly through the middle, leaving a space of six inches on each side of the center two by four. Running from the inner edge of the outside two by fours up to the side of the crate is a piece of one by eight inch. This makes a sort of V-shaped trough out of the bottom of the crate and it is these sloping sides which carry much of the hog's weight. The rest of the weight is carried by the center two by four, which is well padded with old sacks. A piece of strap iron is run across the bottom and up the sides at each end of the crate, onto the top of which iron rings are placed. A rope is run through these four rings and attached to a block and tackle by which the crate and hog are lifted high enough from the floor that his feet can be easily reached. We have used this crate for various sized hogs, from 150 pounds up to 800 pounds, and find it entirely satisfactory. We often remove the front drop and trim the ears and head. The hogs seem to be entirely helpless but contented when hoisted up in this manner, for they do not struggle at all and apparently take a nap while being manicured.

Full instructions, with blueprints showing details, may be had on application to the University Farm, Davis, Cal.

J. A. Crawshaw of Hanford has bought a gilt out of Big Timm and bred to Great Big Bob, second prize junior yearling at the Illinois State Fair this year. The gilt is being held until December 15 to be sure she is bred.

Many milking machines have been installed in Tulare county in the past few months to help the labor situation. They give general satisfaction.

RHOADES & RHOADES
Expert Livestock Auctioneers
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
Ben A. Rhoades, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

"HEADQUARTERS"
FOR WOOD PIPE AND TANKS
TANKS
WINE TANKS
FERMENTING TANKS
WATER TANKS
OIL TANKS

PIPE
WOOD STAVE PIPE
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SEWER PIPE
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WRITE FOR ILLUSTRATED CATALOG
Pacific
PACIFIC TANK and PIPE CO.
Factories and Offices:
15 Pine Street, SAN FRANCISCO, CAL.
19 Trust and Savings Bldg., LOS ANGELES, CAL.

Bassett's Poland Chinas

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year — uniform in size, high in quality, quickly and economically matured and finished.
$30 UP.
Grand Champion Sow, P. P. I. E., 1915; Sacramento, 1916.
FAIR DEALING, UNIFORM EXCELLENCE, SATISFIED CUSTOMERS, BEST PORK PRODUCERS, RESULT FROM YEARS OF SELECTIVE BREEDING.
M. BASSETT Hanford, Cal.

Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
Hauser Packing Co. Los Angeles

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

BOAR PIGS
SIRED BY STAR LEADER
World's Junior Champion Berkshire
$50 at 3 months
Ask about our other boars.
Send for our illustrated booklet, "The Story of Anchorage Farm"
ANCHORAGE FARM
Orland California
Quality Products

FATTEN YOUR HOGS
To get fat hogs you've got to feed right. One of the best hog foods available today is
Cann's ORIENTAL BEANS
Imported by us direct from China, where its merits have been appreciated for many years. These beans are bug-proof and thrive almost anywhere. Not affected by frost.
Invaluable also as a cover crop. Can be planted for their forage and later turned under for green-manuring.
Per lb., 10c; 100 lbs., $7.00. Write for prices on larger quantities.
SEND FOR OUR CATALOG OF FORAGE AND COVER CROPS, POTATOES, ETC.
ARTHUR CANN
196 S. First St., San Jose, Cal.

A System of Stock Raising in Contra Costa

[Written for Pacific Rural Press.]

The breeding of purebred Shropshire sheep is the main industry on Bishop Brothers' ranch, consisting of several thousand acres in Contra Costa county. They raise some of the best in the world and make money at it.

As a side line they have for several years been using 400 acres of rough hill land for the production of pork. The high price of feed and the scarcity of labor have not affected their profits in this venture to any extent, for the reason that they have worked out a system of raising all the feed and letting the hogs do the work.

The 400 acres is divided into two fields of approximately 200 acres each, fenced hog tight. Fifty brood sows, mostly cross-bred large and medium type Poland-Chinas, are kept and bred to purebred Poland-China boars to farrow about April. At weaning time the shoats are turned into grain stubble until late fall, when they are turned into hill pasture No. 1 for the winter. As much as possible (about one-half) of hill pasture No. 2 is sown to barley. As much of it is rough and covered with bush, making it impossible to plow with a team, the grain is sown on the ground and the hogs are turned into it immediately after a rain. About two sacks to the acre is sown, as they eat about half the grain and work the rest into the ground. The hogs are then turned back into pasture No. 1. When the barley in No. 2 is ripe, the hogs are turned in, to give themselves a hard grain finish, and are marketed in October and November.

This process is repeated year after year, each field being sown to barley every second year. About 400 head of hogs are marketed annually and they bring the top market price. The first carload shipped this fall averaged 215 pounds and dressed out 92 per cent, according to Western Meat Company's buyer.

Next year a careful record will be kept in order to determine just what are the profits of this system. With the hogs doing the plowing and the harvesting, and feeding themselves, the profits ought to be big.

If all the rough hill land of this great State could be utilized in this way, California could not only produce enough pork products for her own use but could do a lot toward winning the war by helping feed the allied armies.

Furnished Pig Clubs Poor Gilts

[Written for Pacific Rural Press.]

"My experience in buying pigs for boys on their unsecured notes leads me to discourage the practice of furnishing the boys bred gilts," said H. C. Carr at the California Swine Breeders' banquet during the State Fair. Mr. Carr, a prominent banker of Porterville, has done probably more, financially, to encourage boys' pig clubs than any other man in California.

"One of my neighbors objected to his boy buying a pig because, as he said, 'Those high-toned hogs are not productive.' I perhaps over-persuaded the boy and got a beautiful bred gilt for him. She had four pigs and raised three. The father had a scrub gilt that farrowed nine; and he told me the other day that his pigs weighed double the total of his boy's high-toned ones. When his boy hears 'I told you so,' and the neighbor boys gibe him for it, you have not only lost a prospective purebred breeder, but you have lost the rest of the boys around, and you have lost the opportunity of converting the father into an enthusiast, as some of the boys have done when they got good, productive gilts.

"Records show that gilts furnished to boys' pig clubs have averaged poor producers, and breeders are committing business suicide by permitting this to be the case. Do missionary work with your neighbors' boys and build up the industry for your own benefit if for no other."

My Way of Raising Pigs

[Written for Pacific Rural Press by Mrs. T. P. Donahue, Ripon.]

I used new cow's milk just as it is for the first two litters, warmed just right for my own tongue, and feed a teaspoonful to each piggie every two hours, and four times the first few nights, then I made them go longer intervals at night. After forty-eight hours I let them have about a tablespoonful at a feed. The third day I put the spoonful in a warm saucer and fed them one at a time. About five or six days I could get the three or four at a saucer at once, but was careful to not let any get too much, as it will make them too loose, and gradually increase the amount, and the remedy, if any begin to scour (diarrhea), is to beat up a raw egg in milk and cut down on the amount of feed a little.

The last bunch of eleven I used a small spoon of brown sugar to a pint of milk. They seemed to like it better, and I don't think so likely to scour. A substitute for egg is a spoon of flour to a pint of milk well mixed and raw.

I had been told that it was so hard to get pigs to live when fed by hand, but I have now raised eighteen and not lost a pig; and the first seven only got to suck the sow one time. The other eleven were worse off, for they had struggled two days with the cold before I got the last ones.

I am sending this, as it may help some one else to raise a pig, and we need all that can be raised now.

The brood sow and her litter should have plenty of exercise.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

BARON DUKE 201ST, GRAND CHAMPION AT OMAHA INTERNATIONAL

"Nothing to It" But BRUSH Rincon Farm BERKSHIRES
"Wherever They Show"

WIN at the California State Fair, 1917—26 awards, including 6 Firsts and 6 Championships
WIN at the Oregon State Fair, 1917—10 Firsts and 6 Championships
WIN at the Second National Swine Show, Omaha, Neb.—Grand Champion Boar, Grand Champion Sow and 14 other awards

FOR SALE NOW

Young boars ready for service, sired by such boars as Grand Leader and Laurel Champion. Also from Winona Lee Champion 6th, out of Riverby Princess, Grand Champion Sow at the Panama-Pacific Exposition.

Also sows and gilts for March farrow, bred to Baron Duke 201st, Grand Champion at Omaha.

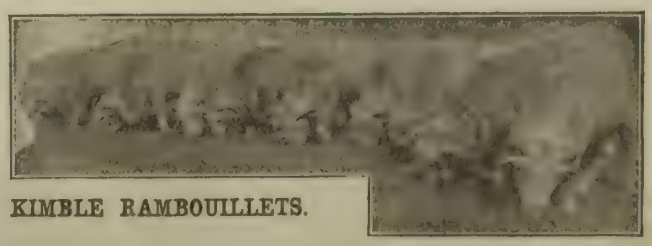
F. A. BRUSH C. E. Barrows, Manager Santa Rosa, Cal.

MONTELENA HERD of
Large Yorkshires
Headed by

LAKE PARK KING 25211
Grand Champion Boar—California State Fair, 1917.

Yorkshires have proven themselves, in every way, the breed best adapted to California conditions.
Our herd won 21 prizes with 11 entries, including six championships, at Sacramento this year.
We offer for sale two Junior Yearling Boars, Spring Boars and Gilts, and Fall Pigs, sired by Lake Park King.

A. L. TUBBS COMPANY
CALISTOGA, CALIFORNIA



KIMBLE RAMBOUILLETS.

These sheep are purebred, large and smooth, with heavy fleece of fine, long, staple, white wool. Yearling rams and ewes. Individuals or carload lots.
Prices reasonable. Correspondence solicited.
CHAS. A. KIMBLE, HANFORD, CAL. Breeder and Importer.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Silos are numerous and getting more so in the Stratford district of Kings county.

Lack of labor compelled Chas. Kimble of Hanford to leave 3600 sheep unshorn last fall.

It is announced that Porterville milk dealers have advanced the price of milk to consumers to 12 cents per quart.

F. D. Ross of Hanford recently sold a registered Holstein bull to G. C. Aydelott of Hanford. This bull took fourth prize at the State Fair.

W. J. Higdon of Tulare has employed H. L. Redd, who has been working five years in the Davis herd in Washington. Mr. Redd is to test about twenty of the Higdon Holsteins which are to freshen this winter and spring.

G. U. Clark of Hanford reports all of his young Holstein bulls sold except two. The demand has been lively. He has a bunch of small, light-colored calves sired by his 4-year son of Juliana De Kol. Three young Holstein bulls were recently sold to Avilla Bros. of Hanford.

Pending a survey of the cost of producing and distributing milk, representatives of the Milk Dealers' Association agreed, after a conference in Berkeley with Ralph P. Merritt, food administrator for California, to postpone price advances of four cents a quart and two cents a pint.

The fiscal year of the American Jersey Cattle Club begins April 1, and since that date there has been an increase in Jersey registrations of 44 per cent, an increase in transfers of ownership of 9 per cent, an increase in year's authenticated milk and butter-fat tests of 5½ per cent, and an increase in gross income of 44 per cent.

The Visalia cream producers' organization has been completed. It is composed of about forty independent dairymen, who say they will sell their cream collectively each month to the creamery that gives the best service. They will maintain their own testing plants as a test against creamery test, and they will sell only if they are paid twice a month.

Beef Cattle.

Wm. H. Bemerly of Woodland recently sold eight yearling heifers to Barngrover and Wright of Banta.

Claud Peter, a Hereford breeder in Indian Valley, is preparing two carloads of cattle for the fair next year.

Barngrover and Wright have bought thirteen heifer calves from Claud Peter of Quincey for their new registered Hereford herd near Banta.

News comes from Santa Barbara that cattle are starving through lack of pasture on the stock ranges of that county. A warm rain to restore feed on the ranges is badly needed.

Cattlemen have been bringing their stock down out of the mountains. There are few remaining in the high hills. The foothill feed is said to be poor and grazing scarce this year.

The herd of Shorthorns owned by the Paicines Ranch Company, San Benito county, helped greatly to advertise the county as a cattle breeding section at the Pacific International Livestock Exposition held at Portland, Oregon, recently.

Inspectors to be named by the State Cattle Protection Board to detect the stealing of hides and cattle will have no right to search premises under suspicion without the consent of the owners, Attorney-General Webb has ruled in an opinion to the cattle board.

No increase will be made in the grazing fees on the National Forests for the present. The fact that the stockmen have been called upon to overcome many difficulties in order to keep up the country's supply of beef, mutton, hides and wool is the reason assigned for deferring action.

Ginn & Son of Corcoran, who, a very few years ago, would not listen to talk of purebred livestock, now have only four grade cows and about 100 registered Holsteins. Their herd bull, Aralia De Kol Pontiac Salambo, purchased from Morris a year ago, is from a cow Morris is testing for a record above 1,000 pounds. Both of his granddams have records over 1,000 pounds in a year and over 30 pounds in a week.

Chas. Yocum of Tulare is again stocking up with registered Holsteins, having already 14 head on a 30-acre ranch to which he hopes to move. He has a 14-months bull, King Inaro Mead, out of a cow with a record of 1,076 pounds butter. The first cow to be bred to him is one that recently dropped a calf by Hatch's Sir Skylark Ormsby Hengerveld. The foundation of this herd promises great results.

The annual sale of shorthorn cattle recently concluded in Dundee, Scotland, has proved interesting to cattle breeders all over the world on account of the record prices that were paid for purebred stock. The total number auctioned at the sale was 473, which realized $353,921. The highest price paid was for a Duthrie bull, which brought the record price of $13,796. A female of the Clipper breed brought $7,664, and seven other heifers of this breed were sold for an average of $3,438 each.

A rather unusual disease has struck the herd of cattle on a ranch adjoining San Juan on the west, on account of which three head have been shot. The way the animal is affected is a violent itching about the head, and in the eagerness to get relief rubs violently against trees, fence posts, or any stationary object, sometimes even scratching the eyes from the sockets. The animals act like mad, and will pursue a man who goes near them.

Meatless days, says W. E. Premo, manager of one of the largest cattle ranches in Tulare county, are having a discouraging influence upon cattle feeders. They have reduced the consumption of meat in the local market to a great degree and a consequent reduction in price. With hay $20 per ton and ranges suffering from the want of rain, Mr. Premo says the outlook for the sale of spring beef at a profit is very discouraging. Feeders are no longer in demand.

H. M. Barngrover has just returned from Klamath Falls, Ore., bringing with him the P. W. Snyder herd of highly-bred Herefords, 30 in all. The foundation cows of the herd were purchased by Mr. Snyder two years ago at the Hancock dispersion sale in Kansas City at long prices and are rich in the blood of the Anxieties and Perfection Fairfax. The herd is headed by Patrician 5th, purchased from Walter Yost, and is not only related to his celebrated Ardmore, but both bulls were bred by C. B. Smith. Mr. Barngrover is taking these cattle to his ranch in Plumas county, where he thinks altitude and climate are ideal for this wonderful breed of beef cattle.

Swine and Swinemen.

The minimum price of hogs on the hoof sanctioned by the United States Government is 15½c per pound.

Pork available for immediate delivery commanded $50 a barrel in Chicago November 28, the highest price on record.

The Tagus Ranch of Tulare plans to go heavier into the hog business. They are now breeding thirty registered Duroc brood sows to California Defender, the P. P. I. E. grand champion.

H. J. Nott of Los Alamos recently bought from J. A. Crawshaw of Hanford a boar out of Long Wonder and Queen May. The boar thus carries blood of A. Wonder and the Model family.

R. H. Whitten of Los Angeles writes: "Breeders are complaining that there is no demand for breeding stock this season, but my experience proves that if they can't sell their stock it is their own fault. If they would advertise and follow up their inquiries properly, they wouldn't have enough stock to supply the demand."

M. Bassett of Hanford has ninety registered Poland-China hogs fattening on second crop Muscats and waste raisins in his vineyard near Armona. He believes the second crop grapes make as much money when fed to hogs as when sold to the winery, and at the same time adds to the human food urgently needed at this time. He has other hogs in other vineyards and cornfields to eat what would be wasted.

Will Bernstein of Hanford recently sold Kings Rosebud 3rd to W. T. Dice of Fowler, Belle's Beauty 3rd to Riley Jury of Mendota, an April boar pig out of his grand champion, Kings Rosebud to E. F. McCombs of Tehachapi (who recently has bought five sows from Mr. Bernstein), a boar out of Kings Rosebud to Bailey and Fisk of Corcoran, two sows to J. M. Bernstein of Lemoore. He has turned down many inquiries for sows in order to hold them for the next Kings County Poland-China Breeders' sale, February 20.

Livestock Miscellaneous.

Acorns now covering the hills of Humboldt county by the thousands of tons can be converted into cereals for stock and poultry, according to experiments.

There is serious talk of slaughtering or exporting several hundred thousand cattle from Holland because of inability to feed them sufficiently.

Dairymen in the Sisson section state that it may be necessary to move all cattle out of the locality for the winter, as hay is exceedingly scarce there.

The newly organized Visalia Cream Producers' Association, which now has between 2,500 and 3,000 pounds of cream daily, has determined to offer its cream or butterfat to the highest bidder.

Burrell & Corey have a contract to furnish the United States Government with 500 mules. Recently Government inspectors accepted 68 of the 65 animals offered by Burrell & Corey.

Humboldt sheep raisers netted double the revenue in 1917 over the preceding year. Wool brought over 70c per pound and Humboldt wool is noted as the best clip on the Pacific Coast. Ewes and wethers sold at from $8.50 to $9.50.

W. M. Carruthers returned this week from a visit to the International Cattle Show at Chicago. He brought back with him two carloads of Shorthorn bulls and one carload of Berkshire hogs, the latter from the Iowa State Agricultural Farm.

Governor Frank L. Houx of Wyoming declared a quarantine, effective December 1, against dogs and live stock from Western States. The order is issued to check the spread of rabies, which is reported to be causing widespread losses in Idaho and other Western States.

Members of the New Mexico Cattle and Horse Growers' Association have appealed to the Secretary of Agriculture for $100,000 of Federal funds to combat the ravages upon stock by predatory animals. Estimates place the number of head of livestock destroyed by mountain lions, wolves and coyotes as fol-

CUTTER'S
BLACKLEG PILLS
"California's Favorite" for nearly 20 years
For the Prevention of Blackleg in calves and young cattle

Their superiority is due to nearly 20 years of specializing in "Vaccines and Serums only."

Year in and Year Out they give better satisfaction than any other vaccine made, and the cost of a few cents per dose is cheap insurance against a disease that always takes the fattest and best.

Single Pills may be used for ordinary and range stock.

Double Pills should be used for pure bred and high grade stock.

Use any Injector, but Cutter's simplest and strongest.

Prices:
10 dose pkge. Single pills $1.00
50 dose pkge. Single pills 4.00
10 dose pkge. Double Pills 1.50
50 dose pkge. Double Pills 6.00
Cutter's Pill Injector.... 1.50

Insist on Cutter's. If unobtainable, order direct.

Write for new booklet, "The Control of Blackleg." It tells about Anti-Blackleg Serum which cures Blackleg and may be used simultaneously with vaccine to combat outbreaks and safely protect valuable stock.

The Cutter Laboratory, Berkeley, Calif.

The Cutter Laboratory of Illinois, Chicago
Eastern Agent

KING KORNDYKE PONTIAC 20TH—Star Bull at Sacramento Sale.

KORNDYKE SADIE VALE STAR-RENA
Daughter of King Korndyke Sadie Vale. Contributed by McAlister & Sons, Chino, and brought $3,100 at the Sacramento sale last Wednesday. F. W. Kiesel was the buyer.

THE GREAT HOLSTEIN SALE AT SACRAMENTO.

[Written for Pacific Rural Press.]

The Holstein Breeders' Guaranty Sale, held at Sacramento last Wednesday, December 5, was one of the greatest sale events in the history of that favorite breed. Altogether 72 head were sold, and a total of $68,950 was realized from the sale. The prices paid for individual animals of outstanding quality were the highest ever obtained on the Pacific Coast, as were also the average prices for the whole number sold.

Nine bulls went over the block for a total of $12,085. The top figure obtained for a single bull was $6,500, bid by W. J. Higdon of Tulare for King Korndyke Pontiac 20th, undoubtedly one of the foremost high-class young bulls in the United States, consigned by Santa Anita Rancho.

In the female class Korndyke Sadie Vale Star-Rena brought the topmost price. She fell to F. W. Kiesel for $3,100.

The bidding throughout the sale was spirited and the results satisfactory alike to sellers and buyers.

SHEEP ON ALFALFA AND SILAGE.

[Written for Pacific Rural Press.]

Two hundred and fifty aged bred range ewes were obtained, October 17, by University Farm at Davis for an experiment on alfalfa and silage feeding, under direction of Prof. R. F. Miller. They are now on alfalfa pasture, but will be fed hay and silage when the pasture gives out. The experiment will be completed about next June, when the lambs are to be sold. The cost, profit and economy of such feeding can then be told for this bunch of ewes.

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lows during the past year: Cattle, 24,350, valued at $1,374,000; sheep, 165,000, $1,320,000; horses, 850, $21,250.

Tulare is the best district of the State for dairymen to locate, according to Manager R. S. Middleton of the Tulare branch of the Los Angeles Creamery Co. Butterfat prices are as high here as anywhere and competition for dairymen's products is keen. Far more butterfat is being produced than ever before.

The State health office reports rabies exists in the Riverdale district, as proved by laboratory tests, and the local health officers have issued warnings to kill all stray dogs there. Special watch over cattle is also urged. The rabid dog was shot after biting two dogs on the F. F. Knight Ranch.

Regulation of the packing industry, effective as of November 1, so that the price of meat to the retailer and consumer may be both staple and cheaper, has been announced by Joseph P. Cotton, chief of the meat division of the United States Food Administration. Packers must be content with 2.5 per cent profit on retail sales.

Purvine & Son of Petaluma will put in test 15 head of their registered Jerseys this winter. They have just brought out from the East two young bulls, one a grandson of Oxford You'll Do, the other a grandson of Financial Countess, a world's champion cow. They recently sold to Frank Brush a young bull who won first as a junior yearling at Sacramento, 1916.

The Guernsey cow, Imp. Donnington Goldie 5th 59866, A. R. 4811, owned by Walter H. Dupee of Edgemoor Farm, Santee, Cal., has recently completed a record of 17,861.7 pounds of milk and 796.52 pounds of butterfat, which puts her third in the Class E leaders. This beautiful heifer rounded out her year's work by winning first honors in the class of cows four years and under five, also first in the class of junior Advanced Register cows at the National Dairy Show in Columbus, Ohio.

Large burned-over areas on the mountain slopes and in the foothills of the forest reserve are being seeded to grass, according to the statement of Frank P. Wheeler, United States land recorder, who states that the stock raisers holding land within the reserve or contiguous to its boundaries declare that the many fires of the past summer have done immeasurable good, in that they have burned out the brush, making grazing possible on a more extended scale, and relieving the danger to homes and improvements from destruction, says the Humboldt Standard.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

Poland-Chinas.

HIGH DOLLARS ASSURED for the hog-raiser. The scarcity is bound to make pork high for years to come. Improve your herd with a good Poland-China boar. 20 of the finest you ever saw, from six months to 18 months of age. Price from $40 to $100. Sows sell in the Kings County Poland-China Breeders' Sale, February 20th. Bernstein's Ranch, Hanford, Cal.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

MY POLAND-CHINAS are prolific and profitable. Write for description and prices. Dr. J. A. Crawshaw, Hanford, Kings County, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd, and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRES—Fine, growthy, May pigs, both sexes, sired by Star Leader, reserve Grand Champion P.-P. I. E. Prices reasonable. Anchorage Farms, Orland, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

BERKSHIRES—Sired by Star Leader, the $1,500 boar, ready for service. Kounias Registered Stock Farm, Modesto.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

FOR WELL-BRED BERKSHIRES, write Glenwood Acres Stock Farm, Paso Robles, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

RANCHO DEL SUR DUROC-JERSEYS — Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

DUROC-JERSEY PIGS FOR SALE from prize-winning stock. Price, $10 to $25 each. They are all in good condition. For further particulars write to W. C. Chisholm, Route 4, Santa Rosa, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC-JERSEY SPRING BOARS—Cholera immune; write for pedigree and prices; satisfaction guaranteed. Buchholz Bros., P. O. Box 246, Merced, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13s Taxpayer. A few weaned sow pigs for sale. F. M. Barney, Hanford, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

DUROCS OF GUARANTEED BREEDING—Pigs $15 up, sired by State Fair prize winner. H. E. Boudier, Napa.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

DOS HERMANOS DUROCS—Young boars and gilts. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND of Chester Whites. Am entirely sold out of bred sows and gilts. Have a very few open gilts of March and April farrows, also 6 boars, same age; have 9 young tested sows to offer for late December shipment; these have each farrowed once and will be bred to farrow again in late March or early April. Fall pigs, both sexes, are now being weaned; will be ready for shipment during December. Good breeding stock is getting very scarce and is rapidly increasing in price. If you want some of this easy feeding, mellow type, get busy with your orders. C. B. Cunningham, Mills, California.

HIGHLAND STOCK FARM CHESTER WHITES—We are making special prices on some young boars and gilts for immediate delivery; shipped on approval; satisfaction guaranteed; cholera immune; registered and crated free; write for booklet and prices. Robinson & Ward, Fair Oaks, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelie Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

REGISTERED HOLSTEINS—Out of A. R. O. dams; grandsons of King Korndyke Hengerveld Ormsby, who has 20 A. R. O. daughters with records over 29 pounds. Kounias Registered Stock Farm, Modesto.

BUENA ALTA HERD registered Holsteins, blue ribbon winners at State and county fairs; heifers and bull calves for sale. F. A. Heroux, 629 Fifty-sixth street, Oakland, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TOYON FARM HOLSTEINS—Sons of Finderne Soldene Valdessa for sale. Toyon Farm Association, First National Bank Building, San Jose.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

YOUNG REGISTERED HOLSTEIN BULLS ready for service. W. H. Ginn & Son, Corcoran, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Calif.

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BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

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PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY COWS for sale. O. J. Ames, Oakdale, Cal.

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PACIFIC GUERNSEY HERD — Cattle selected from the best imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

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GUERNSEY BULLS, ready for service. Calla Grove Farm, Manteca, Cal.

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NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

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AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

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D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

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REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS — Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS and ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena.

KAUPKE BROS., WOODLAND, CAL.—Breeders and Importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, Importers of Hampshire sheep.

HORSES AND MULES.

FOR SALE—Percheron horses and mares, age 4 to 10 years; weight, 1200 to 1600. Price, $200 to $300 per span. S. L. Skaggs, Madera, Cal.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

WE ARE BUYING HOGS of all sizes, weights and breeds; any number from one to several thousands considered; we pay spot cash on delivery. What have you? Durbin & Forbes, 722 San Fernando building, Bdw. 4170, Los Angeles.

FOR SALE—By Argonaut Goat Factory, nearly 200 well-developed milch goats, fresh and coming fresh soon. Wanted—250 thoroughbred and high grade Toggenburg bucks with standard markings. Box 680, San Diego, Cal.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer, and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend Sts., San Francisco.

VETERINARY QUERIES

[Answered by Dr. H. B. Wintringham.]

[Subscribers wishing an immediate reply should send money order for $1.00. No charge for questions answered through this department. Name and address of subscriber must accompany each query.]

A Hopeless Case.

To the Editor: I lost a fine heifer that was due to calve in a month. We examined her and found trouble was in the heart. This was greatly enlarged—in fact, the two valves of the underside of the heart had formed into a large sac, the sides of which were attached to the chest wall. The growth was partly filled with brown liquid of putrid odor. The heifer had no pronounced symptoms of disease except a listlessness, which first showed about a month before death, and which gradually increased. What in your opinion could have caused this growth, and was there any treatment that would have availed?—J. S. C., Paradise Valley, Nev.

No treatment will help these cases, which are usually due to a foreign body which has migrated from the stomach toward the heart.

Milk Becomes Bitter Overnight.

To the Editor: We have a cow due to freshen December 23 whose milk has become bitter after standing over night and the cream will not make butter, even though churned for hours. She is being fed alfalfa hay, with green cornstalks from neighboring sweet corn gardens, some of which stands several weeks before being fed. Could the corn fodder produce this result, or is it because she is nearing the time for drying up? What can be done to correct this bitter taste in the milk and cream, and what can be done to make the cream churn into butter?—L. J. H., San Jose.

Dry this cow up, as your trouble is due to her condition which should right itself as soon as she calves.

Calves' Eyes Discolor and Bulge Out.

To the Editor: Have had trouble with our calves' eyes. The eyeball turns blue and then white, with a small wart-like thing on the pupil, which bulges out an inch or so and then breaks. One was stone blind for a while. Can you give me a remedy?—McN. Bros., Henleyville.

Your trouble is evidently contagious. Use a few drops twice a day in the eye of 25 per cent solution of argyrol.

The Pawing Habit.

To the Editor: I would like to know a way to break my horse of pawing when in the stable.—E. M. R., Parkfield.

Fleas will cause animals to paw, or it may be a habit. If it is the latter, it is almost impossible to break.

Pony Has Swollen Ankle.

To the Editor: I have a seven-year-old pony that has a swollen ankle in front, which seems to lame him. What can I do to cure it?—Subscriber, Boulder Creek.

Paint the swollen ankle with tincture of iodine daily until the soreness leaves.

Fallow Crops Quadruple Cattle Feed

[Written for Pacific Rural Press.]

"The big thing cattlemen are up against is the short green feed season. We need to extend it so cows will have plenty of milk to suckle their calves. I did it for six years on the Cressey Ranch," says Frank C. Clark of San Luis Obispo county. Green feed on the uplands dries up about June 1 to 15, and most ranches do not have enough green river-bottom to keep the cows in milk. Mr. Clark raised an average of 700 acres of gyp corn on dry land, and let the cattle harvest it.

FALLOW CROP SAVES MOISTURE.

Cattle kept the corn grazed down to the ground. It was on land summer-fallowed for grain, and Mr. Clark claims to have saved moisture by growing corn in the season between grain crops on the same land. The reason is that on clean summer-fallow a dry crust forms under about 1½ inches of top soil. This crust draws moisture by capillarity from below, and gradually thickens itself downward, drawing more water daily as it gets thicker. If cattle are turned onto the field when this crust is beginning to form, their feet break it and prevent the thickening. They tramp the surface into an increasingly fine and deep dust mulch. If the plowing has been deep, cattle settle the subsoil into best condition for the following grain crop.

The system followed by Mr. Clark was to plant the corn April 20 to May 20, eighteen inches apart in rows three feet apart, and turn the cattle on about June 1, when it was about a foot tall. It, with dry pasture, would support a bullock per acre until frost. Dry pasture was always kept available, and cattle would go back and forth, balancing their own ration between green and dry feed. No bad scouring was caused, as the cattle were turned directly onto the corn from green grass. One-fourth as much dry pasture as corn should be available nearby. If too far away, cut it for hay and haul to the cattle. A better system is to cut grain for hay, bunch it, and allow cattle access. Mr. Clark thinks this the better way to dispose of grain grown so far from the railroad (forty miles). Cattle kept the corn eaten so close that at a little distance it looked like the cleanest summer fallow. Yet, when cattle were taken from a piece one July, the corn grew eighteen inches in eighteen days. Of the hundreds of steers turned thus on Egyptian corn none bloated or died from eating.

Hillcrest Stock Farm
THORNTON S. GLIDE, Prop. DAVIS, CALIFORNIA
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Shropshires sired by rams imported by me from England
The Famous Glide Merinos
Rams and Bulls for sale in individual or carload lots.
A few choice yearling and 2-year-old Shorthorn Bulls.
First Prize Breeders Young Shorthorn Herd at Sacramento

10 2-year Bulls SHORTHORNS 10 Bull Calves
We have just received a shipment of yearlings and 2-year-old heifers, bred to a son of Cumberlands Type, the bull that won 36 Grand Championships at 36 Fairs. This is the best lot of females we have ever offered for sale.
Better look them over soon, as they will sell quick.
H. L. & E. H. MURPHY, Perkins, Cal.

SCOTCH SHORTHORNS
We have just purchased the entire herd of Shorthorn cattle from the Barco Ranch, Hollister, which includes the two great herd bulls, Hallwood Villager and Hallwood Flash. These cattle will, combined with our herd, make us nearly 200 head of Registered Shorthorn cattle.
FOR SALE 2 carloads of splendid registered Shorthorn Cows. 12 corking good young Bulls.
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Registered bulls—yearlings and two-year-olds—bred on same lines as Grand Champion Cow at Sacramento, 1917.
Boars and gilts by Iowana Riva Majestic, a son of Rivals Champion.
Prices Reasonable—On Application.
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Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
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SHORTHORNS
Herd combines some of the strongest blood lines of this country and Great Britain.
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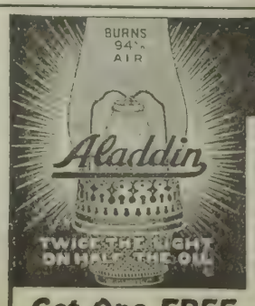

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Men With Rigs or Autos Make $100 to $300 Per Month
Our trial delivery plan makes it easy. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: "I sold 51 the first seven days." Christensen, Wis., says: "Have never seen an article that sells so easily." Norring, Ia., says: "92% of homes visited bought." Phillips, O., says: "Every customer becomes a friend and booster." Kemerling, Minn., says: "No flowery talk necessary. Sells itself." Thousands who are coining money endorse the ALADDIN just as strongly. NO MONEY REQUIRED. We furnish stock to get started. Sample sent prepaid for 10 days' free trial and given absolutely without cost when you become a distributor. Ask for our distributor's plan. State occupation, age, whether you have rig or auto; whether you can work spare time or steady; when can start; townships most convenient for you to work in.

LONG TIME LIMIT

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R. F. WILSON, Stockton, Cal.

The Hereford in California

[Written for Pacific Rural Press by H. M. Barngrover, San Jose.]

Back in the rolling lands of Herefordshire and adjoining counties of England in the eighteenth century was developed the Hereford breed of cattle, red of color with white or mottled faces. This region was largely populated by the tenant farmer, who even in that day paid heavy tribute to the land owner; consequently it was necessary to conserve everything and as far as possible convert it into cash in order that the rent might be paid and something left over for the family. Grain and hay were salable, straw and root crops, such as turnips, beets, etc., were not; therefore the former went to market, while the latter were made to piece out the ration of the "coo" and her progeny while on the meadow and heather. Not overrich feed, to be sure, and since she was not asked to contribute largely to the dairy, her wants so far as shelter from rain and storm were not looked after very closely. Quite naturally she developed thick hair and hide and a strong constitution.

THE HEREFORD THE PRODUCT OF EPICUREAN FASTIDIOUSNESS.

The English nobility have long been epicures in choice steaks and chops, and having the money to gratify such tastes, paid accordingly. Therefore, at an early day, close attention was paid to the production of both quality and quantity with the result that through these many ers as well, a type of animal was produced strong in hereditary tendency, vigorous as to constitution and ability to lay on fat in the best places, beautifully marked with their rich red bodies, uniform white faces, white feet, etc.—good to look at, good to eat, good to fill the pocket book and if you ask me why the Hereford has so strongly developed all these good qualities I answer, because she has ever been a specialist with the one undivided object—the production of good beef.

BREEDING IS LARGELY HABIT INTENSIFIED.

The old British farmers trained their cows into right habits of production. Little wonder is it then that the purebred Hereford leaves his mark on his calves, even to the third and fourth generation. The white face is simply his "trade generations of cattle, and of breed-mark"; his insignia of power. In the early days of the breed there was some contention as to whether the white face was preferable to the mottled face. I am thankful this difference was settled and that there never has been any serious difference of opinion since as to the good qualities of the Hereford.

HIGH STANDARD OF BREEDERS.

The early breeders set up a high standard, so high no breeder has dared try to change it. The goal is Beef—Better Beef! The rich color, the pretty white faces are decorations to which the breeder can properly point with pride, for they tell a wonderful story of a century—nay, two centuries—of intensive breeding along right lines.

THE HEREFORD FITS WELL INTO CALIFORNIA CONDITIONS.

Here in California we have countless thousands of acres of rolling lands with valleys suitable for cropping, where climate and altitude vie in the production of vigor and stamina. Here, if given half a chance, the Hereford will thrive. His rugged constitution, freedom from disease, wealth of hair and thick mellow hide make him the ideal range animal and little wonder is it that his calves are the first to fatten and are earliest to mature into the kind of beef that brings home the money.

Our state farm proved last year that we can produce the best of beef without corn. If we will but utilize the feeds we have, work on the theory that 10 tons carried over is better than one ton too little, use the best Hereford bulls we can secure, I feel that we will have done our "bit" and helped to stabilize the beef market on the Pacific Coast.

WILL THE HORSE WIN THE WAR?

How: First, by hauling the food and supplies to the soldier. The fighting man cannot fight without these. Without food and supplies he is a dead factor. Second, by bringing up the artillery to pursue a fleeing foe. England, with plenty of horses, has lost scarcely a cannon for months. Germany, whose horse supply is running low, and cannot drag her guns from the field, has lost heavily in field artillery.

If American people knew what the horse means in this war, if they realized, as the fighting soldiers realize, that millions of lives depend on the services of man's faithful friend, if they understood that it is the horse that must carry food to the boys in the trenches and ammunition to the guns, they would grasp the meaning of the demand for more good horse flesh. If they but knew that at blood-red sunset of some blood-red day not far distant, when enemy hordes shall have been converted by hours and days of heavy gunfire and infantry attack into a shattered, nerve-racked rabble—if they but knew that at some such moment as this there may come to a huge, efficient cavalry force the opportunity to strike such a mighty blow as to end this terrible war, there would be no fear that the critical moment would find that force lacking in numbers of horses.

G. B. Alsen of Linden recently built a silo that will hold 150 tons. He filled it full from nine acres of corn and had considerable fodder left.

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CRITICS' AND CUDDLERS' CORNER

Subscribers are welcome to praise or to condemn (in letters of not over 200 words) anything which appears in the reading columns of this journal. Contributors to this department may drive and counter-attack each other as they see fit without endorsement or response on our part.—Editors.

Why Not the Farmer as a Food Conservator?

To the Editor: Who shall do the hoarding of the farm products? A storing of these products costs money, spent in various ways, and the storer expects also reasonable (or extraordinary, as the case may be) profit on his investment and skill. This will cause prices to advance naturally. Now, will the food conservator allow this extra price or no? These things come to my mind as I read that "the farmer is planning to gouge the public" because he is storing his wheat or his potatoes against a rise. "Why, he is putting a great supply in his cellars and will dole them out during the winter at a tremendous advance."

Suppose he throws all on the market in a bunch and is patriotic enough to take slump prices, will the public buy up a supply for each and every home and the conscientious, patriotic speculator or warehouseman refrain from buying on the dump? Farm products (except butter and eggs, etc.) are raised but one crop a year and somebody must store them and protect them for the year's supply. I honestly cannot see how the consuming public will be injured by the farmer's storing them in warehouses or on his own premises. Will the public be benefited by anyone else storing them? Then some fellow finds out that the dairyman is not keeping his elderly cows and again an attack of the horrors. In 1861-5 the farmers made money, such as it was, and now they stand to make some, but my opinion is that the farmer loaded up with Liberty bonds manfully and will again. I see a number of farm papers at different times. To my knowledge none of them take the aggressive stand for the farmer's general interest as does the Press. We of the cowhide sandals appreciate the defensive-offensive stand taken. If in the general mix-up to come the farmer gets his own, he must give the Pacific Rural Press his sincere thanks. — H. S. Edwards, Princeton.

Substitute Foods Practicable.

To the Editor: In your number of November 3d I read with regrets the complaint of "Not a Slacker." If he has no socialistic tendencies, then he must not have been nearer the "luckier class" than in passing on the road. I am a veritable society person, knowing intimately the "luckier class." I am also half the year a rancher—hobnobbing daily with the farmers and laborers in our vicinity. In the last month I have repeatedly spoken of the great difference in the conscience and efforts toward the conservation of the necessary foods between the laborers in both city and country, as well as the farmers—and the "luckier class"—the latter making far more effort than the former. Certainly do not deny the laborer or child the necessary nourishing food until they can cultivate an appetite for the new. This by no means should take long, if the one who cooks makes an effort to please. In the same number of the Press, under the "Simple Breakfast," the "Not a Slacker" contributor must see at least one appetizing menu for a substitute meal. There are many others if the spirit be willing. We, too, have enlisted husbands, brothers and sons in our army to conserve for.—"One of the Luckier Class." Santa Barbara.

Fresno Farms Company, a Los Angeles corporation, with properties located in Fresno county, has secured authority from H. L. Carnahan, commissioner of corporations, to issue 3500 shares of its capital stock to the present stockholders at $60 a share.

Seasonable Poultry Yard Suggestions

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

With Thanksgiving gone, what fowls have we left that we can add weight to? Between now and Christmas there is lots of time to feed and get every bird in good table condition, so that they will bring special prices. It is surprising the many different flavors that may be given to turkey, goose or just plain chicken. Some people add a glass of port wine to the daily mash to give that gamey flavor; others chop up a few stalks of celery and add a little to the soft mash once or twice a day. Then there are the milk-fed fowls; and milk feeding can be practised with all kinds of fattening birds with very good results. Milk-fed chicken, goose, or turkey is succulent and tender, and it possesses a quality of its own that cannot be counterfeited. Acorns make good meat, too, but it is never quite as firm as other meat. Corn makes a good, solid meat, but without any special flavor, so if the flavor is wanted it must be given through the addition of the article containing the flavor to the mash feed. The balance of the fattening, except for one meal each day, can be done with dry grain or vegetables.

PRODUCTION OF EGGS AND SPRING CHICKS.

With the splendid weather we are having, all kinds of poultry ought to be at their best, and everything capable of laying should be cackling to beat the band. No other State is so conducive to the well being of poultry, neither can winter eggs be produced anywhere else so easily and cheaply as in California. Green feed and climate are all with us, and with good management we can keep on the profit side of the ledger, even with the present high-priced feeds. There will be a big demand for baby chicks in the spring, and all who have breeding stock should give them good care, not forcing them to lay, but just keeping them in health and vigor. Then towards spring these hens will be in the right condition to produce good, strong chicks that will live, while hens that have been laying winter eggs will be more or less weakened and out of condition for laying strong, fertile eggs. Breeders require careful feeding to keep them strong and vigorous; they should not be fed a great deal of mash feed, but grain in litter, so that the feed may be taken with exercise.

MANAGEMENT OF DUCKS.

Ducks ought to all be laying this weather, and if they are laying well the animal food may be increased to good advantage. If they are not given sufficient animal feed, they get very thin, then in time quit laying suddenly. Very often the addition of 5 per cent animal food to the ration will prevent this and keep them in laying condition a whole season. Bakers and confectioners are good markets for duck eggs, and when possible these markets should be sought out in preference to selling at less prices in competition with hen eggs. During the winter months ducks can be kept very cheaply by going to a little trouble to cook vegetables for the mash. Almost anything is acceptable when mixed with a little bran and cornmeal,

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By E. J. WICKSON

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OPINIONS OF THE PRESS.

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beef scrap and salt to make palatable. Give ducks a bed of bean or other straw and furnish them with a box of rather coarse sand to eat and they will cause very little trouble. Sand is also a good aid to digestion for all kinds of poultry and is a number one shell-maker.

ADVANTAGES OF STRONG EGG SHELL.

A great many otherwise fertile eggs fail to hatch because of the porosity of the shells. Given even chances a chick in a good, firm shell stands a better chance of hatching and living than has a chick in a weak, porous shell, because the latter is subject to every slight change in temperature; to all odors and fumes in the incubator, and is consequently made weaker by them. So that it pays to have hatching eggs with a firm, strong shell. It pays also to have market eggs with a firm, strong shell, because there are fewer losses from breakage, and in cases where the eggs are kept a little longer than usual they keep better, as the air cannot enter so freely to start decomposition.

PLAN NOW FOR NEXT YEAR'S FLOCK.

This is the time when every poultryman begins to plan for his next year's flock. How many chicks can he accommodate, how many can he feed and care for? These are all important things that he must ask himself before the time comes to get the chicks. Then if they are to be bought, he must find out where he can get them and the quality, price, and time. All these questions require thought and planning, and as this is about the easiest time the regular poultryman has it should be the best time to plan for next year's flock. Remember, it is not nor will it be possible for you to get what chicks you want if you wait till the last minute. Your plans must include early inquiries about chicks unless you are able to hatch your own. The man who can do this is independent, if he keeps his breeding stock in proper condition, as stated above.

"FISH SKIN DISEASE."

To the Editor: Our turkeys pick their legs and big scales appear. When doing this they run and act as if crazy. Please advise.—J. W. P., Delano.

This is "fish skin disease." It is a functional disorder. Change the diet some and give a little physic of Epsom salts or castor oil, allowing a tablespoonful of oil to each full grown turkey. Or the same of salts mixed in a little moist mash. Anoint the legs with an ointment of Oleate of lead and vaseline—one teaspoonful of the lead to five of vaseline—and rub on daily. This is not contagious, so there is no need to separate from the flock

WATER JAR FOR CHICKS.

A fine water jar for little chicks was observed on C. V. Hall's ranch in San Diego county. One jar was inverted inside another of two inches greater diameter, and two or three inches deep. The inside jar had a hole in its side about an inch below the upper edge of the outer jar. The inner one was turned with its open end up, filled with water, covered by inverting the other over it, and the whole thing turned upside down. Water would then fill only to the edge of the outer jar and chicks could not get into it.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

ELECTRIC LIGHTS AND MORE EGGS.

The writer has just installed electric lights in the laying house, the object being to speed up winter egg production among the pullets and laying hens, no lights being turned on in the breeding pens. It is best to let the old breeders rest up in order that they may produce strong chicks next spring. This proposition of lengthening the working day for the hens has been successfully tried out on several poultry farms and on the University Farm at Davis. Prof. Dougherty doubted the advisability of turning on the lights, but was fully convinced last winter when the egg production in lighted pens more than doubled. The cost of the lights being about one dollar per thousand hens per month.

EFFECTS OF ARTIFICIAL LIGHTS ON BREEDING STOCK.

Experiments were conducted to determine the effect of lights upon breeding stock, but the results are not public as yet. Mr. B. Nelson of Rocklin maintains that perfect chicks can be hatched from hens kept in electric lighted pens. He tried it out last spring with excellent results. Now the question arises as to the length of an ideal "hen day." Several successful breeders agree that fourteen hours of exercise and eating is the happy medium. This means turning on the lights at about 3:30 a. m. By using a time switch it is not necessary to rise at that time.

LAYING KEEPS PACE WITH FOOD CONSUMPTION.

The feed hoppers must be full and a good, clean, deep litter must be kept in the house. The more feed a laying hen consumes the more eggs she will lay if she is of a laying strain—which, by the way, is the only kind it pays to keep at the present time. Electric lights speed up production by making the hens eat more food, do more exercise and thereby, if abundant green feed is supplied, creating artificial spring conditions. The egg yield is bound to increase if these conditions are furnished the hen.

COUNTRY EGG GRADING BECAME POPULAR.

Some of the egg producers of Escondido and surrounding valleys in San Diego county were surprised in 1916 to receive pullet-egg prices when they had no pullets. The egg scales, however, proved the case; and they soon found that there was no recourse to other dealers or grocers, as there had been. This move was in line with progressive poultry culture and now enables producers of large eggs to command their relative value. Prices in this district are now based on Los Angeles Exchange grades and prices at noon on the day of delivery. Grades were last winter made the same as those of the San Francisco Exchange. Most of the farmers of the Escondido district have bought egg scales since grading was rigidly enforced and are doing their own grading to get all there is in the eggs. But this has been only after a good bit of storming and circulating from one to another of the several competitors for the eggs of the district.

Part of the improvement in prices came after The Whitehead Co. of Los Angeles established a station at Escondido to grade eggs when received from poultrymen, rather than take them as they came and grade them in Los Angeles. Some of the grocers still accept eggs as they come, but must either pay several cents less than the regular egg dealers or stand the loss for fear of offending the customer. They, however, welcomed the grading system when it was quite thoroughly enforced, because irate customers soon found that it did no good to transfer their patronage to other stores.

Deliveries are made at least once per week in winter and twice per week in summer, according to J. S. Cosby, the local manager for The Whitehead Co., who gives us the following figures:

The minimum weight of "pullet" eggs was raised in January, 1917, from 21 ounces per dozen to 22 ounces. The price does not follow Los Angeles "pullet" prices exactly, varying as much as three cents below. Where straight cases average over 24 ounces, the price is uniformly one cent under the highest Los Angeles prices. It costs 32 cents per case to ship them. Brown eggs and mixed colors sell for one cent under Los Angeles browns and one or two cents under whites of the same size. All dirties must be washed and kept separate, as they cannot be stored, and are sold first; but there is no difference in price. Eggs are all candled in Los Angeles, the producer's name being sent on a card in each case for proper credit. The Whitehead business ranges from 150 cases per week in winter to 90 per day in spring. Prices are based on Exchange prices at noon of the day of delivery.

Manager I. N. Foss of the Tulare Co-operative Poultrymen's Association showed us figures that prove most of the winter eggs delivered to the Association by members are from Rhode Island Reds. Leghorns still predominate in the district, but chicks brought in last spring were far more of Reds than any other breed.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

MISSION HATCHERY CHICKS, January, February—R. I. Reds, Barred and White Rocks, Black Minorcas, Anconas, White, Brown, Buff Leghorns; first-class utility stock, well mated; hatched right in our large modern plant. 12,000 chicks weekly. Price and quality talk; see our free circular about them. Mission Hatchery, Box 107, Campbell, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.; large yearling hens; young birds of both sexes; egg orders now being booked.

SPRING CHICKS—We are booking orders now; we start our run in January; Rhode Island Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. Remember, order early. Campbell Poultry Ranch, Campbell, Cal.

SPRING CHICKS—We are booking orders now. S. C. White Leghorn, only selected and fully matured stock that is bred to lay used in the breeding pens, which assures strong and vigorous chicks. $12 per 100, $100 per 1000. H. A. Schlotthauer, Route A, Exeter, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

THOROUGHBRED BOURBON RED TURKEYS for sale; young Toms, sons of First old Tom, State Fair, 1917, $7.50 to $10 each; hens, $4 to $6; also Eastern stock; all choice. Emma V. Miller, Farmington, Cal.

WHITE ORPINGTONS, heavy egg type; Buttercups, fall and winter layers; eggs, chicks; Hoganized stock of all kinds for sale. M. S. Woodhams, R. F. D. 1, San Mateo, Cal.

BABY CHICKS — From select free-range White Leghorn stock; place orders early; prices on application. Western Hatchery, Petaluma, Cal. W. S. Waldorf, Prop.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; choice cockerels. Fairmead Poultry Farm, Fairmead, Cal.

MAMMOTH BRONZE TURKEYS FOR SALE —The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

BUFF ORPINGTONS, Buff Leghorns, Bourbon Red Turkeys. Breeding stock. The Ferris Ranch, Route 2, 144D, Pomona, Cal.

GIANT BRONZE TURKEYS and eggs; choice breeding stock. M. M. Reiman, Planada, Cal.

MAMMOTH BRONZE TURKEYS, from the best prize-winning stock; eggs in season N. E. Mulick, Willows, Cal.

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THE HOME CIRCLE

Mrs. Best's Letter.

SPECIAL FALL SALES OF LADIES' SUITS.

My Dear Friends: If any of you have suit or dress needs, you will be glad to know that the fall sales are already in progress, a week or two in advance of the usual time. One large house claims over two hundred different styles of suits, some elaborately fur-trimmed and others plainly tailored, so there should be no difficulty in finding the suit that just suits you. The modish fabrics are velour, silvertone, duvetyne, velveteen, broadcloth, tricolin, vicuna and serges in the new somber tones of black, brown, taupe, navy, balsam green and beet root.

FOR STREET WEAR.

In street dresses the materials are serge, gabardine and poiret twill in a variety of styles, some of them in tunic effects and others with the low draped peg-top effect and many of them embroidered in silk or metal or trimmed with braid and buttons.

For afternoon wear there are dresses of silk and satin, crepe-de-chine, Georgette crepe and combinations of Georgette crepe and satin or taffeta. Many of them have the rolling white satin collar, and they are shown in rather somber colors.

BECOMING COMBINATIONS FOR GIRLS.

For the girls for evening wear there are combinations of silk and net, soft taffetas and charmeuse. Gold and silver embroidery is very popular, used on both the silk and net. One very attractive dress was a combination of magenta silk and silver lace—the silk formed a panel in front and in the back of the skirt, with a bustle effect of soft folds of the silk, while the sides were of the ruffles of silver lace. The bodice was of lace with a broad girdle of the silk that extended up in narrow straps over the shoulders. The sleeves were the new butterfly effect, made of net, very short under the arm and running down to a point on the back almost to the waist. These are very dainty and exceedingly new.

SCANT SKIRTS.

The skirts of both suits and dresses are much more scant and petticoats to set well under them must be soft and clinging.

These dresses and suits are having very substantial reductions, an unusual offering when the season is only well begun.

BLOUSES SKIMPED ALSO.

Blouses are reduced also, both the white or flesh and the darker suit blouses. The light ones are usually either of crepe-de-chine or Georgette crepe and are many times trimmed with filet lace, either real or imitation.

FILET EFFECTS THE LATEST.

Filet lace collar and cuff sets are quite the newest thing. The real article comes high, but some of the imitation is wonderfully effective, and no more expensive than organdie. The collars are not shaped, but are just a straight strip of lace rather long, so that they come well down over the coat lapels.

ROSABELLA BEST.

REMOVE THOSE STAINS.

To give clothes a longer period of service, and to conserve garments or fabrics which may appear to be hopelessly stained, is the object of a new publication just issued by the United States Department of Agriculture.

KIND OF FABRIC AND NATURE OF STAIN.

One of the first requisites in removing stains, says the bulletin, is to know the kind of fabric which is spotted and, if possible, the nature of the stain. Some stain removers which will give admirable results on cotton or linen may, if applied to woolen or silk, remove pieces of the fabric as well as the stain. Likewise, stain removers which are entirely satisfactory for cleaning silk or woolen materials cannot always be used for removing stains from vegetable fibres, such as cotton or linen. Similarly, treatment which will remove some stains immediately will cause those of a different nature to take firmer hold on the fabric.

REMOVE WHEN FRESH.

The second cardinal principle in spot removal is to work while the stain is fresh. Cold or lukewarm water is usually the housewife's best bet for a first step, the bulletin indicates, if the nature of the stain is not known and if the fabric is not injured by water. Hot water should not be used until it is determined that the staining material is such that it will not be "set" by heat. Stains from meat juice, blood, egg, milk, and other materials containing protein are set by hot water.

If stains are of such a nature that they will not yield to laundering or sponging with water or with water and soap, it is necessary to use one or more of a number of chemicals. Besides water and soap, the bulletin names as the substance most useful in removing stains Javelle water, potassium permanganate solution, oxalic acid solution, ammonia water, carbon tetrachlorid, French chalk, and cream of tartar, each of which may be used successfully, provided the right one is used at the right time. Detailed instructions for treating various stains are contained in the publication. Copies of the publication, Farmers' Bulletin 861, may be had free so long as the supply lasts, on application to the United States Department of Agriculture, Washington, D. C.

THE PATRIOTIC LEAGUE.

The Patriotic League is banding together the girls of all parts of the land in a common bond for work, special service and play. This is one phase of the War Work Council of the Y. W. C. A. Thousands of girls have signed the pledge, which is as follows: I pledge to express my patriotism by doing better than ever before whatever work I have to do; by rendering whatever special service I can at this time to my community and country; by living up to the highest standards of character and honor, and helping others to do the same.

Leagues have been organized in more than one hundred cities of thirty-eight States and in many small towns. They all have one aim—to help Uncle Sam win the war. They have canned and dried fruits and vegetables, sold liberty bonds, helped in the Hoover food campaign, adopted French orphans, have given Bibles to companies, made curtains and sofa pillows for hostess houses in cantonments, collected books and periodicals and sent them to the proper distributing station and are knitting constantly. All of this represents work—real work—and not always what one wants to do.

WAR-TIME COOK BOOK.

The housekeeper who is young enough to learn is going to plan at once a war-time cook book. Old ideas and old habits must be forgotten and food prejudice must not stand in the way. Old recipes may be worked over, but the best material for war dishes will be found in the recipes appearing in magazines and papers. Most of this material is prepared by experts in colleges and experiment stations and is too valuable to throw aside.

The best device for keeping recipes is a small filing cabinet arranged like a library card index, but a pasteboard box will do. The recipes can be written or pasted on cards, with a guide card to separate the groups. The most important group will be meat substitutes. Here will be placed substantial dishes that furnish muscle-building food. These will include combinations of eggs, cheese, beans, nuts and meat with potatoes, rice or hominy. Other groups may include war breads, war cakes and sugar-saving desserts.

CORNMEAL MUSH.

The success of cornmeal mush lies in the long cooking and standing and stirring for an hour is a tedious task. So when it is well started, the salted water boiling hard and as much meal as necessary put in, cook for a short time on top of the stove and then cover closely and put in the oven to complete the cooking. The mush that is to be used for frying should be packed while still warm into a dish and allowed to remain over night. The next morning it will turn out and slice evenly without breaking. It will brown more rapidly if the fat is piping hot in the skillet and if to the flour in which it is rolled a little sugar is added.

BOSTON BROWN BREAD.

Take 1 cup of sweet milk, 2 cups of sour, 1 cup of cornmeal, 2 of graham flour, ¾ cup molasses, 1 cup of raisins, 1 teaspoon soda dissolved in sour milk, 1 teaspoon salt. Mix the ingredients, adding the raisins, well floured, at the last. Put in tins of the desired size and steam for 3 hours. This recipe can be made sweeter and used for a simple pudding with a pudding sauce.

BEGINNING THE DAY.

Give me grace, O Lord, to stay in my hard place and fight it out. Teach me that the posts of difficulty are the posts of honor. Then grant me a song of rejoicing that Thou trustest me with the difficult and the dangerous and the delicate. Amen.

SUNSET.

My years are many—I cannot do my bit
As nurse, or cook, or clerk;
And so I sit and knit,
My thoughts on those for whom I work.

The sun is sinking; it floods Old Glory's stars
And lights each rippling fold
Of white and crimson bar
With living liquid gold.

Somewhere in France the boys for whom I knit
Are battling for that Flag—
By the sun's glory lit—
To keep it Flag—not rag!

God bless them all; each brave and noble boy,
And send them safely home.
We'll greet them with proud joy
When that glad day shall come.

—Boston Globe.

"BRER" RABBIT CAN DO HIS BIT.

At festival season the rabbit has always held a place of honor on the English board. Christmas, 1917, should see the American rabbit raised to the food peerage or knighted upon the field.

What can you do with a rabbit? Exactly what you can do with a chicken—roast, pan, fry, fricassee, and a dozen ways besides. Try one of these for your Christmas dinner.

Roast Rabbit.—Wash the rabbit with soda water. Lay in salted water for an hour. Stuff the rabbit with onion, celery or chestnut dressing and sew up. Line a baking pan with the following: One onion and one carrot cut up, a few cloves, whole peppercorns and one bay leaf. Rub rabbit with salt and pepper and lay it upon this dressing, putting fat of oleo here and there over the rabbit. Sift a little flour over the top and pour a cup of stock or hot water into the pan. Cover tight and roast, basting frequently. When ready to serve, put on a hot platter and garnish with slices of lemon and cranberry jelly or currant jelly.

Spiced Rabbit.—Wash rabbit in soda water. Disjoint hind legs; cut off the saddle; remove the forequarters, making in all nine pieces. Lay in salt water about an hour. Place rabbit in dish with vinegar poured over it and let it remain over night. Remove from pickle, salt each piece lightly, and arrange in baking pan. Cut up an onion in it, adding one bay leaf, a dozen pepper corns, part of a celery root, a cup of stock, and a little vinegar from the pickle. Cover with another pan, put in a quick oven, and bake an hour. Remove upper pan and brown, basting frequently. When brown remove and arrange pieces on a hot dish. To the pan add a tablespoon of flour browned in fat drippings and a cup of stock. If not spiced enough, add pepper and a very little mace. If desired, add a can of mushrooms that have been drained and washed. Pour the gravy over the rabbit, dust with chopped parsley, and send to the table.

Chestnut Stuffing.—Shell one quart of Italian chestnuts. Boil until skin is softened, then drain and remove the skins; put back in water and boil until soft and rub through a sieve while hot. Season the mashed chestnuts with one tablespoon bacon fat, one teaspoon each of salt, grated lemon rind and chopped parsley; add three tablespoons of grated bread crumbs and two well-beaten eggs. Be sure the stuffing is not too wet.

Good Health.

[By H. E. Pastor, M. D.]

Rheumatism and Its Relief.

An inquirer who has been suddenly seized with a painful attack of rheumatism in the region of the knuckles of the right hand asks us to say a word on this subject this week. What is said may appeal to others. The cause or causes of rheumatism are always more or less obscure. It is a popular belief that this widespread and refractory disease is the result of a too generous diet of meats and other foods of high-protein content. We think this conclusion is largely correct, though association with continued cold and dampness is a superinducing factor. Heredity may be another. It may arise incidentally by reflex action, from decaying teeth or other lesions of the body which generate poisons which gain access to the blood current. Careful attention to diet is indicated in treatment. Avoid lean meat, eggs and similar albuminous foods, as they contain elements which form uric acid—nearly always in excess in the urine when rheumatism is present. Eat the coarser cereals, also vegetables, and fruits. Personally, we are very partial to citrus fruits. Better avoid tea, coffee, and chocolate. Caffein is a prolific source of uric acid.

In the particular case mentioned in the opening sentence, relief would be obtained by the application of hot fomentations to the affected part for about fifteen minutes. Then apply a cloth, well wrung out in cold water. Cover this with oiled silk or other substance impermeable to moisture, and over this again place a warm, dry flannel. Keep it on and the hand quiet for about eight or ten hours. When the wrappings are removed bathe the parts in cold water and dry quickly and briskly. Anoint with vaseline. "Iodex," a proprietary preparation of iodine, we have found very serviceable in cases of this kind.

Buttermilk Versus Whole Milk.

Buttermilk is less nutritious than whole milk owing to the removal of the fat. In the case of adults, however, where the large bowel becomes infected with putrefactive, poison-producing bacteria, buttermilk is a more wholesome drink for the reason that the lactic acid of the buttermilk antagonizes the growth of such obnoxious bacteria. Buttermilk inoculated with the Bulgarian bacillus is said (on the authority of Metchnikoff) to be the best for this purpose, and probably is. However, any fresh buttermilk derived from cream of good quality is efficacious in this respect.

Foods Rich in Mineral Salts.

Here is a partial list of the commoner articles of diet especially rich in those mineral salts essential to human nutrition: Whole wheat bread, graham bread, eggs, milk, potatoes, tomatoes, beets, spinach, lettuce, cauliflower, celery, asparagus, apples, and oranges.

Grape juice has not only a high food value, but is useful in promoting the digestion of other foods that may be taken with it, especially those rich in nitrogenous elements.

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This book should be in the hands of every home lover in the Southwest. We will gladly mail a copy to you. Send your name and address today to

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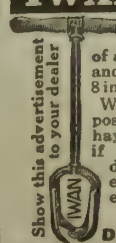

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Dept. C, South Bend, Ind.

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Why Not Save That Extra on Underwear?

It's really a startling eye-opener to see just what amazing value you can get when you buy Hanes Underwear. Read about the extra features over there in the illustration. Add 'em all up—then get this:

Hanes Winter Weight Underwear is made of fine, long-fibre cotton, snug-fitting, sightly and strongly made. Every seam is guaranteed unbreakable where the wear is greatest. It is springy and comfortable, warm and cozy.

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A boy's union suit that combines the best features of the men's suits with a downy softness and cozy warmness just right for youngsters. Its value can't be duplicated anywhere.

Ask the Hanes dealer to let you see these two big underwear values. If you don't know him, write us. Don't let this chance slip by, but stock up against the cold weather by buying a half dozen suits before your dealer is sold out.

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We guarantee Hanes Underwear absolutely—every thread, stitch and button. We guarantee to return your money or give you a new garment if any seam breaks on Hanes Underwear.

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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, December 5, 1917.

WHEAT.

Last week's showers in the northern and central part of the State were not sufficient to stimulate the demand for seed, and the market remains unchanged.

(Federal Grain Corporation quotations for bulk grain. Sacked grain 7c per hundred more.)

Sonora wheat	$3.43
Northern Club	3.43
California Club	3.43
Northern Bluestem	3.50
Northern Red	None offering
Russian Red	None offering

BARLEY.

There has been some inquiry for barley and prices have stiffened. The market is not so dead as the other grain markets, but is not lively.

Shipping, per ctl	$2.50@2.55
Brewing	2.50@2.55
Choice feed, per ctl	2.50@2.55

OATS.

But little demand developed during the week for oats, and quotations are nominally unchanged. Further delay in the opening up of a rainy season has a tendency to make prices firm.

White Feed, per ctl	$2.65@2.75
Red Feed, per ctl	2.50@2.65
Red Seed, per ctl	3.10@3.25
Black Oats	3.00@3.50

BEANS.

Eight cents a pound for uncleaned pink beans and 11c for white delivered is the price to the Army and Navy made by bean growers to Ralph Merritt, California Food Administrator. This price should net the large growers a good profit. Growers have been urged to sell their crops at the earliest possible moment owing to the increased car shortage. It is estimated that 75 per cent of the 1917 crop is in warehouses. The effect of this agreement on the market was slight.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl	$9.25@9.50
Blackeyes	8.25@8.40
Cranberry beans	12.00@12.25
Lima beans	5.75@6.00
Small whites (south)	11.75@12.00
Large whites	11.50@11.75
Lentils (south, recleaned)	12.25@12.50
Pinks	8.00@ 8.10
Red kidneys	12.75@13.00
Mexican reds	8.75@ 9.00
Tepary beans	9.00@ 9.25
Garbanzos	7.50@ 7.75

CORN.

The range of prices for Egyptian corn was somewhat narrower this week, but otherwise the price was unchanged. A few hundred pounds of California corn were offered and $3.50 was bid for it. The bid is expected to be accepted.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	$4.00@4.10
California, sacked	None offering
Milo maize	None offering
Egyptian	$3.20@3.25

HAY.

The hay receipts of the past week were 1,317 tons, against 1,465 of the previous week. About 50 per cent of them were for Government account. The balance has taken care of all demands, though there is none to spare. The car situation has shown a slight improvement during the week. The dry weather was of material benefit in moving hay in open cars. Everybody is getting as much hay on hand as possible against the time when there will be no cars of any kind available. Stock hay continues the leader of the market. Hay arriving has been of exceptionally good quality.

Wheat, No. 1	$24.00@26.00
No. 2	21.00@23.00
Tame oats	26.00@27.00
Wild oats	21.00@24.00
Barley	21.00@24.00
Alfalfa	21.00@25.00
Stock hay	18.00@20.00
Straw, per bale	60@90c

FEEDSTUFFS.

A greater demand developed for feedstuffs this week, on account of the prolonged dry spell. The demand for alfalfa feed advanced its price from $1 to $2 a ton. Coconut cake was again offered on the market and sales made ranging from $45 to $46.

(Per ton, San Francisco.)

Beet pulp per ton	None offering
Alfalfa meal, per ton	$31.00@32.00
Bran per ton	41.00@42.00
Offcake	None offering
Coconut cake or meal	$45.00@46.00
Cracked corn	58.00@59.00
Middlings	52.00@55.00
Rolled barley	53.00@54.00
Tankage	None offered
Rolled oats	59.00@60.00
Rice middlings	None offered
Rice bran	32.00@35.00
Shorts	45.00@47.00

POTATOES, ONIONS, ETC.

Salinas were the only potatoes to maintain last week's quotations. All others were weak and lower. Onions also showed a downward tendency, due mainly to the difficulty in securing transportation to ship elsewhere. Some inferior tomatoes were sold at low prices and the market was inclined to be weak. Hothouse cucumbers are now coming in in considerable quantity and finding ready sale at from $2 to $2.25.

Asparagus	None
Peas, large	10@12½c
String beans, per lb	8@10c
Wax beans, per lb	8@10c
Hubbard squash, per sack	$1.00@1.25
Cucumbers (hothouse), per box	$2.00@2.25
Celery, per crate	$2.75@3.00
Tomatoes, per lug box	1.00@2.00
Potatoes, Salinas	3.10@3.25
Idahos	2.10@2.25
Oregon	2.10@2.30
Rivers, per ctl	2.00@2.20
Sweets, per lb	2¼@2½c
Onions, yellow, per sack	$1.85@2.00
Reds	None offering
Garlic, per lb	5½@6c

POULTRY.

The poultry market showed the effect of the recent Thanksgiving holiday and all prices are lower. Another reason for the falling off in quotations was the plentiful amount of stock shipped in. This week four carloads of fowl arrived from the East. These delayed arrivals had the effect of forcing the market to a still lower level than was expected.

(Quotations are for stock sold on commission. Net returns to shippers are about 4c under quotations.)

Turkeys, live, per lb., young	25c
do, dressed, old	26c
Broilers, 1½ to 2 lbs	33@35c
do, 1¼ lbs	40c
do, under 1¼ lbs	40c
Fryers	29@32c
Hens, extra, per lb., colored	27c
Small leghorn	25c
Smooth young roosters, per lb. (3 lbs. and over)	27c
Old roosters, per lb	17@18c
Geese, per lb	18c
Squabs, per lb	43@45c
Ducks	21@23c
Old	18@20c
Belgian hares (live)	18@20c

BUTTER.

The recent shipment arriving from Australia has been all sold and has had little effect on the local market. The total receipts of butter in this market during the month of November were 2,011,300 pounds. This includes the 388,800 pounds brought in, but sold here, from Australia. The net receipts, therefore, were 1,622,500 pounds and this compares very closely with a net of 1,756,000 received in November, 1916.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	42½	41	41	42	42	

EGGS.

The egg market has not shown great fluctuations the past week. The dealers consider that eggs are low for the time of the year, and believe they are not likely to go lower. However, the supply has been good and the demand has not been up to the usual mark.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	53	51	53½	52½	53½	
Extra pullets	47½	44	43½	42½	43	

CHEESE.

The cheese market is dull. Monterey cheese eased off somewhat on the street, the best quality bringing 24c.

Y. A.'s	25c
Fancy California Flats, per lb	23c
Monterey cheese	18@24c

FRESH FRUITS.

Grapes are coming in freely and, with apples, dominate the fresh fruit market. The demand for both is good and no changes in prices are noted. Pomegranates and persimmons are plentiful.

Apples, per box	$1.00@1.75
Pears, per box	1.00@2.50
Casabas, per crate	50@75c
Pomegranates	$1.25@2.00
Persimmons	1.00@1.50
Nectarines	None offering
Figs, per box	None
Grapes, Malaga, crate	$1.00@1.25
do, Muscats, crate	1.00@1.25
do, Verdell	1.00@1.25

CITRUS FRUITS.

The market quotations for citrus fruits were unchanged during the past week. The demand is good and a good supply is coming in. Navel oranges are of better quality than the first arrivals.

Oranges:	
Navels	$3.00@4.00
Valencias, fancy	3.50@3.75
Valencias, choice	2.25@3.00
Lemons:	
Fancy, per box	6.00@7.00
Choice	5.00@6.00
Standard	3.50@4.50
Lemonettes	2.50@3.00
Grapefruit, fancy, new	3.00@3.50
Tangerines	1.50@2.00

DRIED FRUITS.

There is no change in the situation of the dried fruit market. Prices are steady and demand is good, especially for foreign shipment. Prices have not changed.

(Net to growers, bulk basis, f. o. b. San Francisco.)

Apples, new crop	13½@14½c
Apricots, per lb	Nominal
Figs, black, 1917	6½@7½c
do, white, 1917	8½@10½c
Calimyrna, 1917	15½@16½c
Prunes, 4-size basis, 1917	6½@8c
Pears	6½@11½c
Peaches, 1917	9½@10¾c

BERRIES

Notwithstanding the lateness of the season, strawberries and raspberries continue to come in in fair quantities. Enough arrived during the past week to lower the prices of both berries a dollar a chest.

Strawberries, Banners, chest	$8.00@ 9.00
Nicomas	9.00@10.00
Longworths	None
Blackberries, per chest	Nominal
Raspberries, per chest	$8.00@10.00
Gooseberries	None

HONEY.

Prices of honey remain firm and unchanged. The supply is so meagre that these prices may be regarded as nominal, for the dealers could not fill large orders at any figure.

Comb—	
Water white	15@16c
Light amber	13@15c
Amber	11@13c
Extracted—	
Water white	Nominal
Light amber	13@15c
Amber	11@13c

RICE.

There were no changes in the rice market during the past week. Prices were maintained at the previous week's figure and the market was inactive.

Paddy	$3.40@3.50
Clean Run No. 1 California	$6.50

HIDES.

There is quite a little activity in the local hide market, sale prices conforming closely to our last quotations.

Special Deciduous Market Report

(By J. L. Nagle.)

Sacramento, December 4, 1917.

Under somewhat lighter offerings, together with increased pre-holiday demand, the market on all varieties of grapes ruled stronger. The trade was very anxious for supplies, with prices generally showing advance of from 10c to 25c a crate over previous sales, the largest gains being made on Malagas and Emperors, which were in strong request.

Pears showed no material change, the demand being fairly active at about equal prices to the close of last week. Almeria grapes are arriving in light supply and prices ranged from $1.62½ to $15.50 a barrel. Drum and keg Emperors sold from $2.50 to $5.00, the price gauged entirely upon the quality, though the demand was active on sound stock to be used for storage purposes. Following are the averages for the week:

New York: Emperor grapes (crates), $1.52; Emperor grapes (drums), $4.90; Cornichon, $1.37; Tokay, $1.18; Malaga, $1.59.

Chicago: Malaga grapes, $1.42; Emperor, $1.23; Cornichon, $1.23; Tokay, $1.08.

Boston: Malaga grapes, $1.77; Tokay, $1.03; Emperor, $1.43; Cornichon, $1.28; Muscat, $1.17.

Total shipments from November 23 to December 2, inclusive: 71 grapes, 3 pears. Total shipments to date, 1917: 24,297 cars. Total shipments to date, 1916: 18,018 cars.

Special Citrus Market Report

Los Angeles, December 4, 1917.

Shipments of citrus fruits from Southern California from November 1 to December 3: Oranges, 1,820 cars, and lemons, 290 cars. Same time last year: Oranges, 1064 cars, and lemons, 475 cars. From Central California from Nov. 1 to 30: Oranges, 571 cars and lemons 29 cars. Same time last year: Oranges, 1156 cars, and lemons, 93 cars. On the Eastern markets medium size Valencias that could retail for 50c and less met with a good demand, but large sizes were weak. Valencia and Porto Rican still control the market. While a number of new navels are in transit East, none had arrived up to the time of this report. Since November 1 shipments from Southern California have been over 700 cars larger than the same time last year. While the shipments from Southern California show an increase of over 700 cars, shipments from Central California report a shortage of nearly 800 cars; so, taking the shipments as a whole, they have averaged much the same the two seasons. Locally there is no change from a week ago. Some few navels are coming in, but they sell no better than Valencias. Local packers are still bidding 2@2½c per pound for oranges delivered, and 2½@3c per pound for grapefruit, which is in fair demand. Lemons under the influence of colder weather have declined ½c and slow sale. Eastern markets are holding up well on lemons. Local packers are bidding 2½@3c per pound for the best. Low grades bring less.

AUCTION SALES.

New York, Dec. 3.—Twenty-one cars of Valencias and three cars lemons sold. Market firm on sizes 200s and smaller and easier on 176s and larger. Lemon market strong. Weather fair. Valencias averaged $2.60@5.20. Lemons averaged $4.15@7.25.

Boston, Dec. 3.—Thirteen cars sold. Market is weaker on Valencias and unchanged on lemons. Valencias averaged $1.75@4.45. Lemons averaged $2.75@5.30.

Philadelphia, Dec. 3.—Five cars Valencias and one car lemons sold. Market unchanged. Demand good at prevailing prices for both Valencias and lemons. Valencias averaged $1.70@4.35. Lemons averaged $3.35@4.35.

LOS ANGELES.

Los Angeles, December 4, 1917.

BUTTER.

This market remains much the same as a week ago, though receipts were hardly so heavy. There was withdrawn from cold storage during the week 31,862 pounds, against 38,651 pounds the same week last year. San Francisco went off 1c during the week up to Monday, while Chicago for the same time advanced ½c on extras and New York 1c. On call there was no trading and the price was made the same as the day before.

We quote:

California extra creamery	42c
California prime first	41c
California first	40c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	42	42	42	42	42	42
1916—						
Extra	38	38	38	36	36	36

EGGS.

While the receipts by rail continue very light, much less than this time last year, the arrivals by truck are increasing a little each week. This with the passing of the Thanksgiving trade caused a weaker tone to the market the past week and prices are 2c lower all round. The holdings now in cold storage are 17,780 cases, only a little more than this time last year. San Francisco went off 1c up to Monday and Chicago lost 1c for the same time, while New York remains unchanged. Tuesday, with better receipts and San Francisco being lower, the market on call dropped 1c, and not much trading at this decline.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	53	53	52	52	52	51
Case count	51	51	49	49	49	48
Pullets	47	47	46	46	46	45
1916—						
Case count	47	47	45	45	45	45

POULTRY.

With Thanksgiving gone, trade has quieted down a little. Still a fair demand is being had for most everything. Local receipts continue light, but there were several cars of Eastern poultry in during the week which made up for the light home supply.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs	33@34c
Fryers, 2½ to 3 lbs	27c
Hens over 4 lbs	25@26c
Hens under 4 lbs	21@22c
Ducks	22@23c
Geese	18c
Roosters, 3 lbs. up (soft bone)	25@26c
Turkeys, heavy, 12 lbs. and up	28@29c
Turkeys, light	26@27c
Squabs, live, per lb	35c
Dressed, per lb	45c

VEGETABLES.

A fair market was had the past week for most good fresh stuff. Potatoes continue dull at last week's decline. Onions are lower and slow sale. Tomatoes slow sale and lower. Lima beans and string beans in light supply, and both are a little higher. Peas are also higher, but slow sale at the advance. Cabbage higher but dull. Not much coming in. Cauliflower steady and in fair demand. Bell peppers firm and Chile peppers dull. Celery slow sale. Sweet potatoes steady. Hubbard squash selling fairly well.

We quote from growers:

Potatoes, Northern, per cwt	$1.75@2.00
do, local, per cwt	1.50@2.00
do, Idaho, per cwt	1.65@1.75
Onions, yellow, per cwt	1.75@2.00
do, White, per cwt	1.75@2.00
Garlic, per lb	3@4c
Tomatoes, per lug	40@65c
Cabbage, per 100 lbs	$1.25
Lima beans, per lb	7½@8c
Bell peppers, per lb	5@6c
Chile peppers, per lb	3½@4c
Celery, per crate	$2.00@2.50
Eggplant, per lb	3@4c
Sweet potatoes, per cwt	$2.25@2.50
Cauliflower, per crate	1.50@1.75
Hubbard squash, per 100 lbs	1.00
Pumpkins, per 100 lbs	75c
String beans, per lb	6@8½c

FRUITS.

Not much on the market now aside from cold storage stock. Apples attract most attention and in good demand at old prices. Pears slow sale but unchanged. Christmas melons meeting with very good demand and market rather firm. Japanese persimmons continue to come in quite freely; prices steady.

We quote from growers:

Apples—	
Bellefleur, 4-tier	$1.30
Jonathan, 4-tier	$1.75@1.90
Pears, per lb	4@6c
Local apples, per box	$1.00@1.15
Christmas melons, per lb	1½c
Japanese persimmons, per lb	3½@7c

WALNUTS.

The past week saw the last shipments of good nuts by the Association go out. This closes the season for all merchantable walnuts from growers. There are still quite a number of culls to come in and they are finding ready sale at 5@12c per pound.

Association prices:

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.00c
Jumbo	24c	17.50c
Culls	5@12c	.....

BEANS.

The bean market is dull. Buyers take hold sparingly, and only want lots for immediate trade. Prices are unchanged.

We quote from growers:

Limas, per cwt	$12.00
Large white, per cwt	11.50
Small white, per cwt	11.75
Pinks, per cwt	8.75
Blackeyes, per cwt	7.50
Tepary	8.00

SUGAR BEET GROWERS AND SUGAR REFINERIES LOCK HORNS.

The Grand Jury of Los Angeles county last week, in investigating the cost of living in that county, found that there was a deadlock between the sugar beet growers and the owners of sugar refineries. Some beet growers threaten to plant their land to other crops unless better prices are paid for beets next year. The refineries say that last season they paid farmers $2 per ton more for their beets than the year before; but the farmers say the increase in price was based on the sugar test, and that while they received $2 per ton more for their beets that the test of the refineries ran so low that their gross receipts were less. Farmers also claim that the refineries make extra money off the molasses that they get from the residue from the sugar beet pulp and then sell that for $40 a ton.

Henry C. Lee, general manager of the Los Alamitos Sugar Co., says: "I discussed the situation with the Grand Jury all of Friday morning. I believe the minimum price our company is guaranteeing to pay for beets this year is fair and just to the beet growers and will permit them to make the greatest profit that they have ever made, assuming a normal crop. I would also state that the minimum price we guaranteed our farmers for beets next year is the highest price ever offered by any beet sugar factory in the United States. I will further say that at the present time practically 75 per cent of the Los Alamitos Sugar Company acreage is already being prepared to put into beets and we have no doubt that when the contract which we are now offering is understood there will be a large increase in beet planting."

HAY.

If anything the market the past week was duller and weaker, though not quotably lower. Receipts are coming in a little more freely and buyers are disposed to hold back. Grain hay is holding up better than alfalfa. No outside demand.

We quote f. o. b. Los Angeles:

Barley hay, per ton	$25.00@26.00
Oat hay, per ton	26.00@27.00
Alfalfa, northern, per ton	24.00@25.00
Alfalfa, local, per ton	25.00@26.00
Straw, per ton	9.00@10.00

COTTON.

While there was considerable life in the speculative market in New York the past week its tone was weak. There was much liquidating by the longs and the market worked a little lower. In New York Monday, January was 29.51c and New Orleans spot middling was 29.13c, which is 41 points off.

HIDES AND PELTS.

The market continues weak at quotations. Pelts in good demand and firm.

HIDES—Green Salted:

Heavy steers, per lb	18c
Light steers, per lb	17c
Kips and calf skins, per lb	24c
Bulls and stags, per lb	15c

PELTS:

California full wooled, per lb	25c
California medium wooled, per lb	16c
California short wooled, per lb	15c

Special Livestock Market Report

San Francisco, December 5, 1917.

CATTLE—The local cattle market is weak. Owing to the abstemious use of meat urged by the Food Administration, consumption has fallen below normal and the supply of cattle on hand, together with current offerings, somewhat exceeds requirements. However, the market maintained a healthy undertone and no material price decline is looked for.

Steers—	
No. 1, weighing 900@1200 lbs.	9¼@9½c
No. 1, weighing 1200@1400 lbs.	9¼@9½c
Second quality	8¾@9 c
Thin undesirable	6 @8 c
Cows and Heifers—	
No. 1	7¼@7½c
Second quality	6¾@7 c
Common to thin	4 @6 c
Bulls and Stags—	
Good	5¾@6¼c
Fair	5 @5½c
Thin	4 @4½c
Calves—	
Lightweight	9 @9¼c
Medium	8¼@8½c
Heavy	7½@7¾c

SHEEP—The mutton supply is short, as usual, growers inclining to hold on to their stock, fully persuaded of greater future profits. Lamb arrivals are mostly feeder stock. Consumption is light.

Lambs—	
Milk	15 @16 c
Sheep—	
Unshorn wethers	12 @12½c
Unshorn ewes	9½@10 c
Shorn sheep	1½@2c less

HOGS—There has been a fair run of hogs the past week of good weight and superior quality. In the East a reaction in the price market is noted, though the price level is well maintained here.

100 to 150	14½c
150 to 275	15¾c
300 to 400	15@15¾c

Los Angeles, December 4, 1917.

CATTLE—Notwithstanding last week was Thanksgiving and poultry had the "call" and meatless Tuesday cut down the consumption of beef, a fair market was had. The offerings of cattle were fair, though feeders showed no disposition to force sales. Some beet-fed cattle are now arriving in very good condition.

Per cwt., f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs.	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt.	8.00@9.00

HOGS—The arrivals were somewhat better the past week and the quality of hogs coming in very good. California continues to furnish most of the supply.

Heavy, averaging 250@300 lbs.	$13.00@14.00
Mixed, 200@250 lbs.	14.50@15.50
Light, 175@200 lbs.	14.50@15.50

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—There is no change to note in this market. Supplies are still hard to get and those few are bought at old prices. The high prices of wool continue to make flockmasters slow about selling.

Per cwt., f. o. b. Los Angeles:

Prime wethers	$ 9.50@11.00
Prime ewes	10.50@11.00
Yearlings	10.50@11.50
Lambs	14.00@15.00

Portland, December 3, 1917.

The week's opening market in the Portland Union Stockyards showed a firm condition, with advanced prices in the cattle department, a sluggish hog market facing a severe decline, and a weak sheep market with a light supply and no demand.

CATTLE—The string of almost a thousand cattle found a fairly good market, with medium quality prevailing and prices going strong, 15c to 25c higher in the cow class and holding steady in all other classes. We quote the following: Medium to choice steers, $9.50 to $10.00; good to medium steers, $8.75 to $9.50; common to good steers, $7.25 to $8.25; choice cows and heifers, $7.00 to $7.75; common to good cows and heifers, $5.50 to $7.25; canners, $3.00 to $5.25; bulls, $4.50 to $6.75; calves, $7.00 to $9.50; stockers and feeders, $4.00 to $7.50.

HOGS—A string of about 35 loads of hogs came into the market today to confront a critical condition. The buyers were few in the yards, and those present were practically overflooded with a supply at the opening of the market. The contract stuff was taken care of at fairly steady prices, but the open market went off to a badly crippled tune. The final outcome was the withdrawal of bids and the following quotations: Prime light, $15.85 to $16.00; prime heavy, $16.00 to $16.10; pigs, $13.75 to $16.25; bulk, $16.00.

SHEEP—A heavy consignment of contract sheep came into the yards, extending up towards a thousand, but the open market showed a very light offering of middle class stuff, which changed hands at the weak end of the following quotations: Western lambs, $13.50 to $14.00; valley lambs, $13.00 to $13.50; yearlings, $12.00 to $12.50; wethers, $11.75 to $12.25; ewes, $8.00 to $10.00. While the supply and the demand were about balanced, the general tone of the sheep market was bad.

BEAN GROWERS MAKE PRICES TO ARMY AND NAVY.

Eight cents a pound for uncleaned pink beans and 11c for white, delivered at terminal points, is the price made to the Army and Navy by a delegation of bean growers from Northern California through Ralph Merritt, California Food Administrator. Merritt agreed that this was a fair price if the Government wants to make bean growing profitable and maintain next year the acreage that was planted this year. He announced that he would transmit the offer to Washington.

The cost of production ranged from $26.95 to $80 an acre, and the yield from 300 pounds to 2,000 pounds, according to the varying proficiency of the bean grower and the productivity of the land planted. The average cost lies between $40 and $45 an acre, and the average yield a little less than 1,000 pounds an acre, it appears. Among those present at the conference were: George A. Turner, Union Island; J. M. Bigger, Holt; Colonel John P. Irish, Stockton; Ed Powers, Manteca; A. H. Poore, Newman; J. F. Grass, Jr., Merced; Lincoln White, Sacramento; J. J. Hardie, Modesto, and Ralph Robertson, Stockton.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	26.65	34.91	28.16	36.90
" 16	27.83	35.83	28.10	37.00
" 23	28.85	36.91	28.50	35.00
" 30	36.33	38.48	36.66	38.87
Feb. 6	30.25	40.00	32.33	41.19
" 13	31.40	39.70	33.25	39.00
" 20	32.00	36.00	32.00	37.00
" 27	30.90	37.00	35.25	36.00
March 6	24.08	35.50	24.16	34.50
" 13	29.91	33.50	28.83	33.00
" 20	28.33	33.25	27.16	33.00
" 27	28.50	36.00	28.08	33.00
April 3	28.50	37.91	28.83	36.33
" 10	29.31	39.33	28.00	37.00
" 17	27.33	39.58	27.50	38.00
" 24	25.25	35.66	25.00	36.50
May 1	24.33	33.08	25.33	33.00
" 8	24.10	34.05	25.00	33.20
" 15	24.58	35.50	25.66	34.16
" 22	25.00	36.30	25.00	35.16
" 29	26.50	36.60	26.50	37.33
June 5	25.50	36.30	27.00	37.66
" 12	25.83	36.50	27.00	38.00
" 19	24.50	36.00	25.91	36.33
" 26	24.50	36.16	25.91	37.50
July 3	24.60	35.06	26.00	37.00
" 10	26.40	36.41	26.60	37.16
" 17	25.83	37.83	26.00	38.66
" 24	26.00	40.25	26.00	40.61
" 31	26.00	42.82	25.91	42.58
August 7	21.00	43.00	29.16	44.00
" 14	26.50	41.66	26.00	43.00
" 21	26.50	41.50	27.95	42.00
" 28	27.25	41.91	28.50	42.00
Sept. 4	30.00	42.10	30.50	41.33
" 11	30.20	42.00	32.00	41.00
" 18	30.41	45.00	31.09	43.00
" 25	30.41	45.00	30.50	45.50
October 2	31.66	44.90	32.16	45.91
" 9	32.91	44.90	32.83	46.33
" 16	33.50	46.25	33.50	47.00
" 23	32.75	45.41	33.00	46.50
" 30	32.59	43.50	33.00	44.83
Nov. 6	32.66	41.41	33.00	42.00
" 13	32.80	40.83	33.00	41.33
" 20	35.25	40.83	35.66	42.22
" 27	36.00	42.70	....	....
Dec. 4	35.60	41.70	36.80	42.00

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	31.41	37.91	32.00	38.16
" 16	30.33	41.83	30.75	40.83
" 23	34.83	32.50	34.33	33.12
" 30	36.33	32.08	36.66	33.01
Feb. 6	35.66	34.99	35.50	34.70
" 13	28.90	33.30	28.00	31.66
" 20	23.66	33.01	20.33	30.75
" 27	20.30	29.00	18.50	27.66
March 6	18.33	24.75	18.00	24.91
" 13	19.50	25.96	18.91	26.08
" 20	20.00	25.66	19.08	25.91
" 27	21.41	27.16	20.83	28.00
April 3	21.75	28.58	21.00	29.25
" 10	22.00	29.66	21.00	30.41
" 17	21.16	32.33	20.91	32.08
" 24	21.83	32.91	22.58	32.83
May 1	21.00	32.00	22.58	31.83
" 8	21.20	32.75	21.41	32.00
" 15	24.58	34.20	20.83	32.50
" 22	25.46	33.40	22.50	34.00
" 29	25.00	33.80	22.50	33.50
June 5	25.00	33.20	24.51	34.66
" 12	25.00	31.16	24.16	33.00
" 19	24.83	31.41	23.75	33.10
" 26	24.66	30.16	24.58	32.16
July 3	24.60	31.90	24.00	34.25
" 10	26.10	33.50	24.00	36.00
" 17	27.16	33.66	27.00	34.41
" 24	28.20	35.25	28.00	35.91
" 31	28.50	38.00	28.00	36.91
August 7	26.16	42.58	26.00	40.16
" 14	33.08	41.41	31.00	37.08
" 21	33.09	43.33	31.83	42.25
" 28	33.50	43.50	32.00	43.50
Sept. 4	36.13	43.80	32.00	43.58
" 11	37.90	45.08	36.00	44.91
" 18	38.83	47.83	37.00	47.83
" 25	39.75	47.58	38.66	49.50
October 2	39.75	47.00	40.50	50.83
" 9	42.25	47.10	43.16	51.50
" 16	48.50	52.59	49.32	54.50
" 23	47.01	54.83	46.50	56.16
" 30	47.09	56.16	43.33	58.00
Nov. 6	47.66	57.41	45.50	57.80
" 13	49.50	56.25	48.00	55.16
" 20	52.50	56.25	49.50	54.36
" 27	47.50	55.70	....	....
Dec. 4	45.10	52.70	45.40	52.16

Classified Advertisements

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GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero St., San Francisco.

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PASTURE FOR RENT—Good pasture, now and for all winter, for 600 head of cattle at seventy-five cents (75c) per month, at Dutton Station, Solano county. Address F. N. Chaplin, Duttons Landing, Solano county, Cal.

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WANTED—One or two-bottom sulky, mold board plane; state size, condition, cash price. Box 920, Pacific Rural Press.

WANTED.

WANTED—Working foreman for San Joaquin Valley alfalfa and grain ranch who understands soils, irrigation methods and pumping plants and can get bigger crops than the other fellow; want clean-cut, sober, dependable man, a hard worker and good manager of men; knowledge of dairy and cattle and hogs desirable; must show successful California record; excellent living conditions, fine equipment, good future; give age, full experience and salary expected or no attention paid. Address Box 850, Pacific Rural Press.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market St., Stockton, Cal.

PRACTICAL RANCH SUPERINTENDENT desires position on large ranch; experienced and capable in handling deciduous fruits, general farming, irrigation, farm machinery, labor, etc. Box 910, Rural Press.

WANTED—By a thoroughly competent and reliable farmer, work on either trees or vines. Address P. W. Brodt, 2150 Center street, Berkeley, Cal. Phone Berkeley 610W.

YOUNG MAN WITH WIFE and child wants place on registered dairy or hog ranch; state living conditions and wages. Box 930, Pacific Rural Press.

EXPERIENCED IOWA HOGMAN desires work under experienced California market hog raiser. Box 900, Pacific Rural Press.

COUNTRY LANDS.

CENTRAL ALBERTA FARM for sale, going concern, fully equipped, 1,142 acres in one block, clear title, 600 under cultivation, best black loam clay subsoil, all fenced, good buildings, abundant good water, ideal for mixed farming. Owner made fortune on grain. Only one mile from railway station on main line. Elevators and growing town. Cheap for cash; no agents. Address Felix Ohberg, Amisk, Alberta.

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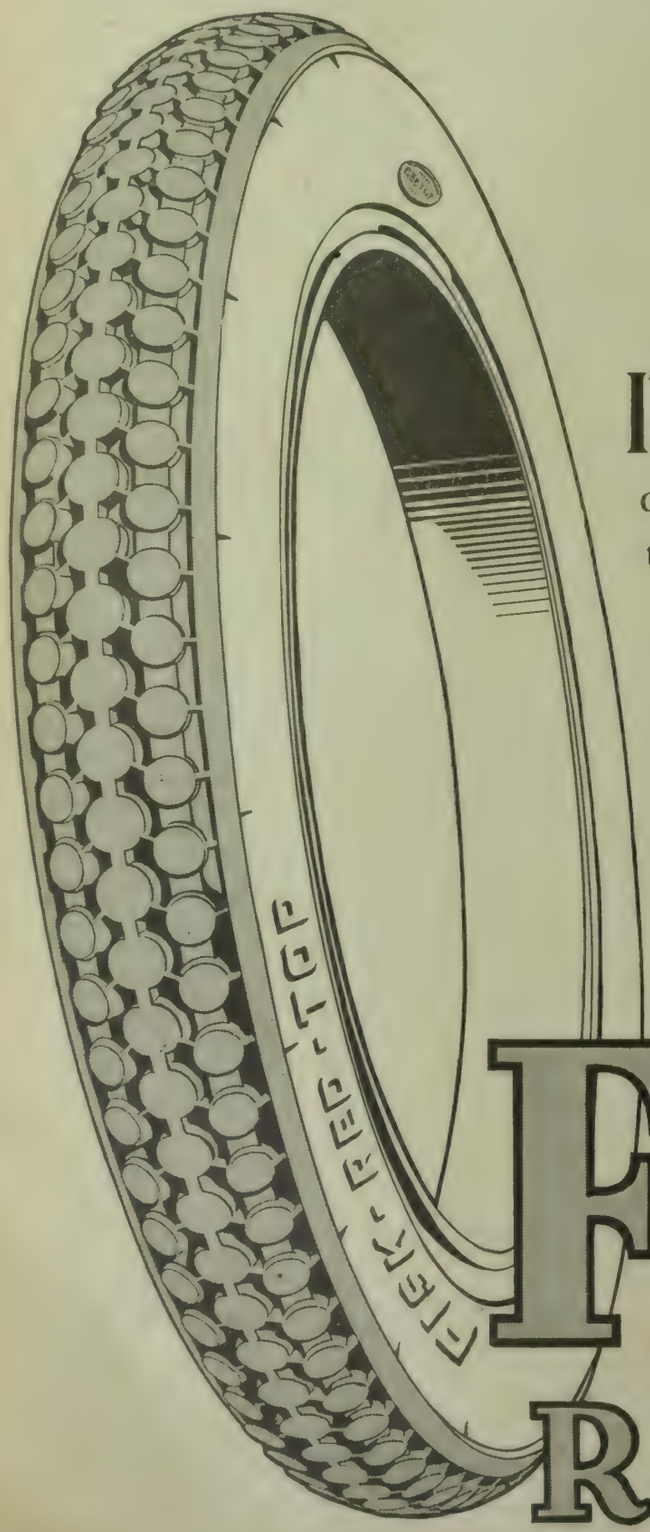

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Vol. XCIV—No. 24 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCICCO DECEMBER 15, 1917 LOS ANGELES

State Library

Sheep Pay Alfalfa Farmers and Save Labor

Written for Pacific Rural Press

"THERE USED TO BE over 150,000 sheep in Kings county; but now I believe there are not over 30,000," said J. P. Lemon, who was County Sheep Inspector five or six years when there were enough sheep to justify that office. Mr. Lemon himself had about six thousand ewes for most of 20 years until eight years ago, when he sold out. Three years ago, he went in again with range sheep separate from a breeding flock of 77 registered Hampshire ewes. He has kept all of the purebred ewe lambs so that now he has about 300 from which he can furnish bucks for his own flocks and to sell. These are kept on alfalfa. His flocks are being increased to replace the dairy he has been running about 10 years, but for which help is not available. One man can tend a band of sheep that will produce as much profit as all the cows nine men could tend, says Mr. Lemon.

Mutton rams are desirable.

Alfalfa Thrives With Sheep.

Rational sheep pasturing benefits alfalfa in Mr. Lemon's experience. Fifteen years ago he and a neighbor planted fields separated by only a fence. Mr. Lemon's 100 acres were fed off with sheep for ten years without reseeding or machine cultivation, and was then in better condition than the other field which had been plowed and reseeded three times, having been pastured to cattle. Mr. Lemon's alfalfa on the field mentioned is now 15 years old. Alfalfa holds better with sheep ten years than with cattle two years, says he. The stand remains better because sheep eat foxtail and bermuda as close as alfalfa, until frost, while cattle let the bermuda take possession within three years here. Cattle were turned onto the alfalfa which had pastured sheep 10 years, and killed more alfalfa by tramping, etc., in one year than the sheep had in ten.

The method of sheep pasturing is to let them sweep across the various fields, cleaning each one close before moving on, and letting irrigation follow them closely. Thus they are ever on dry ground and do not injure the soil nor the roots. Sheep are left on alfalfa here all winter, according to Mr. Lemon, but are fed hay and extra feed about the place, such as corn fodder, etc., while alfalfa is not growing much. To get the best and longest wool for the spring clip, which is highest in price, the sheep must be kept reasonably fat. No injury to sheep was ever observed due to eating frosted alfalfa or frosted bermuda grass.

Rambouillet or Merino ewes crossed with mutton-type rams turn alfalfa, waste feeds, and weeds into good food and clothing with little labor.

In spring, alfalfa is allowed to grow tall. There is some foxtail in it to dilute the alfalfa and reduce danger of bloat. You might as well give them poison as to turn them on alfalfa six inches tall and go to town. A man must be ready to take them off quickly at the first signs of bloating. They might be stuck like cattle when they bloat; but too much loss from flies and worms would follow, so they are usually allowed to die. The meat of bloated sheep is no good, according to Mr. Lemon, because bloating stops the blood in the veins and meat. Care must be taken also in the fall when alfalfa is not growing much, but is tender and moist with dew or rain.

Markets for Sheep and Wool.

Sheep prices could come down $10 per head and the sheep growers would still make money, thinks Mr. Lemon. But there is little chance for such a drop, with the world demanding food and clothes as it will during the next several years at least. Butchers come to the sheep men from the big markets and pay cash on the ranch for the animals. The prices of wool have been phenomenally high and the demand strong.

How to Start With Sheep.

For the man with 60 acres of alfalfa and no sheep experience, Mr. Lemon would recommend not over 60 ewes and a lot of personal attention to them plus talks with other sheep men. That will provide the experience, lacking which, he would likely fail and help damn the industry. It would also provide plenty of hay. Start with young ewes, advises Mr. Lemon, because with old ewes more lives are lost and poorer lambs delivered and the lambs are nourished poorly as compared with young ewes. Merino ewes and bucks are recommended for anyone until he gets all the place will carry with their lambs. Then for the sake of big lambs which weigh 25 to 35 pounds at 2½ to 3 months old, he would use Hampshire bucks.

Increase 130% Annually.

It is true that a two-year-old ewe now costs about $18, whereas a year ago last April Mr. Lemon thought he was paying "a terrible high price" for a band of young ewes at $7.50 each. But handling a small flock personally will enable one to get an increase over 130% per year as Mr. Lemon did last season with 1,100 ewes; and it will pay better to go in now at the high costs even if one does lose a little on the original stock than to miss the profit sure to come with proper attention. Ewes begin to become unprofitable at six or seven years old, when they begin to lose their teeth. Old ewes should be culled out for the butcher every year.

Attention at Lambing.

Proper attention means personal attention at lambing. "The profit is in the lambs"; and you cannot afford to lose any. Mr. Lemon keeps two men with the ewes at lambing. One sleeps half of the night while the other watches. December lambs are preferred because they are ready for the Easter market and they come when rains have started green feed. The ewes are kept in bands of about 50 each from before lambing until eight or ten days afterward. Often a ewe having twins or triplets may wander 100 yards from the first before the second one is born. In cold or wet weather, the first one may be lost unless the shepherd is there to see that the mother claims it. Some men know their sheep so well that if they find a lost lamb, they can tell its mother by the shape and face. Twins should be tied together two or three days so neither will get lost.

"Grafting" Strange Lambs to Ewes.

When a lamb is born dead, it is often desirable to "graft" an orphan to the mother, who will not naturally own nor suckle any but her own. The "orphan" may be a lost lamb or one whose mother died at its birth because the lamb's head was too large and no one was there to help it, or for other causes.

(Continued on page 630.)

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KEEP THE LAND TURNING.

IT looks as though the prophets were having the crop year 1917-18 their way, for we are getting a long dry spell, which they predicted, and we are getting ready for quite a sufficiency of rain which they promised would follow it. We are quite willing to give the prophets full credit for making it come that way because so long as we get it that way we will not quarrel with any one, whether we get from the Lord direct or through the prediction of some one who honestly believes he has secured insight into His purposes by watching sun-spots or the records of the thermometer. And yet we cannot forget that we have had many good years with bad beginnings and we are not sure that the Lord tells us anything more through the prophets than He enables us to know by our own courage and common sense born of experience. But a question of much more importance is what we are doing to get the most possible out of a crop year which begins late and may give its rewards only to those who do most for conservation of moisture which comes late and will get away from us if it can by run-off and evaporation. And the way to get most out of the water which will come is, obviously, to keep busy with the land. Fortunately both science and experience have demonstrated that the way to get and hold the water is to set a trap for it. And the way to set such a trap is to upset the surface with team or tractor just as far and fast as one can according to the working force and appliances which he may have. The worst thing a man can do is to do nothing during these days which are so delightful for field work, and if a man can tear up the surface and think all the time that he is making holes for water to run in and stay till wanted, he will feel much better at night than he would if he should sit all day blistering his hams on a hot slab in the sun and cussing the Kaiser and his claimed celestial partner. For we are really hearing that such profanity is actually being indulged in and that the Kaiser is being credited with a celestial frame-up of a dry year to cut off California from helping to win the war! People who are doing that must be forgetting that the only way to get anything out of a dry year is to get more busy with the land than usual and those who refuse to do this, when it is practicable for them, are really helping the Kaiser and the devil —for "Satan finds some mischief still for idle hands to do." Therefore keep the land turning for late-sown grain or hay if practicable in your section and even where that is not the case, broken land will catch water which spring harrowing will keep hold upon for summer cropping, and thus a year which has a bad beginning may really have a very profitable ending. Meantime keep your slicker handy and don't leave your tractor on soft ground or you may be digging it out of the mud—if the prophets have their way, as we really expect they will.

THE FARM VALUE OF PATIENCE.

FARMERS have always been very patient folk and they have now more reason than ever, perhaps, to manifest this, their traditional trait. Nothing is going quite right, from the clouds in the sky to the clouds of regulation of farmers' affairs on earth—for both are working just now in ways which do not seem to give crop producers a fair chance. Regulations which are promulgated with the utmost sincerity to serve patriotic and philanthropic purposes, seem sometimes to reach too far or to fall short and in that way impose hardships which were neither intended nor foreseen. Action which was intended to insure a farmer sale at a profitable price has sometimes made it impossible for him to sell at all. Adjustments made to secure a farmer a margin above cost of production have fallen short of his unavoidable outlay to get the crop. Such things do not make farmers feel very good nor very safe in increasing production, but they will go on to the limit of their ability for two very different reasons: one, because they are patriotic, enterprising and hopeful; second, because it is the inveterate habit of farmers to take chances. Their business makes them gamblers. Every time one of them puts a seed in the ground he bets that the clouds are wet, that a bug will not bite, that the market will want his crop, etc. And so when regulations make him more trouble than he had before he will bet that they will not continue to work that way or that something else will happen and help him to pull through and he will go on trying to make all the crops he can. If farmers had not been persistent, venturesome, and optimistic the world would have starved long ago.

WHY A FARMER SHOULD BE PATIENT NOW.

AND while the foregoing is generally true about the farmer's resolute and heroic attitude toward the execution of his business in the world, it is worth saying that there are particular reasons why he may go forth to his accepted duty with more hopefulness and satisfaction than ever before, perhaps, in the world's history. The greatest of these reasons is that he is rendering indispensable, patriotic service. That he knows, feels and cheerfully accepts; it requires no exhortation or enforcement, for farmers as a class will recognize and discharge a duty if it strips them of all possessions. They will not seize a public extremity as a good time for a strike, which seems to be the measure of some people's idea of patriotic opportunity. They will finish their job if it is humanly possible. But there are other hopeful things than patriotism which may now encourage a farmer to hold to his traditional patience with things as they are. Let him think of these.

Certain public attitudes toward the farmer which he has hoped and striven for for generations have been assumed by the government and the people with overwhelming accord as war-measures. It is impossible to say how long they might have been deferred otherwise. Such a thing is the recognition of a farmer's right to count his cost and to base market value upon it. No matter what mistakes may be made, through ignorance or self-interest of others, in the enforcement of this principle; no matter what injustice or hardship may be immediately visited upon him by such enforcement, the recognition of the principle will never recede to its old ignoring. There will be continued advance of the principle until there will be no doubt anywhere that the basic price of a product should be fixed on the farm that produced it, just as the basic value of a factory product is, and it will be cost of production plus a profit. Legislation is trying to enforce this as a war measure for patriotic purposes; legislation will enforce it, indirectly perhaps, when the war is over, because it is seen to be essential to justice and fairness to all the people. The trader will take his proper place as the servant not the master of distribution, and his doctrine of the divine right of a trumped-up "supply and demand" will fall into the pit with the other autocracies.

And there is another reason why the farmer can afford to be patient. His right and title to speak for himself is being more widely recognized than ever and he is learning to speak in a way to command public heed. It will not be possible to put off his protests and claims, as they have been in the past, with the slur that "the farmer has to complain; he is always growling about something." This popular dismissal of his fault-finding as chronic and fatuous was perhaps excusable because it was usually based upon no specific knowledge of the facts and embodied no intention of correcting existing evils. What is being done now by many groups of producers leaves no doubt that aimless growling is giving way to definite demonstration and effective insistence. This change should be persistently promoted and patiently awaited.

UNCOVERING INIQUITY.

ALTHOUGH all the undertakings of the food administration may not work out with full justice to producers and may even temporarily embarrass him and cause him loss, there can be but little doubt that the operation of food control will disclose clearly to public sight and render amenable to legal prevention, some evils which producers have long known but for which they have never been able to command public recognition. The common citizen has never known the iniquity which has regularly prevailed among unprincipled traders in farm products. The people are appalled by what they are now learning because they recognize it as a national sin against patriotism; later they will appreciate that such things have long been allowed to operate against themselves. As we write on December 11 this comes by telegraph from Washington:

Charges by Food Administrator Hoover that some dishonest wholesale and retail merchants and food brokers have been criminally responsible for food shortages and rising prices were taken under investigation today by the Federal Trade Commission.

Speculation in foods was declared today in a statement by Commissioner Victor Murdock to have far-reaching results in causing unrest. Unprincipled brokers and dealers are said to order goods beyond their requirements on a rising market, believing they can make money if prices continue to go up and can at least prevent loss by rejecting the shipment.

A typical case was cited of a man in Indiana ordering a carload of perishables, say potatoes, from a Minnesota grower. By the time delivery is made prices have dropped and rejection of the car is made on a flimsy pretext. While a settlement is being effected the potatoes are out of the market, transportation is delayed by failure to unload, and sometimes the food deteriorates.

"I am going to prosecute this investigation to the limit and bring any violators to the sternest payment of justice," said Commissioner Murdock. "It is hard to find words to describe profiteers who are doing business along such lines at this time when so many men are giving up their lives for their country. Such pernicious business practices which net the men who follow them a little extra blood money must be stamped out at the start and kept stamped out."

Such handling of food seems terrible now to the quickened public conscience, as Mr. Murdock suggests, but this and a hundred other tricks of the trade are very old and farmers have continually suffered from them and had no recourse except in growling until they began to distribute their own products by co-operative organizations. And now all the people are learning how they have been robbed and will insist upon protection. In this line at least the world will be the better for the war.

ADVANCING INTEREST RATE.

WE wish that half the things we hear city people saying about farmers making money and paying off their mortgages were true, for then we could speak with less concern about the advancing interest rates on mortgage loans. Such a thing is unavoidable probably as a by-product of the war and with Uncle Sam borrowing so much, etc., but it will pinch a good many, both by the increased rate and refused renewals, and it will discourage efforts looking to greater production. It is announced from Washington that the Federal Farm Loan Board is raising the rate on Government loans to farmers from 5 to 5½ per cent in anticipation of a later increase in the present 4½ per cent rate on farm loan bonds. It is expected that a similar advance will be made on private mortgage loan rates on land, which now range from ½ to 2 per cent above the Government loans. Several insurance companies with big loans on Middle Western farm lands have de-

cided to make no new loans, in order to keep their assets liquid and would refuse to renew many expiring mortgages. And all this, of course, makes it more essential that farm producers should receive all they are entitled to from advanced food prices to cover their increased cost of production.

By the Editor | QUERIES AND REPLIES | Inquirer Must Give Full Name and Address

How Does Cold Ripen Fruits?

To the Editor: As I had always supposed that heat was the agency in the ripening of fruits I was surprised to see this statement in print last month:

"Continued warm weather throughout the citrus district is materialy retarding the maturity of citrus fruits. Fruit still is much too high in acid content to be shipped, and there is very little color showing. Frosty nights are needed to bring out both color and sugar, but the Weather Bureau promises no material change in temperature for the present."

This statement was telegraphed from Porterville. Is it true that we need frost to ripen oranges?—Subscriber, Porterville.

As we are only an amateur in physiological and chemical botany we cannot offer you a declaration ex cathedra. Heat is the direct agency in fruit ripening because it requires sufficient heat to change the substance of green fruit, which resembles the substance of a leaf, into the sugars and essences which constitute ripeness in a fruit. Thus heat acts directly toward a desirable end and that end cannot be attained without it. But the opportunity for heat to act in this maturing process is controlled to a certain extent by the activity of the growing or vegetative process in the tree. As this vegetative energy prevails strongly the maturing process may be delayed. The weakening of vegetative energy may be caused by reduction of soil moisture or it may be caused by lowering of the temperature which induces the beginning of dormancy. It is possible, therefore, that frost may indirectly promote ripening by arresting the growing process, for this would check the action of the fruit as a leaf (which prevails while it is green) and give the remaining heat a chance to act in the maturing of its tissue into a condition of superior sweetness and flavors which are not found in a leaf. Therefore it is possible that the absence of frost may postpone dormancy of the foliage and in that way postpone also the ripening of the fruit, as suggested in the item which you quote, but we must protest against any direct action of frost in making sugar and flavor in the fruit. We know this view is held at the east and south—particularly in the latter section where frost is traditionally credited with ripening persimmons. And we have to protest against crediting frost with such direct action because California is usually shy on frosts and yet has no superior in fruit ripening—also because strictly tropical regions have very sweet fruit without any frost at all. Still we acknowledge that occurrence of early frosts may have something to do in inducing the dormancy of orange trees, which is quite characteristic of the trees in regions of the state where the fruit ripens earliest, and the absence of fall frosts and continued vegetative activity may have something to do with the later ripening of the fruit in citrus districts where the bulk of the crop is gathered a few weeks or months later.

Drouth Danger in Early Planting.

To the Editor: I want to plant stock beets, stock carrots and chard now, in order to take advantage of the winter rains, as after the last of March we do not seem to get much rain in Pleasanton; not enough to furnish sufficient moisture to carry late planted crops. Do you think it would be safe to plant these now? The weather gets colder here than around the bay, but not so cold as Fresno or Stockton. I have planted beets, carrots, peas, lettuce, chard, etc., in Melrose in November with good success, but do not know how it would work in Pleasanton. I have noted that you advocate early planting and I would like to know if you deem it advisable in my particular case.—L. A. B., Pleasanton.

Our advice for early planting is conditioned on moisture in the soil. Unless your land is in a low pocket from which cold air cannot move to lower places you run no risk in planting the hardy things you mention, so far as frost injury is concerned. But you may lose your seed by planting now if there is moisture enough to sprout it but not enough to keep the plants going afterwards. If you can soak the land with irrigation and then prepare and plant it will be all right.

Rusty Nails and Fruit Bearing.

To the Editor: I have two fig trees, the fruit of which falls off before maturing. A friend of mine says the trouble is caused by the lack of iron in the tree. He experimented with his trees by driving rusty nails in the bark of the tree about two feet above the ground, and the next year the fruit matured and was of a large size. Do you think that is possible?—J. N. N., Livermore.

If the trees need iron, the way to get iron into them is by digging the rusty nails into the soil, not by driving them into the bark. If your friend's nails had anything to do with the bearing (which we very much doubt), they acted by injuring the tree in a way to reduce its vegetative energy or wood growth and thus induce bearing—just as gopher-girdling or other injury to the circulation is apt to do. But the dropping of figs is caused by other conditions. Some trees have that bad habit and the trouble has been known from antiquity. The cure is to graft over the top with scions from trees which behave properly. The Smyrna fig drops fruit because it is not pollinated and the cure for that is to plant a capri or wild fig tree near by.

Cottony Cushion Scale on Pears.

To the Editor: I have a small pear orchard which is badly infested with cottony cushion scale. In past years have sprayed with a crude oil emulsion which, while seeming to check any increase of the scale, does not give results towards eradicating it. Can you recommend a better remedy, or furnish any more information on the subject?—C. O. B., Coyote.

It is probable that natural enemies are keeping the pest in check; not the spraying that you did, although you may have killed a good many. This is perhaps the only scale which is so beset by outside and inside boarders that one can trust to nature to take its course with it. Sometimes the boarders seem to eat so hard that they starve themselves out and the few scales they overlook multiply and become again threatening. When this occurs send to the State Horticultural Commissioner at Sacramento for a new colony of enemies. So long as the scales do not seem to be getting more abundant never mind about them. There is probably no way of eradicating them.

The Onion Fly.

To the Editor: I am sending an onion and its pest that is infesting all vegetation in the gardens in the Sunset district, and seems to me is a menace that needs control at once. The gardens of flowers as well as vegetables are suffering.—A. E. W., San Francisco.

The hosts of small, worm-like creatures which are found in the material you send are millipeds, which injure vegetation, but they are not the chief cause of the trouble to the onion. That is caused by the onion fly, from which comes the onion maggot, which is now being investigated by Mr. Freeborn of the University staff of entomologists, and he expects to make a report within a few weeks, describing the pest, its life history and methods of trapping the fly. If your inquiry pertains to the growth of a garden bed of onions, you will increase your chance of escaping the pest by planting in a piece of new ground and covering the bed with cheese cloth, raised above the surface, to prevent the fly from laying eggs on the young plants.

Whitewash for Rose Scale.

To the Editor: Will a heavy plain whitewash destroy scale insects on roses? The scales are the size of a pin-head, white, and the insect red, quite large enough to be seen with the naked eye. They appear to multiply and behave about like San Jose scale on fruit trees. It would be more convenient to use some remedy not requiring spraying.—E. O. G., Mills College.

The insect is aulacaspis rosae. It is reduced by kerosene emulsion, which can be applied with a brush. Probably a thick fresh whitewash would also get them, but it would be surer to use lime-sulphur wash, of which you can get a small can at the seed stores. If you prune your roses well and treat the wood you wish to keep with this kind of a whitewash, you ought to make a good clearance—including the eggs, which resist milder applications.

Coal Ashes on Land.

To the Editor: Do coal ashes have any value if placed on land, detrimental or otherwise? I do not know what to do with coal ashes from stove and fireplace. They contain some wood ash. —G. L. C., Fairoaks.

So far as they contain wood ashes, they give potash to the soil and potash is generally needed in the yellow soils in your district. The coal ashes in themselves have no fertilizing value, but they act well mechanically on heavy soils, making them more mellow. On light sandy soils they are not needed and may have an injurious effect in making them more porous and disposed to dry out.

Black Beans.

To the Editor: Please tell me the name of black beans about the size of Red Mexicans. Where do they raise them, and what is their value?—A. P., Turlock.

The black bean best known to us which resembles the Red Mexican in size is the Black Valentine, which is grown as a garden bush bean in all parts of the State, but not, so far as we know, as a dry bean. There is also a "black Spanish field bean," sometimes called "turtle soup bean," but it is smaller than Red Mexican and not of commercial standing, except in local sale perhaps.

Clearing Up Tomato Vines.

To the Editor: Please tell me what is the best way to get rid of my tomato vines. Would burning hurt the soil?—F. H., Manteca.

Certainly not. If you have a heavy soil likely to be moist and you do not intend to put on a winter crop, plow the vines in and enrich the soil with their decay. If the soil is light and you wish to sow grain soon, burn the vines.

Spreading Manure.

To the Editor: Will stable manure spread on the surface lose ammonia, which is one of the principal elements of fertilization it contains? Is it necessary to plow under at once or can it be left uncovered till the spring plowing without loss?—"Inquirer," Cupertino.

There is no loss to speak of if it is well spread—not left in heaps for fermentation.

Tobacco Growing.

To the Editor: Will Turkish tobacco grow in any district and how should it be prepared for the market?—R. C., Turlock.

All kinds of tobacco grow well in this State, but so far as we know no one has yet demonstrated curing methods which insure satisfactory and profitable products.

How Much Water in a Well?

To the Editor: Kindly inform me how many gallons a cistern 6 feet in diameter and 40 feet deep contains.—W. T. D., Novato.

About 8,550 gallons. Please do not ask us to answer such questions. They are the proper burden of the nearest schoolmarm.

Chickens and Potatoes.

To the Editor: Will potatoes in any stage poison or kill chickens?—C. M. W., Rio Linda.

We cannot answer for the foliage, but sound tubers in any stage of growth are wholesome, though not an adequate food.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., December 11, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	...	7.26	12.20	58	36
Red Bluff	...	1.90	7.04	70	30
Sacramento	...	.76	4.71	64	36
San Francisco	...	.83	5.25	66	48
San Jose	...	.95	3.97	68	32
Fresno	...	.39	2.48	68	34
San Luis Obispo	...	.57	4.17	80	34
Los Angeles	...	.42	2.95	78	48
San Diego	...	.25	1.74	78	46

A Review of California's Pioneer Nurserymen

By E. J. Wickson, for the convention of California Association of Nurserymen. Twenty-third of the Editor's Series of Historical and Analytical Sketches of California Farming

AT THE SIXTH ANNUAL MEETING of the California Association of Nurserymen held in Santa Barbara in October, 1916 (Pacific Rural Press, November 18, 1916), I had the honor of presenting a sketch of the work of nurserymen who were active during California's first American decade — those distinguished pioneers who amid the distractions of the '50s laid so well the foundations of horticulture that half a century later it became not only the leading industry of this State, but constituted California the horticultural leader of the United States and of a world of nations.

DURATION OF THE PIONEER PERIOD.

The period of pioneer nursery effort in California does not properly close with the records of the early '50s, but should extend to the time when public recognition of the development value of it was unmistakably manifested, which was in the latter '70s. As I undertake then a few sketches of nursery affairs of the second and third decades, they will be found intimately interwoven with similar affairs of the first decade, which you will find printed in your transactions of last year.

First I will undertake lists of pioneer California nurserymen whose work was of character and extent enough to secure mention in such publications of the time as I have at hand and of many of whom I have also personal memory. Inserted dates indicate year of beginning, where available:

NURSERYMEN WHO SURVIVED THE FIRST DECADE.

A. P. Smith, Sacramento, 1848; John Bidwell, Chico, 1851; J. Aram & Co., William Daniels, William O'Donnell, B. S. Fox & Co., 1853; L. F. Sanderson, 1853; L. Prevost, D. T. Adams, China Smith, J. R. Lowe, Louis Pellier, San Jose; H. A. Sontag, James O'Donnell, W. C. Walker, R. W. Washburn, E. L. Reimers, San Francisco; L. A. Gould, Santa Clara; J. Lewelling, San Lorenzo; A. Lewelling & Co., Fruitvale; W. F. Kelsey, 1852, James Hutchison, 1852; A. D. Pryal, 1853, Oakland; Wilson Flint, A. H. Myers, Alameda; W. H. Pepper, 1858, Petaluma; S. & W. N. Thompson, Suscol; W. B. West, 1852, Stockton; G. H. Beach, Marysville; C. W. Reed, 1855, Sargent & Colby, S. Harbison, Sacramento; T. J. White, S. W. Halsee, Matthew Keller, O. W. Childs, William Stockton, W. B. Osbrone, Los Angeles.

NURSERYMEN WHO BEGAN IN THE SECOND DECADE.

William Sexton, 1860, Petaluma; John Rock, 1865, John Hannay, 1865, Sylvester Newhall, San Jose; Robert Williamson, 1865, Sacramento; James Shinn, Niles; E. Gill, 1866, Oakland; Felix Gillet, Nevada City; Joseph Sexton, Santa Barbara; Miller & Sievers, E. Meyer, F. Ludemann, 1869, San Francisco; Thomas A. Garey, Los Angeles.

NURSERYMEN WHO BEGAN IN THE THIRD DECADE.

E. Germain, 1871, Melton Thomas, Los Angeles; P. S. Russell, Riverside; James Waters, Watsonville; C. M. Silva & Son, New Castle; James O'Neill, 1876, Haywards; Leonard Coates, 1878, Napa and Morganhill.

These lists are probably incorrect and incomplete. I submit them merely as the foundation of a roll of honor which I hope will be rendered more correct and complete by records and memories which are not at the moment available to me.

LEADERS OF THE PIONEER PERIOD.

Two names seem to stand out as leaders of the first three decades of California nursery history from the point of view of public attitude and influence. In the first decade Wilson Flint was the leader in pomological discussion both with voice and pen. He was the closest student of local conditions and horticultural ways to secure best results from them. He was naturally pressed into service as executive officer and promoter of the surprisingly complete and significant horticultural exhibitions of his time. After years of activity in all these lines he entered seriously upon the nursery business and in 1857 had what is described as "the largest nursery in the state" at Alameda. Mr. Flint died in 1866, while still in the prime of life.

Young Nursery Plant in Northern California.

The nursery and pomological leader during the later '60s and thereafter for over a third of a century was John Rock, to whose memory a touching tribute by Mr. Kruckeberg was published in the report of the second annual meeting of the California Association of Nurserymen. Mr. Rock was more widely and deeply grounded in pomological knowledge than any of his contemporaries. To him came first the vision of the greatness of nursery enterprise of which California is capable and he lived to see his pioneer conception of such greatness attained not only in his own enterprise, but in the undertakings of the later generation. During his forty years of California life his leadership in his chosen art and industry and in the quality of his manhood and citizenship was unquestioned. In 1904, the year of Mr. Rock's death, F. A. Miller, another pioneer nurseryman whose career covered the whole period of Mr. Rock's activity, wrote this appreciative and discriminating sketch of him:

"Mr. Rock was a remarkable man, closely identified during a long and useful career with the inception, development and final establishment of an enlightened horticultural practice in California; a personality at once pronounced, broadly human, intensely serious, patriotic, imbued with a healthy ambition and a broad civic pride in the state and country of his adoption; a trained horticulturist, a man of integrity and honesty of purpose in everything he said or did."

All of this is true, but it is not all that I enjoyed in Mr. Rock's personality. To me the quiet cordiality of his greeting, which found chief expression in the twinkling of his kindly eyes can never be forgotten. And there was his placid demeanor in the midst of things which others might think exciting; also the humorous view through which he delivered a deep and kindly philosophy. I remember appealing to him in the '70s for advice as to how to treat two rival nurserymen who were lambasting each other in print in a quarrel as to whether a certain kind of fruit was worth planting. One glorified it and the other condemned it and held everybody who would have anything to do with it up to public scorn. And so I asked Mr. Rock whether the variety was any good and what I ought to do about the quarrel. He replied: "the fruit is good enough to plant and don't worry about the men. They will get tired presently. The fact is that one man has too many trees of that kind and the other hasn't enough."

RESEARCH BY PIONEER NURSERYMEN.

Probably nearly all the pioneer nurserymen were something more than tree and plant merchants. They were the chief demonstrators of the suitability of the world's plants to California conditions before there were many amateurs and before there was any institutional effort in that line—except in the introduction and testing of wine grapes, which was the State's first enterprise in plant introduction and trial. Plant research to determine adaptability and value, was really the foundation of early nursery effort, both with economic and ornamental growths, and the early announcements were often good prophecy. One who watches the growing promise of the transformation of the interior valley plains from treeless wastes to a vast arboretum, which will some day be realized, should remember the beginnings toward that end were made by the nurserymen and that they were the first preachers of demonstrated practicability. For example, W. B. West of Stockton, who was a leader in plant research for four decades, wrote in 1861 as follows:

It has been supposed that evergreens, especially conifers, would not thrive in our hot, dry climate and stiff clayey soil, but it is a great mistake. We have never seen better growth than that made by arbor vitae, pine and cypress. The only requisite is to raise them from seed and nurse them through the first and second years. They then become hardy, grow thriftily and will do with less water than any ornamental tree. We think the day will come when they will be plenty and cheap, so that we may adorn our dwellings, make hedges and use them freely. The want of them is sadly felt in our landscape.

But all the pioneer nurserymen did not find such work easy. In 1863 a prize was offered for the best essay on plant growing and William Daniels of San Jose took a try at it with an essay on grape culture beginning "I would father cultivate a vineyard than write an essay, but at the solicitation of my friends I will state the results of my 15 years' practical experience and actual observation in California." And he took the first prize for it.

CONSCIENTIOUS EFFORT FOR TRUTH.

It is also interesting to note that the pioneer nurserymen had a high moral code and conscientiously endeavored to propagate the best and to have their plants true to name. C. W. Reed of Sacramento wrote in 1866 this interesting narrative of his personal endeavor:

I brought to California in 1855, twenty thousand fruit trees and fifteen bushels of fruit seeds to plant. In 1856 I imported eighty thousand trees and twenty-five bushels of seeds.

It has been the misfortune of nurserymen in California to disseminate many trees incorrectly named in early times. The evil to a great extent has been unavoidable in consequence of having to rely on nursery trees for buds. Eastern nurserymen are not infallible. California nurserymen are always blamed, whether the mistakes occur with them or not. To avoid mistakes, I not only cut all my buds and scions myself, but endeavor to cut all from bearing trees. I have often traveled 100 miles to obtain buds and scions from trees I knew to be correct.

In 1864 I sold 250,000 trees and had in nursery 436 varieties of fruit. My object was not to sell so many varieties, but to prove them and propagate only those I found best adapted to soil and climate of California.

In 1867 Mr. Reed had a million trees in his nursery and was awarded a prize for the best nursery in the State. Subsequently he was a leader in fruit growing and eastern shipment for more than a decade.

DEMONSTRATORS OF CULTURAL METHODS.

The pioneer nurserymen assumed the duty not only of introducing

(Continued on Page 623.)

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Established 1888

Wholesale Growers of

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DECIDUOUS AND CITRUS FRUITS

OLIVES AND GRAPE VINES

SHADE AND ORNAMENTAL TREES

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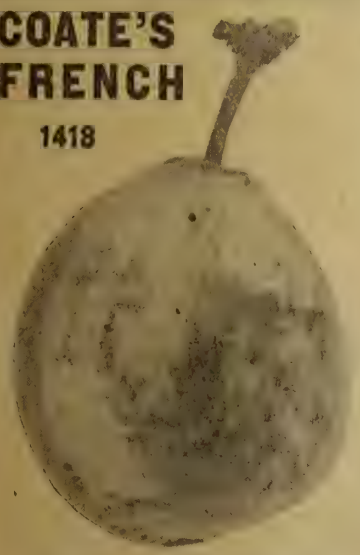

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Guaranteed Nursery Stock. Everything for orchard, garden or yard. All "home grown."

MAIN OFFICE: MODESTO, CAL.

ANOTHER FIG GROWERS' INSTITUTE.

[Written for Pacific Rural Press by Prof. I. J. Condit, University of California.]

The success which attended the fig institute which was held last January at Fresno, induces us to hold a second meeting of the fig growers for Friday and Saturday, January 4 and 5, 1918. The program will be along the following lines:

Morning session: Report of the Committee on Organization, Mr. E. Newby, Reedley, Chairman. Address, Benefits of Co-operation, Organization, and Standardization, F. H. Wilson, Fresno. Symposium, The Best Soil for Fig Trees and its Treatment, Including Cultivation, Fertilization and Irrigation; led by Mr. F. Yokum of Merced. Paper, The Year's Development With the Kadota Fig, L. C. Beckwith, Reedley; discussion led by Sam Clarke, Sultana.

Afternoon session: Paper, The Maslin Seedling Fig Orchard and its Relation to Smyrna Fig Culture in California, by W. T. Swingle of Washington, D. C., and G. P. Rixford, San Francisco. Symposium, How Can We Improve the Quality of Our Dried Figs. Discussion led by Henry Markarian, Fresno; notes from various other speakers. As a feature of the program a special exhibit of figs and fig products will be made. These will include brands of dried figs, fig paste, fig jam, canned figs, preserved figs, crystallized figs, glace figs, fig marmalade, etc. Specimens of such products will be very welcome indeed.

The second day will be given over to field demonstrations and conferences on pruning, top working, examination of soils and roots, etc.

At the Hanford plant the Associated Raisin Company is very busy packing seeded muscats.

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25 to 50 Per Cent

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CITRUS SPECIALISTS FOR 47 YEARS

We have a fine lot of select 1, 2 and 3 year old
LEMON—ORANGE—GRAPE FRUIT TREES
You want dependable trees. Place your order early.

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We will accept Liberty Bonds as full or part payment for trees.

In buying a bond you have helped Uncle Sam. By exchanging Liberty Bonds for Silva-Bergtholdt trees you increase the return of your original investment. Silva-Bergtholdt trees in your orchard add to its productiveness and insure your future profits.

Good nursery stock is mighty scarce.

The visible supply is 50% of normal and the demand heavier than usual—that's why you will find it profitable to buy now.

Submit us a list of your wants for special prices. Do this now while our assortment is complete.

Our foot-hill trees are free from the root diseases common to other localities. Propagated from selected parentage—roots fibrous and well-branched—trees hardy and of toughened fibre—features that spell success in tree planting.

Write out your list. Mail it right now to Dept. H

Send for your copy of our book—"California Fruits," written by a practical fruitgrower of many years' experience. Tells what to grow, where to grow it and how to grow it. And—it's *free*.

J. E. Bergtholdt
Secretary and Manager.

SILVA-BERGTHOLDT CO.
NEWCASTLE - CALIFORNIA

Campaign Against Citrus Tree Pests

[From State Horticultural Commissioner's Annual Report.]

The most important development of the year in the Insectary Division of the State Horticultural Commission was the organization of the southern branch at Alhambra. For two years the Commission has maintained a summer station in the South for the distribution of parasites of citrus insects, but for financial reasons we have heretofore been unable to make it a permanent laboratory. The fact that a large part of our work is and will continue to be with pests of citrus and other sub-tropical fruits makes it necessary in the interests of efficiency to have a permanent station south of the Tehachapi Mountains. This new laboratory is a response to a demand on the part of the growers for a more intensive effort in the control of citrus insects by the biological method.

The work of this laboratory is at present directed primarily against the black scale and the mealybugs infesting citrus trees, though it is planned to extend the field from time to time to include other important pests. The rearing and distribution of the natural enemies of mealybugs is at present a major part of the work of the laboratory. Parasites which we import from foreign countries and which are first received and studies from a biological standpoint at the main insectary at Sacramento are propagated in large numbers at Alhambra and placed in the orchards under the most favorable conditions. During the past season we have distributed the Sicilian mealybug parasite in enormous numbers and it has already repaid many times the cost of its introduction.

A number of field experiments are being carried on on a large scale for the control of both the citrus and the citrophilus mealybug by the parasite method. Natural enemies of all kinds are being introduced in large numbers in order that control, if possible, may be effected early in the season and before injury has been done. In this way we hope to show that at least the larger growers can well afford to keep an entomologist and maintain a small insectary of their own for breeding parasites, since they should by this means be able to reduce the cost of insect control, especially in the case of mealybugs.

DEEP FALL PLOWING HELPS ORCHARD.

[Written for Pacific Rural Press.]

What is the damage due to plowing orchards deep and tearing out roots? None, in the experience of George E. Rice of Fresno county, who plows his peach orchard and grape vineyard 11 to 14 inches deep within six feet of the trees and through the center between vines every November or December or the first half of January, while sap is not flowing. This deep plowing is done in one direction one year and in the orchard is done crosswise in alternate years. It takes four horses on a 12-inch plow. The first time Mr. Rice plowed so deep he had to clear roots from his plow an inch in diameter; but now they are only the size of a lead pencil or smaller.

Two or three acres of trees on heavy ash land seemed about to die four years ago, but have recovered with no other change of treatment than the deep plowing. The vineyard was plowed so deep for the first time, in 1916, and the growth that followed was the best ever, according to Mr. Rice.

FRUITS AND ROOTS FOR LIMY SOIL.

[Written for Pacific Rural Press.]

There is very little pome fruit land in the hills immediately around Paso Robles on the west side, says Horticultural Inspector T. W. Henry, because the subsoil is generally a "marl" or chalk rock consisting of 24 to 38 per cent of carbonate of lime. This underlies most of the hill land at a foot or two deep. It is soft, can be dug with a shovel, drains surplus moisture well, and holds needed moisture well. It is non-corrosive, but it displaces plant food needed by pome fruits. The soil shows a strong lime test and is nicely friable.

STONE FRUITS THRIVE.

Stone fruits do well here on the right roots, as shown by many thrifty orchards, especially of almonds. Almond roots are best for peaches, prunes, and almonds in the hills, as observed by Mr. Henry. One experiment he carried out was to plant thirty-five prune trees on apricot roots and thirty-five on almond roots. Over 91 per cent of the latter grew nicely, while of those on apricot roots 47 per cent grew but less thriftily.

The California Associated Raisin Company anticipates no great difficulty in signing up the owners of 125,000 acres of raisin vineyards required to keep the great co-operative organization going. President Wylie M. Giffen has spoken in leading districts this week, and is entirely optimistic of the outcome. The new contract is to run for 3 years, with 3 years renewal option, and gives the growers the surplus in cash or in stock in the company at the final annual settlement.

Now's the Time

to get in your dormant or winter spraying. If done properly—this will prevent the accumulation of certain insect and fungus enemies; will clean your trees and soften the bark; and will keep the trees in better health, vigor and fruitfulness. For this purpose there is nothing so effective as

Crude Oil Emulsion

Remember—Universal Orchard Sprays are made by us from the finest materials, under expert supervision. They are quick and sure. And—*they penetrate.*

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Dormant Soluble Oil
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Order now—don't wait until your trees are laden with deadly insects.

Never hesitate to write our Service Department—in charge of Paul R. Jones, Expert Entomologist. His advice is dependable—and it's yours *free.*

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Santa Clara Valley Nursery Stock Is the Best You can Buy. Growing conditions here are ideal.

Fruit Trees That Produce

Trees grown on new soil—thrifty, strongly rooted, free from disease—budded from orchards that have a known record for results. That's the kind of trees you get from this nursery—and there are no better trees grown anywhere.

Write for prices on any stock in which you are interested.

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The Nursery That Helped To Make Santa Clara Valley Famous
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Buds from our Citrus Stock—selected—Pollards 25 year orchard. As prolific, true to type as found. All trees guaranteed true to name—absolutely free from frost. 40,000 Sour Orange Seedlings, one year old, 8 to 20 inches. Nothing better.

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If you want the best trees grown in Placer County, write for price list to
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VAN NUYS NURSERY CO. ROYAL APRICOTS 4-6 ft., 25c. 3-4 ft., 20c
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Fruit Trees

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Crabapples—plenty.
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Mulberries—the very best.
Nectarines—six varieties.
Peaches—general assortment.
Cling Peaches—scarce; speak quick.
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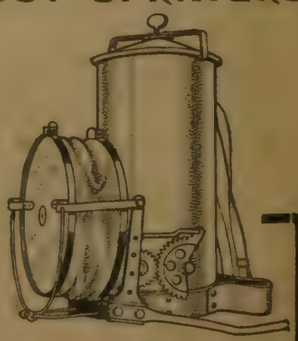

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

PRUNES VINES IN SPRING AFTER DISKING

Late pruning of grapevines shortly before they start spring growth, prevents frost damage and practically always gives a better crop, as observed by Wylie M. Giffen, who owns several hundred acres of vines in Fresno County. With late pruning, however, there is always danger that not enough help will be available to do that and the plowing before ground dries too much to plow with ordinary treatment if rain ceases early in the spring. So, especially on his Dinuba vineyard, Mr. Giffen disks the ground before or during pruning. This holds moisture and permits later plowing. The principal virtue of early pruning is to have more time to do it and steadier work for minimum help.

FIG CUTTINGS VS. NURSERY TREE

A Fresno county fig grower planted 100 acres of cuttings and had to replant. From experience, he says, the trees have so much better start in the nursery that you get better trees notwithstanding the shock of transplanting. It is seldom that growers give field-planted cuttings proper care; and if they do, they have done that much work for nothing because it is so much easier to take care of cuttings in the nursery than in the field. Meanwhile, a crop could be made without the care of working around little trees. The stand also is more likely to be uneven with field-planted cuttings than with nursery-grown trees.

FINDING CITRUS GRAY SCALE.

The adult citrus gray scale (citricola) is a dull gray, never shiny, varying much in size, located only on twigs the size of a pencil or smaller, and arranged in lines lengthwise of the twig rather than being massed together. Young citricola prefer under sides of leaves, lying close to the ribs, being nearly transparent. At first they appear greenish. But usually late in November they change to dark gray, while still quite small. In moderate infestations they will be found mostly on the north side of the tree not near the ground nor near the top.

RABBITS PREFER PRUNE SHOOTS.

In planting prune trees, plan for rabbits. They like the shoots from young prune trees better than bur clover, barley, etc., and far better than young almond trees as noted by Butte County Horticultural Commissioner Earle Mills last spring. He had 50 acres of young prunes and 40 acres of young almonds. Rabbits did not begin to trouble the latter as they did the former. They like prunes better than peaches too. They nip off shoots the size of a pencil, but don't eat them.

LIME SULPHUR FOR ALMOND MITES.

For three or four years, E. J. Brans of Butte county depended on dry sulphur to keep almond mites from injuring his 15 acres of almonds. The pest got pretty bad. Then he sprayed with lime sulphur just before buds opened, and didn't have the mites; though an adjacent grower had some. "I never did have healthy trees until I sprayed," says Mr. Brans.

Shippers of oranges and lemons will be required by Food Administration regulation to load refrigerator cars seven boxes wide and two high the entire inside length of the car, either under ventilation or refrigeration.

TREE PROTECTORS
THAT REALLY PROTECT

Fitted with Galvanized Wire Ties that go all the way around the tree.

PRICES PER THOUSAND
Seven inches wide

10 inches long..$9.00	18 inches long..$12.50
12 inches long.. 9.50	20 inches long.. 15.00
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Grow Apples For Profit

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The local markets can readily consume all of the good, high quality apples that are produced in California. In addition to this, the export trade is rapidly increasing.

APRICOTS

As a commercial proposition, California, particularly, has a monopoly in Apricot culture. We can supply trees budded on Peach, Apricot and Myrobolan roots. The Tilton, Blenheim and Hemskirke have proven wonderfully profitable varieties.

CHERRIES

The enormous profits realized from Cherry orchards, the popularity of the fruit in the East, the very excellent keeping qualities, present a series of reasons for extending the field for the planting of Cherries in all sections of the State suitable to Cherry culture. Our stock of Cherry Trees was never finer.

The following varieties of APPLES are good sellers and good keepers:

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PLUMS

Few Plums are grown in the East, so that California Plums find a ready market. The Plum is easily grown in all parts of the State, and will do well in a wider range of soil and climatic conditions than almost any other fruit. Failure of crop is almost unknown.

NOTICE:

Our stock of deciduous and citrus trees is very large, and, of course, cannot be covered in a single advertisement. Our stock comprises fruit and nut bearing trees, ornamentals, berries, shrubs, vines and roses.

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Fancher Creek Nurseries
406 Holland Building Fresno, California.

Bean Growing as Practiced in Fresno Co.

[Written for Pacific Rural Press by Roy E. Miller, Fresno.]

Beans are a profitable crop in the southern half of the San Joaquin Valley, provided the variety, soil, and date of planting are carefully chosen. This conclusion was reached at a conference of the growers of Fresno and neighboring counties at Fresno recently. The growers agreed with Professor V. C. Bryant of the University of California, however, that the crop is otherwise a very uncertain one. Bean acreage jumped nearly 1000 per cent to 3000 acres in Fresno county this year, owing largely to the appeal of the national council of defense for summer crops to increase production.

The most consistent results on a broad scale were shown by the University farm at Kearney park. Both the experimental plats reported by J. A. Denny, and the fields, amounting to 120 acres, reported by S. P. Frisselle, gave good returns. In spite of excessive heat in July, the beans grown on subirrigated ground yielded 1200 to 3500 pounds per acre. And Mr. Frisselle was able to report, thanks to an accurate cost account, that the cost per acre was far below the $40 estimated at the recent conference at Stockton.

COST NOT EXCESSIVE.

His report showed that tepary beans and blackeyes gave the best yields in 1917. The production cost per acre was $26 to $32; threshing without special bean machinery is difficult; that bean straw properly cured and chopped, is relished by stock and is worth on a basis of the present price of alfalfa, $10 a ton. Where bean vines grew rank on damp ground, mould destroyed the lower leaves and pods of teparies. Thick planting of blackeyes on rich, moist soil tended to check the growth of vine and promote setting of pods. On the same principle it was assumed a half-stand was better on dry land. No irrigation was given the beans after planting, but subirrigation water rose to within 18 to 36 inches of the surface. Owing to the complex situation of soil, water and planting, it was decided the method of culture pursued should be followed only under very similar circumstances. Part of the teparies were planted in a 2-year-old olive orchard. The orchard was an alfalfa field and pasture for years, and the rich soil sent bean vines into the tops of the trees, and spread a perfect mat between the rows. A vine cutter had to be used for harvesting.

COUNTING THE COST.

An itemized account was given of the operations and costs on the poorest 40 acres of teparies planted on a former grain and bean field. Twelve pounds of seed were planted in rows 34 inches apart, May15-16. The ground had been plowed about 9 inches deep with a tractor, dragging a harrow. It was irrigated before planting, replowed, disked, packed, harrowed, and floated, a tractor being used in all operations. The costs were the following: 1st plowing, $54.14; irrigation, $19.85; seed $110.50; second plowing and harrowing, $89; floating, $29.68; seeding, $16.40; hoeing, (mostly Johnson grass), $148.12; cultivation, $89.20; threshing (with poor machinery at 60 cents a 119-pound sack), $339.40; hauling, $9.50; stacking, $244, and a few other items bringing the expense for the 40 acres up to $1294.40. The yield was 61,640 pounds. At 7 cents the beans are worth $4,314.80, and even at 6 cents would yield a fair profit. Mr. Frisselle would add to this $200 for bean straw, of excellent quality, due to shocking and stacking, figuring a profit of $3,220 for the crop. He does not count the beans, estimated at fully 10 per cent, left on the ground, on which he expects to fatten a herd of hogs.

GLEANING $5 A DAY.

In the young orchard the greatest harvesting difficulties were encountered. After cutting the crop, he sent a man to the field to pick up whole pods from the ground and the stubble for one day. The wages were $2.50. The man picked up $5 worth of beans. A crew was then put to work and repicked the whole field.

STRAW A BIG ASSET.

A hay cutter costing $320 was bought some time ago. This saved 182 tons of hay in one year, paying for itself many times. This year the bean straw was run through the chopper, and blown into an unused silo. Each third load cut was alfalfa. About 260 head of cattle and 500 ewes are being fed the ration and are eating it readily and putting on fat.

It is realized that the hot wave made the year an unfavorable one. On this account more care will be taken to choose planting dates for different varieties. Mexican red beans planted early were found to dry up on the dry land, and to remain green without setting pods until September on the moist ground on the experimental plat managed by Mr. Denny. The yield was fair. The best yield for early planting was made by the teparies—3516 pounds per acre, planted May 26. It was agreed by most of the growers, that blackeyes and teparies should be chosen for early planting, up to about July 1, Mexican reds and pinks for July planting, and possibly red kidney beans for planting as late as August 1.

Mr. Denny pointed out frequent failures because the ground may be too dry to sprout the beans. He prepares the soil, then lists a ditch about 4 inches deep, planting the beans about 1½ inches deep in the moist soil at the bottom, cultivating to the plants when they come up.

VARIOUS VIEWS VOICED.

An intercrop of pinks on the T. E. Horn young vineyard at Selma, suffered severely from the hot wave. The beans were planted June 20, after irrigation, and were cultivated frequently. The cultivator did not go deep enough for best results. Mr. Horn says there was no profit in the crop, but that the soil was improved and the cultivation had to be kept up anyway. A uniform supply of moisture is recommended by Prof. Bryant. Lack of a good stand to shade the ground and force early setting of pods was the cause of failure in several fields, according to Farm Adviser Leroy B. Smith. W. B. Minturn said the value of the straw both for feed and for fertilizer is yet little appreciated in many localities, and urged more planting for these purposes, as well as for the commercial bean.

Better threshing machinery is needed, according to W. R. Nutting, who grew succesful crops near Sanger. He went to great expense threshing on canvas, by using wooden rollers and sub-surface packers, and decided a good bean thresher is best. Home-made jobs cost as high as $1.50 per 100 pounds. The big field threshers used in Ventura county have proved impractical in the southern San Joaquin Valley, as most of the beans are grown in orchards and vineyards as intercrop. Bean threshers are charging 20 to 90 cents a sack for their work.

LARGER AND BETTER CROPS

With a great world food shortage and with the great war depending on the ability of this country to supply the allies, every acre of land should be made to produce its utmost. This can only be done by feeding the soil, i. e., increasing the available supply of the elements required by your crops.

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

are made from animal products that contain the elements necessary to meet California soil conditions and crop requirements.

Let our Fertilizer Department help you solve the problem of bigger and better crops.

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Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

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Field and Garden Suggestions

[Written for Pacific Rural Press.]

BEET SUGAR BLUNDER?

Sugar beet growers are sore and are turning to other crops because they believe per figures cited by Los Angeles District Attorney T. L. Woolwine that sugar beet manufacturers have made enormous profits while holding beet prices at or below cost of production. Mr. Woolwine's telegram to President Wilson cites one refinery with $1,250,000 capital which made nearly a million dollars net profit last year, and another with capital of $500,000 which made net profits of $900,000. Still the manufacturers have convinced Federal Food Commissioner Ralph P. Merritt that an advance over last year of about $2 per ton on beets, which would equal about ½ cent per pound of sugar, is all that the growers should have. And Mr. Merritt has left a growers' meeting in Los Angeles county much offended that the growers are unwilling to work months and take all the risks for small wages or a loss, while manufacturers are guaranteed a profit (not yet fixed) over whatever their cost of manufacture and marketing may be shown to be. Mr. Merritt considers the episode closed until someone else opens it again. Is he blundering?

TRANSPLANTING SEEDLING ONIONS.

Transplant onions from seedbed to field about New Years when they are the size of your little finger, says J. A. Harvey of Butte county, who raises a good many every year. Spade them out, shake the dirt from the roots, trim the tops to about 2½ inches above the boot (the top blade surrounding the stem of the plant), and cut the roots to 1½ inches. With a hand plow run a trench about four inches deep across the field and another on the back trip. Lay the onions along the side of the trench six or eight inches apart, so a heart hoe can cut full width between them and reduce weeding. The roots should lie in the corner of the land side and the tops on the dirt opposite. Now plow back in the same direction to cover all but the tops of the plants. If one man drops plants while another plows, he can tramp the dirt on one row while dropping the next. They do not need water if planted in freshly opened furrows in winter time. Make the rows 18 inches apart if to be cultivated by hand, or 24 to 28 inches apart if cultivated by horse.

MR. WARD BUYS A NEW ORCHID.

J. A. Carbone of Berkeley has sold one of his orchid plants to Charles M. Ward of Eureka for $2500. This establishes the record in California for high-priced flowers. Ward is known as the tulip baron of Humboldt county, having developed an industry that rivals the largest growers of Holland.

The plant sold by Carbone is the new Brassa-Cattleya, the first plant of its kind raised from seed on the Pacific Coast, and named "Queen of California" by Carbone, its originator. As soon as Mr. Ward saw it he made the offer which resulted in its transfer to him. When purchased the plant bore two magnificent blossoms, which measured eleven inches in diameter, the color being extremely rich and gorgeous.

A FEDERAL EXPERT TO FIGHT SQUIRRELS.

W. C. Jacobson, of the United States Biological Survey of Washington, is in San Joaquin county to help County Farm Adviser Robertson and County Horticultural Commissioner Ladd wage a war on the squirrels of the county. A series of fourteen meetings has been scheduled for the month of December. The latest and most approved methods for exterminating squirrels will be discussed at these meetings. Thousands of dollars' worth of grain and other products are destroyed annually by squirrels and the farmers will welcome heartily the Government's assistance in ridding their farms of this pest.

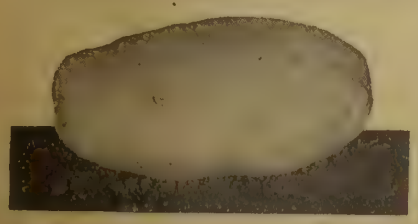
SEASONAL ALFALFA QUALITY.

Best alfalfa hay from Coachella Valley comes in September, October, and November, according to A. H. Smith, who was one of the largest growers there until the flood buried his fields with silt and sand. July and August growth is usually stunted because the weather is so hot it is difficult to give enough water without irrigating every week, which most people will not do. The first cutting of his smooth Peruvian in spring used to make over two tons per acre, but it was the result of growth through December, January, and most of February, and is consequently heavier, coarser, and taller,

PLANTING IRRIGATED TOMATOES

Tomatoes in Imperial Valley are transplanted around New Years on the sides of broad rounded ridges with broad furrows between them. The rows are about six feet apart and the plants about five feet in the row.

The table grape crop of northern San Joaquin county yielded $3,743,500 to the growers and wine grapes brought in a harvest amounting to $1,247,740.



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General Agricultural Review

Field Crops.

Yolo rice is being saved by cutting with the scythe along the levees where it was impossible for the binders to reach. Old-fashioned hand scythes are being used.

An abundant supply of ladybugs for destroying aphis in the bean fields of California will be available next spring, according to E. J. Brannigan, field deputy for the State Insectary.

The lettuce industry of the Imperial Valley is developing into a great industry. The crop of lettuce this year is estimated at 1600 to 2000 acres and the yield is expected to reach 1400 to 1600 cars.

The Bomberger Seed Co. of Modesto began the season expecting to treble Mr. Bomberger's alfalfa seed sales of last spring. They have already quadrupled them and the sales season has just begun.

Over 1300 cars of sugar beets were grown and shipped by the Manteca district the past season according to the Stockton Independent. This totaled over 50,000 tons and averaged about $6 per ton to the growers.

At a meeting of celery growers at El Monte last week, attended by growers that represented the production of 1000 carloads, plans were considered for the formation of a co-operative marketing association among celery growers of California.

The small showers of recent weeks in the San Joaquin Valley penetrated the lighter soils of the west side enough to moisten the seed and start the sprout. More rain must come very soon or the little shoot will perish and the farmer will have to reseed.

The hay shortage is as bad in Nevada and Utah as in California, according to J. C. Loomis of the Bomberger Seed Co. Mr. Loomis recently made a survey of the situation there. Mr. Bomberger was offered $20 per ton, 75 tons in the stack on December 17.

The Sperry Flour Co. planted 12 of their selected varieties of wheat on 409 acres early in November, according to N. T. Pierce of their Experiment Farm at Farmington. These are the best of the Australian wheats they obtained for seed from the P.-P. I. E. exhibits of the island continent.

Seventy per cent of the California bean crop is normally moved out of the State between October 1 and January 1, according to F. B. Nims, bean dealer of Stockton, who grows 500 to 1000 acres annually. But this year, largely due to car shortage, it looks as if there will be a big carryover.

Just as California was about to lift its embargo on the shipping of cotton seed and cottonseed meal into the Imperial Valley from Arizona, to the oil mills and feeders there, the Arizona State authorities have issued an order instructing cotton ginners to retain all their cotton seed in the state.

Notwithstanding the cutting short of the tomato crop by the heat wave, last June, the Pasadena Canning Company, whose season is about closing, says their pack will exceed last year's. When running short of tomatoes they took up berries and other fruits. Their total output so far this year is put at 135,000 cases against 105,000 cases last year.

Deciduous Fruits and Nuts.

It is estimated that this year's crop of California cracked nuts will amount to 1,500,000 pounds of nut meat.

The State Sealer of Weights and Measures charges the California Prune Growers' Association with not properly stamping the net weight of contents on 2,000 boxes of prunes prepared at Sacramento for the celebration of "Prune Week."

Citrus and Semi-Tropical.

San Francisco has received a fine and attractive lot of persimmons from Los Gatos.

The latest estimate of the navel orange crop of Central California is 1200 to 1500 cars for the season.

The Lemon Cove district near Porterville and Lindsay has made a great advance in lemon and orange production.

Orange packing in Porterville will close with the end of this week. The shipments from Tulare will total about 1400 cars.

A freak navel tree near Lindsay has produced 31 oranges in one cluster. The tree is 14 years of age and has a good crop besides.

The first Imperial Valley grapefruit is now being marketed and is said to be very fine. The crop is a short one and the fruit is brining growers $3.75 per box in the orchard.

J. A. Althouse expects to harvest about 2300 boxes of fruit this season from 40 acres of three-year-old Lisbon lemons on his ranch in the Deer Creek district southeast of Porterville.

The Cherokee Olive Farm of Lodi has finished harvesting Mission and Queen olives this week. The season is three weeks late according to Mgr. George Thumann, and the olives are not colored so well as usual.

Last Monday, the latest time of shipment to the Christmas markets of the East, there were shipped about 1300 cars of navels out of the Central California citrus district, of which Lindsay shipped about 700 cars.

Olive growers in the vicinity of Auburn, it is said, will receive $150 per ton for the Missions and Manzanillos which will be pickled for food. They secure $50 per ton for Picholine or oil olives, which in former seasons have sold at $35 per ton.

Fresh ripe olives are being packed in salt brine in barrels and shipped that way by George Thumann, manager of the Cherokee Olive Farm, Lodi, to New York, for processing there. The barrels each hold 250 pounds net of olives. Ten pounds of salt are scattered among them, the barrel filled with water, and closed.

The Pasadena Orange Growers' Association is building over its working portion of its Arroyo plant while there is a short break in the season. The old process for washing the fruit has been discarded and a new one put in which does better work, is easier on the fruit and accomplishes much more for each working hour.

The movement to establish a university farm school at the citrus experiment station at Riverside, which was originated by the Parent Teachers Association of San Bernardino county, has been given a new impetus, and in addition to the support of the various women's organizations, that of the Los Angeles Chamber of Commerce and all the Chambers of Commerce of Southern California have been added.

Miscellaneous.

Farm products increased 38.3 per cent during the first nine months of this year.

One of the highest prices realized for any tract of land sold in the Reedly district is reported from the sale of the E. Newby fig orchard of 40 acres sold recently to A. S. Spaulding of Los Angeles, for the round sum of $30,000 or $750 per acre. There are forty acres of Calimyrna figs with twenty acres in full bearing.

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GLADDING, McBEAN & Co.
PERMANENT PIPE FOR IRRIGATION DRAINAGE CULVERTS SEWERAGE
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Tulare Peach Growers Favor Chinese Labor

Peach growers of Tulare county, members of the Tulare County Canning Peach Growers' Association, at a meeting held in Visalia December 1, adopted the following resolutions:

The Peach Growers of Tulare county, State of California, now assembled as consulting body do most respectfully proclaim as follows regarding the labor situation:

1. That labor was very scarce, extraordinarily high and correspondingly unreliable during the year 1917.

2. That now the usually slack time of the year the situation is not improved; we are crediably informed that citrus growers of this county are now forced to let their crops hang on the trees for want of labor to harvest them.

3. That this county is using every endeavor to produce the banner crop of its history the coming season to meet the world's need and do our part in feeding our allies.

4. That the past and present labor condition and the great number of laborers going to the war make it self-evident that unless we can obtain governmental relief we will be compelled to meet great food losses to the country and financial losses to ourselves.

Wherefore, Be it resolved, That in order that the products of this country, for 1918, be saved from loss by lack of labor, that the United States bureau of labor is most earnestly requested to induce Chinese to supply this demand during the continuance of the war.

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We can save you money. WRITE US.

Spalding-Robbins Disc Plow Co.
625 Market Street San Francisco

Review of California's Pioneer Nurserymen

(Continued from page 616)

plants, but of teaching people how to grow them. In the latter line they had serious difficulties overcoming the false doctrines and wrong practices of the so-called "professional gardeners" who claimed to know everything then, as they are still apt to do. E. L. Reimers, looking backward, wrote of his experience in 1873, as follows:

If a nurseryman offers for sale such shrubs as lilacs, snowballs, philadelphus, deutzias, etc., people will tell him they will never produce flowers in this country. Years since I used to sell a quantity of such shrubs, but the sale has gradually diminished from year to year. These interesting shrubs will bloom in this country as profusely as in any other. Non-blooming is not the fault of the climate, but of the jobbing gardeners who pretend to take care of private places. They intrude themselves upon the public in this part of the world as horticultural experts though they have never occupied any higher grade than the use of the broom, the manure fork, and the wheelbarrow. I have found that complaint of the plants come from the fact that these jobbing gardeners have all these shrubs trimmed down in winter and have cut away all the blooming tips of the last summer's growth by cutting to a sugar loaf form, and the owner gets new foliage in the spring but naturally looks in vain for the flowers, because the flowering buds have been shorn off and thrown on the rubbish heap.

CONTRACTION IN THE SECOND DECADE.

The decade from 1860 to 1870 was in some ways quite in contrast with the preceding ten-year period. Scores of nurseries went forward from the first to the second decade, but rather few went farther. Many of the early pioneers began late in life and grew weary when the absorbing interest of the beginning slackened. Fruit production reached the limits of the local demand and no good outlet appeared. Importations of fruit were reduced to small figures, but this did not make an opening for very large planting. Nurseries became fewer in number and success in the "short-order" trade enabled a number to work along until the re-awakening which rewarded some of them for their patient persistence and for the wisdom which they had gained from long experience.

THE THIRD DECADE ENDS IN GLORY.

It is my present purpose only to pursue the work of the pioneers until the horticulture of California reached the end of its pioneer period, manifested consciousness of its high industrial calling and entered confidently upon the realization of it. This change in attitude came in the latter '70s and the manifestations of it were sudden expansion of public interest in large investments in lands and wide planting; in recognition of the advantages of organization; of the necessity of laws and institutions capable of promotion and protection of wide investment and systematic effort for better transportation of great volumes of unique products to the world's markets. Of course all these things were not suddenly achieved, but the disposition to enter resolutely upon them was quite sudden and remarkable: it was an awakening evolved from the experiences of the pioneer period: it was an awakening to work confidently toward an end which the natural resources of California demonstrated to be reasonable and the spirit of Californians determined to attain. Four decades have passed since the date of that awakening—each bringing surprises in volume, value and uniqueness of achievement and manifesting capacity and elasticity which are really characters of the early stages of a development process. What we now see and do for California horticulture we should therefore regard with humility, for there surely will come a time when our work will not be looked upon in any way as an accomplishment, but merely as a part of the beginning of it. As we honor those who intelligently and faithfully worked that we might do more than they could do, so perhaps may we hope for honor from those who really will see our beloved State in the fullness of her plant beauty and plant production. It is fitting then that we should honor the memory of those who decades ago made supreme effort and staked their livelihoods for successful plant introduction, improvement and propagation, for their skill, devotion and investments lie in the firm foundation, not only of our degree of attainment but of the ultimate horticultural achievement of California, which none of us can ever see unless we can gaze from the ramparts of another world upon it —possibly with longings to return.

And even in such irreverence I am but sinning as the pioneers did, as is shown by a narrative which survives. One of the evangelists who was trying to stem the tide of iniquity in early San Francisco life closed a burning appeal with the command: "And now, all who desire to go to a better land, rise to your feet." All arose but one man friend, don't you want to go to a to whom the preacher cried: "My better land?" And the answer came: "No, dominie; California is good enough for me."

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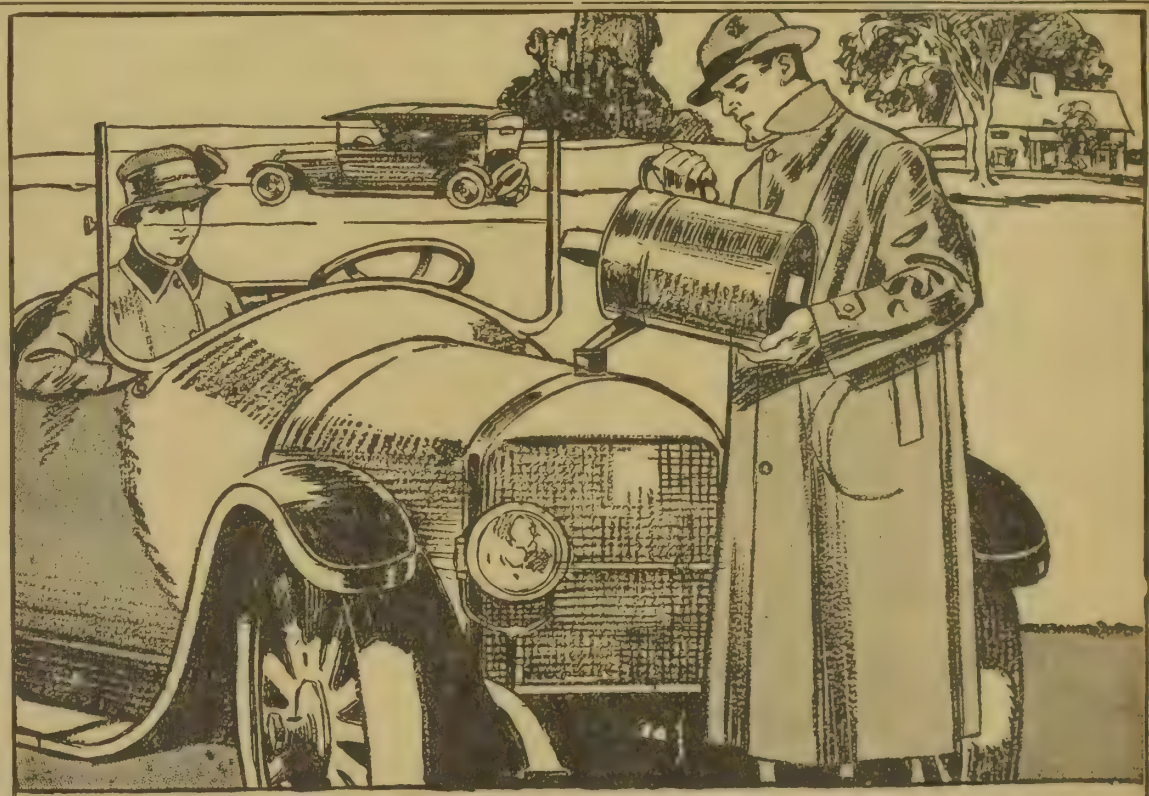

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University Tractor Short Course—III.

BREAKING-IN A NEW TRACTOR.

[From notes taken at University Farm Tractor Short Course]

"IT will surprise you how many times you will find nuts to tighten during the first week you run any new tractor," said Geo. G. Pierce, one of the experienced operators who took the Tractor Short Course.

"In starting a new tractor, you will generally find it stiff, especially in these days when manufacturers are working to the limit to put out enough tractors to keep up with their orders," said C. E. Witherell of the Samson Sieve Grip Tractor Company, in one of the lectures at the Short Course. "The bearings will have been fitted, but will not have been worn in enough. Be very careful in handling it then. Be overcautious in oiling. Be certain that every part is lubricated right, and that no bearings are heating. For the first two weeks watch extra close for loose bolts. A new tractor is like a new shoe—it doesn't fit well at first. Order the tractor if possible so you will get it two weeks before you want to use it. You will need to learn your machine and get it worked down, so you can handle it and watch tillage implements at the same time. Run it around the yard without any load for a day. The most foolish thing you could do would be to run a new tractor under a load the first twenty-four hours without inspecting it. A few strokes may score the cylinder and require regrinding and a new piston. After running without a load until you find all parts lubricated right and no bearings heating or sticking, put on a light load for a week. Until you get a hard glaze on the cylinder walls and on bearings, be extra careful. Always there must be a thin film of oil between all bearing surfaces to keep them from touching each other. A light lubricant reaching the bearing surfaces all the time in small amounts is necessary."

LEARN YOUR MOTOR'S LANGUAGE.

"Before you move a tractor wheel, you ought to know everything about your motor, its governor, etc.," said Ben Moses, head of Yuba Manufacturing Company service men, in another lecture. "Tractor makers are all behind their orders. They won't stop to limber up their tractors. New engines are stiff. The buyer must limber them up and get the lubrication everywhere it is needed. If he doesn't, it takes only two minutes to burn out the bearings. Learn the sound of your motor. One man found a tune he could hum to the accompaniment of his tractor. Next morning he couldn't make the tune fit. He found too rich a mixture, and when that was adjusted the tune worked all right.

"The human body automatically heals most of its own ills. A tractor cannot do that. Its only comeback is reduction of power or complete stoppage. If you notice reduced power or discordant noise, look for the trouble at once."

STARTING AN ENGINE.

"Have a definite routine in starting the engine," recommends Mr. Witherell. "It will save waste motions and increase your own speed.

"If you also have a system in doing your hostler work at night, you will know that the oil is right, sight feeds working, and grease cups screwed up until grease starts out from edges of bearings. Prime with gasoline a few moments before trying to crank. That will give it a chance to vaporize and mix readily with the air. Do not overprime. More gasoline will be needed in winter than in summer, for it will not vaporize so readily when cold. Drain the distillate out of the carburetor and fill with gasoline. That will probably get the engine warm enough to run on distillate. When you have an explosive mixture in the combustion chamber and a means of igniting it at the right time, the engine will run."

OVERLOADING CAUSES GRIEF.

"The average man starts out on good ground with plows set for a full load," said Mr. Moses. "He strikes a tough spot, opens her up, and shoots through. Maybe he has to regulate the governor for more speed if the tractor has a governor. Maybe she gets stuck. Then he backs up and gives the plow a yank. If that doesn't start it, he gives it another and another. No wonder he sends for a service man, pronto!

"One man whose cost of operation is low, said he made it a rule to set all plows so they pull easily, then lift one out. He always has reserve power and never stalls. Another man said that if his load took a full throttle, he always reduced it. Of a dozen 'don'ts' the most important is, 'Don't overload.'"

"Overloading causes more grief, annoyance, and real trouble than most anything except lack of lubrication," said Mr. Witherell. Manufacturers have spent many real dollars to determine how much strain their machines will stand regularly on the various parts. Accept their recommendations and save your own dollars. Load so the tractor handles well. On slippery soil, it takes more power to propel the machine itself. Then the drawbar pull ought to be reduced. On soft soil the same is true, but the same implements with the same adjustments will generally pull enough lighter to compensate.

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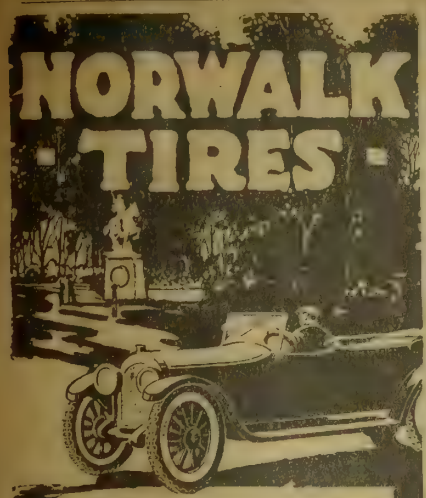

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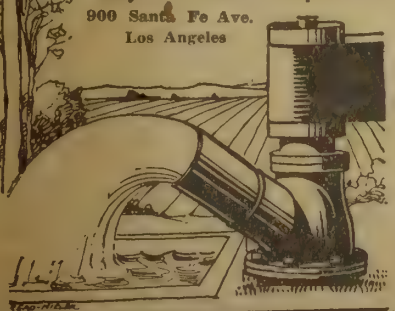

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I Save You $15 to $200

TRACTORS PLANT GRAIN.

[Written for Pacific Rural Press.]

California grain seed beds are not good enough for the Liberty Farms Corporation, who are putting in about 20,000 acres of grain in Kings county. General Manager J. H. Eaton and Superintendent Howard Burns are from Colorado, where seedbeds are worked deeper and finer. They came to the ranch about the last of August. About 12,000 acres had been plowed in California fashion. This was disked and plowed again, six to eight inches deep, by tractors, disked again, and rolled with Killefer rollers weighing about 4500 pounds per set. This is to get a firm seedbed, for planting proceeded right away. Seven tractors, each pulling a battery of six grain drills, started seeding during the week ending November 24. It is planned to roll much of the ground after seeding, unless enough rain comes early to pack soil around the kernels.

UNCLE SAM WANTS CATERPILLAR OPERATORS.

[Written for Pacific Rural Press.]

Caterpillar operators can see very early service in France for Uncle Sam and democracy. A recent telegram from the War Department authorized General Manager Dan Gilmore of the Holt Manufacturing Co. at Stockton to accept enlistments of Caterpillar operators for the Ordnance Division. It was said that about fifty of the Holt employees offered themselves at once; though G. M. Walker of the company informs us that already about 300 of their employees had gone to war. Anyone desiring to enlist as a Caterpillar operator should present evidence of his experience to Mr. Gilmore, who will forward applications and probably send accepted applicants to Peoria or Rock Island, Ill., for final training in assembling, operating, and repairing the machines for army service.

WHAT KIND OF A PUMP?

To the Editor: I am going to try and irrigate eight acres of land from a well which is only 18 feet deep. I could not go any deeper on account of the water. I had a good hand pump and could not keep it pumped out so I could go deeper. I want to get a pump and gasoline engine and go 12 feet deeper. What kind of a pump is best for pumping out of a well? It is all quicksand but eight feet on the top and I think I can get plenty of water by going down. —I. M. G., Beaverton, Oregon.

[An expert tells us that you would be well served by a 3-inch horizontal centrifugal pump driven by a 6-horsepower gasoline engine, and that the pump should be set within 25 feet from the bottom of the well.—Editor.]

POWER NOTES.

Grease and oil cans carried on a tractor uncovered so dust and dirt get into them, make fine grinding compounds when applied to bearings.

There are just four enemies of a tractor, says Hal Thone of the Holt Co. They are: Lack of proper lubrication, overloading, dirt, and lack of attention.

A wool cloth is much better than cotton to pick up dirt from the crankcase after draining it, says G. G. Pierce of Yolo county. Cotton waste should never be used for this, because fibers are likely to remain in the case.

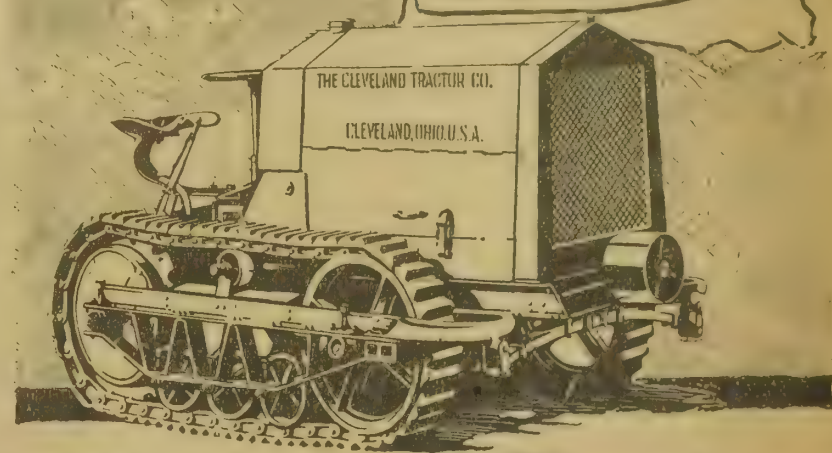
BUY TRACTORS TO HELP FARMS, U. S. PLEA NOW

By H. B. Hunt

WASHINGTON, Oct. 9—Uncle Sam's farmers must motorize for the war.

That is the decision of government officials here who have been studying ways and means of increasing farm production when army drafts and war industries are taking hundreds of thousands of young men from our farms.

The only solution is to increase the productive capacity of the farm labor remaining. And the most practicable means of enabling each plowman to turn two or three furrows instead of one, and harrow 25 or 30 acres a day instead of 10, is to put our farmers on modern farm tractors.



Cleveland Tractor

YOU must motorize your farm. Stern necessity demands it. Patriotism urges it. In that way alone can you counteract the shortage of labor and produce the bigger, better crops America expects of you.

Patriotic, progressive farmers are helping both their country and themselves by the use of the Cleveland Tractor.

This remarkable little machine hauls two 14-inch bottoms and with them it plows up to 3½ miles an hour—*8 to 10 acres a day.* That is more than you possibly can do with three good 3-horse teams and their drivers.

It not only plows faster—but better and with far greater economy.

Because it *crawls on its own tracks,* the Cleveland can go practically anywhere—over ditches and gullies—even through the sand, gumbo and rice swamps of the South. It enables you to plow exactly where you want and when you want.

The Cleveland will not pack even a mellow seed bed—because it is light—only 2750 pounds—and has 600 square inches of continuous traction surface—a bearing pressure of less than five pounds per square inch. Though small enough for use among young fruit trees, it possesses tremendous power. It gives 12 horsepower at the drawbar, plenty for plowing, harrowing, pulling the manure spreader, seeder or any hauling job. At the pulley belt it develops 20 horsepower for pumping, sawing, cutting ensilage, filling silos and other stationary work.

The Cleveland Tractor is designed and built by Rollin H. White, the famous motor truck engineer. Mr. White uses scrupulous care in his choice of materials. The gears are identical with those of the finest trucks and are enclosed in dirt-proof, dust-proof casings.

In short, the Cleveland Tractor means to you—an increased yield—*better, faster work—at much less cost.* What could be more important today?

Write us now for a complete description of the Cleveland Tractor and the name of our nearest dealer. We advise ordering now for use in the spring.

Address Dept. BG or use the coupon.

THE CLEVELAND TRACTOR COMPANY, Cleveland, Ohio

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Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Col. Ben Rhoades claims to have sold a grade cow this November for $310 and "lots of them" at more than $200.

The J. H. Harlan Co. of Woodland finished on December 2 a 23-pound record on the twelve-year-old Holstein cow Ficedes, a daughter of Fidessa Butterboy.

B. E. Nixon sold to F. Roberts of Madera a foundation herd of Guernseys consisting of 6 heifers and a bull, the latter a grandson of Governor Chene and junior champion at Fresno and San Francisco this year.

A. J. Welch of San Mateo sold to J. B. Pope of Corning, a registered Guernsey bull, Bijou Prince of Hidden Valley. Mr. Pope has a good graded dairy herd and is contemplating gradually working into purebreds.

L. A. Driver of Nicolaus, who has about ten registered Holstein cows and heifers will put two of them on yearly test this spring; also four more on shorter tests. He has been picking sires for high percentage of butterfat.

H. E. Vogel of Fresno bought a four-year 25-pound cow bred and consigned by McAlister & Sons to the Guaranty Sale at Sacramento. The price was $500, exactly what McAlister had promised during the bidding to pay for her calf at five months old.

O. J. Ames of Oakdale still figures he was right in buying nine Jersey cows at the Modesto sale, where he sold two others. They were bought at prices which he figured as a good investment because he has feed enough for them over winter. He believes there will be strong demand for cows next spring.

Stanislaus Abbekerk Maid, consigned by Stalder Bros. of Riverside to the Guaranty sale at Sacramento, finished a record November 26th of 29.283 lbs. butter and 565.9 lbs. milk in seven days as a junior four-year-old. The cow increased from over 80 pounds of milk per day at the ranch to over 90 pounds at the Fair Grounds, in spite of the journey and strange surroundings.

Col. Ben A. Rhodes has conducted many auction sales and some big ones, but he broke his record when he sold nearly $70,000 worth of cattle in one day for the California Breeders' Sales and Pedigree Company at their Guaranty Sale last week. The sale lasted until 10 p. m. and he was out of the auctioneer's box only a very short time. During that brief period, however, he performed an unusual but very heroic service.

Beef Cattle.

H. L. & E. H. Murphy are putting in a blue grass pasture for their Shorthorn cows with calves.

W. E. Gird, Devon cattle breeder of Boncall, San Diego county, writes December 9th that rain is much needed in the hills there.

H. M. Barngrover bought seven yearling Herefords from Wm. H. Bemerly of Woodland for his Hereford herd at Veramont, Plumas county.

G. R. McKeehan of the Gos Cattle Company of Silver City, N. M., arrived in Imperial Valley last week with 1000 feeders. These cattle will be fed on milo maize stalks and surplus pasturage.

There will be a sale of Shorthorns held in San Francisco on February 28th under the auspices of the California Shorthorn Breeders' Association. This will follow shorthorn sales in Spokane, February 24th and 25th, and in Portland February 26th.

Swine and Swinemen.

J. A. Clark of Lodi a few days ago received a fine Poland-China boar from the East. He is handling the hogs in partnership with W. A. Young, who was forced by ill health to quit the work.

Elmer Lamb reports the following recent sales: J. S. Cowan, Hendersonville, Tenn., boar; Fred W. Dickson, Geronimo, seven bred gilts to be shipped to Hawaiian Islands; Dr. L. J. Belknap, San Jose, two gilts and a boar (these include the Junior and Reserve Grand Champion boar and sow at the Modesto Fair); Walter McGarvey, Hughson, two open gilts.

Sheep and Horses.

O. H. Brandt of Shellville expects to sell his Percheron stallion and breed only Clydesdales in the future.

Joseph Levy, Calla Grove Farm, Manteca, has just received two carloads of Hampshire-bred ewes to increase his flock and supply the 1918 trade.

Dr. S. W. McClure, secretary of the National Wool Growers Association, says passage of the homestead act is crowding the sheep men out of the western states and that grazing would have to be found in the Southern States.

Notes.

Shasta county cattle interests are agitating for Government aid in placing seed for cover crop, or to renew feed in the ranges.

H. C. Muddox of Sacramento is gradually working into a registered Holstein herd to comprise about 26 selected cows. These will supplement his fine hogs.

Alex. Whaley was well pleased with the record of 32,195 pounds butter made by his Holstein cow Winifred Hotaling 3d in the seven days ending November 30. She was sold at the Guaranty Sale, as noted elsewhere. Her average test was 4.46 per cent.

The Bridgford Co. of Knightsen, recently completed a 27-pound record in the second lactation by Finderne Ethel Pontiac, a daughter of Gordon Glen Pontiac, which has a number of high producing daughters. The Bridgfords have a yearling son of the Finderne heifer by King Valdessa, whose first two dams have records over 43 pounds.

A. B. Spooner & Son of San Luis Obispo bought a fine type dark colored June heifer calf, K. S. V. E. Cornucopia, from the Weldon consignment to the Guaranty Sale for $330. She is ¾ sister to a heifer that sold a year ago for $1350. The Spooners have a number of regis- [illegible] Holsteins, including a young [illegible] elsche Walker.

Livestock Miscellaneous.

Beginning December 10th, shipments of livestock to the Chicago market are handled on a plan that will distribute receipts uniformly over the entire week. Under the system that prevailed before the Food Administration worked out the new plan, receipts of livestock varied widely from day to day, frequently causing severe fluctuations in prices.

Silos erected in Fresno county this fall will result in saving 1500 to 2000 tons of cattle feed, according to Adviser Leroy B. Smith's report to the University of California. In addition to conducting the silo campaign, the adviser has in the first five months of his services organized thirteen farm bureau centers, one cow testing association, Y. M. C. A. boys' labor camp, alfalfa caterpillar control movement, increased wheat acreage and yield campaign, tree disease demonstrations, and fertilizer surveys.

Dependable Sales Service

We offer an unexcelled service for the conduct of dispersal and consignment sales of registered livestock. Sales conducted anywhere. Write for terms and dates.

California Breeders' Sales and Pedigree Co.

C. L. HUGHES, Sales Mgr., SACRAMENTO, CAL.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

SPELLMIRE-LYONS CO.
BERKSHIRES
Brood Sows and Boars for sale. Young and Matured Stock.
A. F. ROACH, Manager
Phone Boyle 3164 MONTEBELLO, CAL.

Bassett's Poland Chinas

Grand Champion Sow, P. P. I. E., 1915; Sacramento, 1916.

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year — uniform in size, high in quality, quickly and economically matured and finished.

$30 UP.

FAIR DEALING, UNIFORM EXCELLENCE, SATISFIED CUSTOMERS, BEST PORK PRODUCERS, RESULT FROM YEARS OF SELECTIVE BREEDING.

M. BASSETT Hanford, Cal.

Grand Champion Herd of Hampshires

COMPEER'S DESCENT 2d
One of Our 60 Matured Brood Sows.

BOARS
Big Husky Boars for November trade.

Write to

F. V. Gordon or F. A. Langdon
Llano Vista Ranch, Perris, Cal.

Champion Ram, P. P. I. E.

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

WE ARE GOING TO SELL
Before February First
20 HEAD REGISTERED BRED HEIFERS
10 HEAD REGISTERED MILK COWS.
These animals we offer for inspection and at prices you will find very cheap.
GOTSHALL AND MAGRUDER, Breeders of Registered Holstein-Friesians
RIPON, CALIFORNIA

Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
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DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
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Raise Your Calves on
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and Sell the Milk

More calves have been raised on Blatchford's Calf Meal than on all other milk substitutes combined.

100 lbs. makes 100 gallons of milk substitute, costing only one-third as much as milk. Prevents scouring and insures the early maturity of sleek, handsome calves. It is steam-cooked and no trouble to prepare or use.

Write for Pamphlet "How to Raise Calves Cheaply and Successfully with Little or No Milk." At dealers, or

Coulson Poultry & Stock Food Co., Inc.
Dept. 9, Petaluma, Cal.

NOTES OF THE GUARANTY HOLSTEIN SALE.

The average price received, $957.50, compares well with the big Eastern sales. Six cows with records of 30 lbs. or more were sold: Jennie Terzool Hicks, 32.71 pounds, consigned by Palo Alto Stock Farm, bought by Toyon Farm Association for $2250. Woodcroft Ybma Pietje, 31.28 pounds, consigned by McAlister & Sons, bought by Toyon Farms Association for $1950. Winifred Hotaling 3rd, 32.19 pounds, consigned by Alex Whaley, bought by W. J. Higdon for $1750. Abbekirk Miss Pontiac Nudine of Springvale, 30.03 pounds, consigned by Bridgford Co., bought by McAlister & Sons for $1400. Abbekirk Korndyke Segis, 30.42, consigned by McAlister and bought by Morris & Sons for $1400. Springdale Ononis Vale, 31.22 pounds, consigned by Palo Alto Stock Farm and bought by Toyon Farms for $900.

Nine bulls brought an average price of $1343. King Korndyke Pontiac 20th, a grandson of King of the Pontiacs and out of a 36.81 pound dam, went to W. J. Higdon for $6500, the highest price ever paid in a California sales ring. R. F. Guerin of Visalia was the competing bidder. King Riverside Mead, a six months old bull calf, brother to Aagie Acme of Riverside, the new world's record cow of A. W. Morris & Sons, went to A. B. Comfort for $1000. The bargain of the sale was a 35-pound son of King Valdessa, consigned by Palo Alto Stock Farm and secured by Geo. A. Smith for $1150.

H. M. Cross of Merced, who is founding a purebred herd, secured a fine sire, King Marco Alcartra 2nd, a grandson of Tilley Alcartra on the sire's side, and of Prince Gelsche Walker on the dam's side. The price paid was $800. Mr. Cross also secured several fine females.

R. L. Holmes secured an excellent sire in Prince Abbekirk Aralia Walker, a grandson of Prince Gelsche Walker and whose dam made 25.77 pounds. He also secured a fine granddaughter of King Walker and in calf to King Segis Alcartra Abbekirk. Mr. Holmes bought a few of the best animals at the October sale. He is establishing a purebred herd at Modesto and is securing the right kind of foundation stock.

H. A. De Wolfe, who is establishing a purebred herd at Ripon, secured three good females, including a 27-pound daughter of a 30-pound dam consigned by Bridgford Co.

Hillcrest Farms of Carruthers, who started their herd just a year ago with an importation of 27 head from the East, secured a fine young cow with a record of 18.18 pounds made as a 3-year-old. They are now erecting a milking barn and will put a number of their cows on test.

E. Suseata, representing the Gonzales Company of Chile, secured a 20-pound cow and a fine heifer from the Morris consignment. Mr. Suseata has been in California for some time and has bought a number of Holsteins from the leading herds of the State. They will be shipped to Chile on the 14th of this month.

E. D. Barry of Dagget bought two fine young daughters of Prince Gelsche Walker for $1400 each.

J. W. Benoit paid $1400 for the 6 months old heifer calf Lady Sadie Vale Joe Carlray, consigned by Gotshall & Magruder, a granddaughter of King Korndyke Sadie Vale and out of State Champion 2-year-old K. P. Tola Joe, who made 27.15 pounds. This was the highest priced calf in the sale.

The largest buyers at the sale were McAlister & Sons, 10 head for $8350; Fred W. Kiesel, 6 head for $7125; W. J. Higdon, 4 head for $9950; Toyon Farms Association, 4 head for $6000; Alex Whaley, 5 head for $3600; A. W. Morris & Sons, 3 head for $3525; H. E. Vogel, 4 head for $2700; E. D. Barry, 3 head for $3525.

Geo. A. Cressy of Modesto and Pecho Ranch and Stock Co. of San Luis Obispo bought two head each. The following bought 1 head each: Postcard Ranch, Corcoran; W. W. Phillips, Fresno; A. M. Bibens, Modesto; D. A. McGriff, Woodland; State Hospital, Stockton; J. D. Patterson, Fresno; Otto McClure, Santa Ana; Bridgford Company, Knightsen; Stalder Bros., Riverside; M. H. Tichenor, Palo Alto, and Geo. P. Robinson, Sacramento.

A. W. Morris & Sons of Woodland bought a 30-pound cow for $1400, consigned by McAlister & Sons of Chino. McAlister, during the bidding offered $1000 for the calf she is carrying when it shall be five months old. The calf is sired by It. The dam is a half sister to the first cow that made 40 pounds of butter in seven days while still under mature age.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

Poland-Chinas.

HIGH DOLLARS ASSURED for the hog-raiser. The scarcity is bound to make pork high for years to come. Improve your herd with a good Poland-China boar. 20 of the finest you ever saw, from six months to 18 months of age. Price from $40 to $100. Sows sell in the Kings County Poland-China Breeders' Sale, February 20th. Bernstein's Ranch, Hanford, Cal.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

MY POLAND-CHINAS are prolific and profitable. Write for description and prices. Dr. J. A. Crawshaw, Hanford, Kings County, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd, and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

FOR SALE—Two Thoroughbred Berkshire Boars. One is 2 years old, the other 3 years old. A. F. Roach, Montebello, Calif. Phone Boyle 3164.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRES—Fine, growthy, May pigs, both sexes, sired by Star Leader, reserve Grand Champion P.-P. I. E. Prices reasonable. Anchorage Farms, Orland, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

BERKSHIRES—Sired by Star Leader, the $1,500 boar, ready for service. Kounias Registered Stock Farm, Modesto.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

FOR WELL-BRED BERKSHIRES, write Glenwood Acres Stock Farm, Paso Robles, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

DUROC-JERSEY PIGS FOR SALE from prize-winning stock. Price, $10 to $25 each. They are all in good condition. For further particulars write to W. C. Chisholm, Route 4, Santa Rosa, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13s Taxpayer. A few weaned sow pigs for sale. F. M. Barney, Hanford, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

DUROCS OF GUARANTEED BREEDING—Pigs $15 up, sired by State Fair prize winner. H. E. Boudier, Napa.

RANCHO DEL SUR DUROC-JERSEYS — Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

DOS HERMANOS DUROCS—Young boars and gilts. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

RANCHO RUBIO DUROCS sold out except some choice fall boar pigs. Write for prices. Elmer Lamb, Ceres, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND of Chester Whites. Am entirely sold out of bred sows and gilts. Have a very few open gilts of March and April farrows, also 6 boars, same age; have 9 young tested sows to offer for late December shipment; these have each farrowed once and will be bred to farrow again in late March or early April. Fall pigs, both sexes, are now being weaned; will be ready for shipment during December. Good breeding stock is getting very scarce and is rapidly increasing in price. If you want some of this easy feeding, mellow type, get busy with your orders. C. B. Cunningham, Mills, California.

HIGHLAND STOCK FARM CHESTER WHITES—We are making special prices on some young boars and gilts for immediate delivery; shipped on approval; satisfaction guaranteed; cholera immune; registered and crated free; write for booklet and prices. Robinson & Ward, Fair Oaks, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

REGISTERED HOLSTEINS—Out of A. R. O. dams; grandsons of King Korndyke Hengerveld Ormsby, who has 20 A. R. O. daughters with records over 29 pounds. Kounias Registered Stock Farm, Modesto.

BUENA ALTA HERD registered Holsteins, blue ribbon winners at State and county fairs; heifers and bull calves for sale. F. A. Heroux, 629 Fifty-sixth street, Oakland, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TOYON FARM HOLSTEINS—Sons of Finderne Soldene Valdessa for sale. Toyon Farm Association, First National Bank Building, San Jose.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker, from A. R. O. dams. W. J. Higdon, Tulare.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

YOUNG REGISTERED HOLSTEIN BULLS ready for service. W. H. Ginn & Son, Corcoran, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Calif.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal

GOTSHALL & MAGRUDER — Breeders of registered Holstein-Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, Cal.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

BREEDER OF HOLSTEIN-FRIESIAN CATTLE—Dr. Ben Stetson, Napa, Cal.

EL DORADO HERD OF HOLSTEINS. Alex. Whaley, Tulare, Cal.

Jerseys.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

REGISTERED JERSEY COWS for sale. O. J. Ames, Oakdale, Cal.

Guernseys.

PACIFIC GUERNSEY HERD — Cattle selected from the best imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. Few animals of either sex for sale. Edgemoor Farm, Santee, Cal.

BELLA VISTA GUERNSEYS — Males from A. R. dams, $125 and up. J. W. Henderson, First National, Berkeley.

Ayrshires.

NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

FAIRVIEW AYRSHIRES AND DURHAMS—Bred for quality. Choice young stock. Geo. Fay, Sheridan, Nevada.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

BEEF CATTLE.

D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

VERAMONT STOCK FARM — Purebred Herefords. Location, Plumas county. Ideal for stamina and vigor. Bulls for sale. Address H. M. Barngrover, San Jose, Cal.

REGISTERED YEARLING SHORTHORN Bulls—Heavy-boned, thick-meated Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison, London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Paicines Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

INNISFAIL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, Cal.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS — Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS and ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena.

KAUPKE BROS., WOODLAND, CAL.—Breeders and Importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, Importers of Hampshire sheep

HORSES AND MULES.

FOR SALE—Percheron horses and mares, age 4 to 10 years; weight, 1200 to 1600. Price, $200 to $300 per span. S. L. Skaggs, Madera, Cal.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E., 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

WE ARE BUYING HOGS of all sizes, weights and breeds; any number from one to several thousands considered; we pay spot cash on delivery. What have you? Durbin & Forbes, 722 San Fernando building, Bdw. 4170, Los Angeles.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

CROLEY'S BALANCED DAIRY FEED—the cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend Sts., San Francisco.

EIGHTEEN HEAD HOLSTEIN Dairy Cows for Sale. W. F. Kram, Route 1, Woodland.

How Testing of Dairy Cows is Conducted

[By Prof. T. W. Woll, of the University of California.]

Semi-official tests of dairy cows are made by the College of Agriculture in connection with the State Dairy Cow Competition, and in behalf of the various dairy-breed associations, for the purpose of securing authenticated yearly records of production. The tests are conducted for two days each month (in the case of grades for only one day) and the milk yield of the cows for a certain month multiplied by the average test for this period, gives the production of butter fat with which the cow is credited for the month. In case owners do not keep milk records, the milk weights for the test day is multiplied by the number of days in the month.

ABSOLUTE ACCURACY UNATTAINABLE.

Nobody claims absolute accuracy with this method of testing, and the results for the separate months may be somewhat higher or lower than the actual production of the cows, as the case may be. When the results for a number of months are added together, however, the sum will come very close to the actual production for a record period of ten months or a year—viz., within one or two per cent at the outside. This has been shown to hold true in numerous cases and is the reason why the present system of semi-official tests has been adopted for determining the production of dairy cows for long periods and why records secured with the system are accepted on their face value by the public without a question.

DUPLICATE TESTS.

A duplicate test recently conducted in the herd of Mr. Iver Iversen of Humboldt county shows how closely the results obtained by this method of testing will come when the work is done by careful supervisors. The first tests were made on November 14 by Carl O. Helgestad, tester of the Ferndale Cow-Testing Association, and the second on November 24-25 by E. F. Vawter, assistant in dairy tests, College of Agriculture of the University of California. The weather conditions were more favorable on the second test than on the first, which was preceded by rather cold weather. (This may explain the slightly higher production of butter fat on the second test.) There was no change in the method of feeding and handling the cows in the interval between the two tests.

THE AVERAGES VARIED ONLY ONE PER CENT.

While the production of the cows varied to some extent, some producing more and some less milk or butter fat during the second than during the first test, the averages for the fifteen cows differed only one per cent. It may be stated that the highest producing cow, No. 13, won for her owner the McAlister & Sons' prize for October, for the highest production by a grade cow in the State Dairy Cow Competition, being credited with a production of 75.675 pounds of butter fat for this month (distance from calving at beginning of month, 194 days). The Pacific Rural Press prize for the highest average production of five grades in a herd, on the other hand, was won by Nos. 3, 4, 6, 12 and 13 in August and by Nos. 2, 5, 9, 10 and 11 in October, for an average production of 64.740 and 51.952 pounds of butter fat, respectively.

COMPARISON OF CREDITS FOR IVERSEN'S COWS, NOVEMBER, 1917.

Cow No.	Pounds Milk Helgestad	Pounds Milk Vawter	Per Cent Butter Fat Helgestad	Per Cent Butter Fat Vawter	Pounds Butter Fat Helgestad	Pounds Butter Fat Vawter
1	822	747	5.68	5.36	46.68	40.05
2	783	846	6.67	6.40	52.20	54.18
3	927	927	6.21	6.01	57.54	56.71
4	834	873	6.00	5.73	50.04	50.04
5	720	753	6.55	6.45	47.19	48.57
6	951	[illegible]	5.52	6.21	52.50	52.53
7	624	[illegible]	6.67	6.91	41.64	44.82
8	495	468	4.48	4.88	22.17	22.83
9	759	762	6.06	5.95	45.92	45.39
10	825	801	5.69	5.79	46.95	46.38
11	816	780	5.49	5.90	44.76	46.02
12	1158	1269	4.26	4.13	49.29	52.44
13	1143	1059	5.69	6.29	65.04	66.63
14	735	717	5.61	5.87	41.25	42.12
15	534	492	5.13	5.12	27.39	25.17
Average	808	800	5.70	5.78	46.04	46.26

Reducing Tax on Margarine and Munitions

To the Editor: The following is in the daily press dispatches:

WASHINGTON, Dec. 1.—Reduction of the ten cents a pound tax on colored oleomargarine, both as a war measure to increase the production of food fats and as a means of actually yielding more aggregate revenue, was recommended in the annual report of the internal revenue bureau issued today over the name of W. H. Osborn, who recently has been succeeded as commissioner by Daniel C. Roper.

If the ten cents a pound tax on colored oleomargarine is removed, what will be the effect on the dairying business in California?

Farther down the article gives the internal revenue collections on some of the principal industries, and one of these is "munition manufacturers' tax, now discontinued, $27,263,000." I do not understand why the "now discontinued" is applied to the munitions manufacturers. Maybe you will explain it to us.—Subscriber, Visalia.

[The reduction of the tax on colored oleomargarine breaks down the only legislative defense which genuine butter has against imitation butter. We see no sense in the proposition; it makes no more fat and therefore helps to win no war. The effect it would have in California would be to increase the use of bogus butter and increase the burden upon those who are making genuine butter by decreasing the chance of getting any profit from it.

We presume the "now discontinued" in connection with munitions means that the Government is getting more of their excess profits by the new income tax.—Editor.]

50 lbs. of BUTTER
one week's work for one pure bred
HOLSTEIN

NO OTHER BREED CAN EQUAL HOLSTEIN RECORDS

All records for production are held by Holstein Cows. They are indeed "The Profitable Breed." Learn about them.

Free Illustrated Books.

THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA, Box 230, Brattleboro, Vt.

The NEW HINMAN MILKER

The HINMAN Milker has been made the recognized standard of perfection and efficiency thru our 10 years of concentration on one type of machine —the Individual Pump—Valve Chamber Milker.

10 Years' Success

Over 30,000 Sold

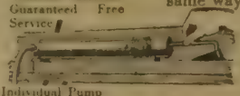
ACCOMPLISHMENTS ATTAINED

This specialization has meant refinement in design and workmanship—insured mechanical betterments—insured adaptability to the great variety of physical condition found in every dairy herd.

The cow does not have to be adapted to the HINMAN. Odd cows—nervous cows—easy milkers—hard milkers—and cows with uneven udders are made comfortable by the HINMAN Individual Pump—Single unit—adaptable—to-each-cow machine that always milks the same way day in and day out.

The HINMAN Principal Stands Approved. It's the only sure way to offset increasing costs in the dairy. It is no experiment for you when thousands use it successfully. Its simplicity and volume means low cost to you.

Protected Valve Chamber Patented. Guaranteed Free Service

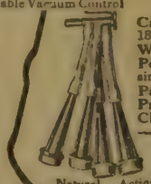


Individual Pump with Simple Adjustable Vacuum Control

The New Hinman Milker

Study Specifications

Capacity:—1 man—3 milkers—18 to 25 cows per hour.
Weight:—17 lbs.
Power Required:—1-6 H.P. per single unit, gas or electric.
Pail Capacity:—40 lbs.
Protected Vacuum Valve Chamber:—patented: automatic—operates with no adjustments.
Demountable Claw:—seamless teat cups, improved mouthpiece rubbers, special grade rubber tubing.
Individual Portable Pump:—eliminates tank and pipe system.
Armco Rust Resisting Pail:—with patented pail rest for teat cups.
Individual Cow Record can be kept.



Natural Action Teat Cups with Improved Sanitary Claw

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Write today—read the experiences of prominent and expert dairyman in all leading dairy sections. Investigate NOW.

HINMAN MILKING MACHINE CO.
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Good territory open for live agents.

Mr. R. L. Hinman offers you this illustrated Catalog Book

A cow's health is not complete without a perfect udder. Caked Bag, so likely to occur at the calving period, is quickly eliminated by applying Bag Balm, the great healing, penetrating ointment

Sores, cuts, chaps bruises, cracks, bunches, cow pox, fever spots and other udder troubles promptly clear up when Bag Balm is used. Sold by druggists and feed dealers in large 60c packages. Booklet, "Dairy Wrinkles," free.

Dairy Association Co., Lyndonville, Vt.

BAG BALM
MADE BY THE COW-CURE PEOPLE

MORE PROFITS FOR THE DAIRY RANCHER

The most valuable by-product on the farm is manure—but it should be applied when it is fresh and contains its full share of liquid. The old wheelbarrow method is too slow—the manure becomes old before it can be spread. Besides, the wheelbarrow method costs too much—labor is too high to let a man stay on a job like that. Here's the solution to the problem—install

Louden Litter Carriers

You can get the fresh manure loaded onto a wagon or spreader and applied to the soil without delay—making the job mere child's play. Saves time. Increases fertility of your soil. Improves health of your cattle. Increases quantity and quality of your dairy products. And puts bigger profits into your pockets.

Big Book of Modern Barn Plans Free

Tells you how to build any size barn for greatest convenience and economy. Shows you how to cut your labor costs. Contains scores of illustrations and diagrams. Sent free, together with the Complete Catalogue of Louden Barn Equipment and Hay Tools.

California Hydraulic & Engineering Co.

68 Fremont St. SAN FRANCISCO, CAL.
424 E. Third St. LOS ANGELES, CAL.

San Joaquin Dairymen Organize

[Written for Pacific Rural Press.]

With more than 200 dairymen present at the San Joaquin Valley mass meeting held in Fresno last Saturday (and most of them signed before they left as members of the San Joaquin Valley Milk Producers association) co-operative dairying received the biggest boost since the campaign began a few weeks ago. After an address by State Market Director Harris Weinstock, who explained the relation of the co-operative movement to state and national welfare, the meeting adopted resolutions pledging support to the movement to organize all the milk producers in this section of the state, and to unite the efforts of the dairymen here to those of other sections to insure a better product and fair prices.

POINTS EMPHASIZED BY SPEAKERS.

Mr. Weinstock and James N. Henderson of the Northern California association agreed the farmers and dairymen organized throughout the state could standardize the products, improve service, eliminate duplicate collections and deliveries, and net the best prices for their milk. Mr. Henderson demonstrated that with present prices of feed and help, the farmer must keep closer check on his costs. R. W. Cleary, former Wisconsin condenser, said milk should be shipped out instead of into California, where climate favors the highest production.

FOLLOW FRUIT MEN.

Taking hope from the success of the big fruit association the farmers and dairymen are signing readily in most sections. They believe organization will enable them to combat importation of inferior substitutes. There is some opposition on the part of co-operative creamery managers. The managers admit a selfish interest in wishing to continue profitable businesses built up over periods of years. They declare, however, that the law of supply and demand will rule the butter and cream markets, and that the association and even the state-wide organization would fail to get any better prices, or better distribution than now obtains.

RIVERDALE CREAMERY JOINS.

The Riverdale Co-operative Creamery signed with the association Thursday. J. R. Murphy, manager of the Fresno Danish Creamery, one of the influential creamerymen who has opposed the association, recently said he would favor it as soon as it could be shown that the existing co-operative creameries and the dairymen would be protected. The organizers said that with comprehensive and state-wide organization the co-operative creameries would become part of a more effective marketing system.

Does Milk Color Indicate Fat Content?

[Written for Pacific Rural Press.]

The above question was submitted last spring to a number of authorities. Some of the answers were printed then; others are given below:

C. P. Shord, head tester Imperial Farm Bureau—Milk that is rather bluish indicates that the percentage of butterfat is low, but is not a sure guide, for very white milk may be higher than some yellow milk. Green feed, carrots, pumpkins, etc., will give milk of richer color, while not increasing the fat percentage. Some individual cows give richer colored milk than others, as will also some breeds of cows. This is well known in favor of the Guernsey. The Babcock test is the sure guide.

H. A. Hiddleson, Woodland, secretary Solano-Yolo-Colusa Cow Testing Association—As to the bluish tinge of milk indicating a small fat content, that would depend on what one would call a low percentage. Milk may test 3.0 to 3.8 and 3.9 and appear very blue, while milk containing 4.5 up rarely has that appearance. Holstein milk often appears blue owing to the globules of fat being very fine, this being a characteristic of the breed.

Bernard Crowley, secretary Ferndale Cow Testing Association—Cows here are mostly purebreds or grades of one breed and all fed similarly throughout the year, with seasonal changes. At any one time a blue color indicates low butterfat test.

IS FEEDING BEET PULP PROFITABLE?

A beet sugar factory has just been completed and will be in operation next season. With the beet pulp available for feed, would the feeding of steers as a community proposition be profitable on our high-priced lands?—J. W., Manteca.

Yes; you and your neighbors can go in together next fall and get good feeders (not too thin) and by feeding pulp, together with your alfalfa, can turn off beef at a profit in the early spring. You would probably have to go to some expense for fences in your neighborhood. Sheep might prove easier and more profitable under your conditions. You could keep five ewes and turn off five or six lambs on the feed required for a steer. The ewes would shear five pounds of wool in the spring and eight in the fall.

Jerseys for Net Profits

You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull. Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 388 West 23rd Street, New York City

Get one of my Jersey bulls to increase the production of your herd. They are rich in the blood of the great cow,
GERTIE OF GLYNLLYN.
Visitors welcome. Correspondence solicited.
A. A. JENKINS, R.D. 1, Tulare, Cal.

VENADERA HERD
REGISTERED JERSEYS
Young bulls from dams and grandames in Register of Merit.
GUY H. MILLER, Modesto, Cal.

YOUNG BULL CALVES
Fine individuals, with Register of Merit backing.
T. B. PURVINE, Petaluma.

PEDIGREED BULL CALVES
With or without registration papers. Service Bulls from cows with yearly records. Jersey females. Prices right. Tuberculin tested.
N. H. LOCKE CO., Lockeford, Cal.

ACME HERD JERSEYS
Quality counts.
Stock for sale.
CHAS. M. McLOUTH, Orland, Cal.

LEONARD FARM JERSEYS
Bulls for sale from Register of Merit cows. Write for information.
W. J. HACKETT, Ceres, Cal.

PRINCE ALCARTRA KORNDYKE

WE ARE OFFERING FOR SALE A NUMBER OF YOUNG BULLS

Some ready for service—sired by Prince Alcartra Korndyke and out of dams with records up to 30 pounds in seven days and over 800 pounds in a year. We have priced these extremely low in order to move them quickly and make room for the coming crop of young calves. Order one of them now and have the advantage of the larger records that their dams are sure to make at next freshening.

The first daughters of Prince Alcartra Korndyke are now finishing their yearly test and will average well over 650 pounds butter under ordinary herd conditions and stand well up in the list for the Association prizes.

J. S. GIBSON COMPANY BOX 97 WILLIAMS, CALIFORNIA

Isn't it Strange? — — But Dairy Dan's Wife had the Right Idea! Courtesy The Sharples Separator Co., West Chester, Pa.

Dairy Dan was a regular feller—had a ten-cow dairy and a fixed-feed separator.

But he couldn't turn that fixed-feed separator up to regulation speed. He lost a dime's worth of cream anyhow—twice a day.

He hated to admit that this constant loss would have more than paid for a *modern* separator which skims clean at any speed.

But one day he discovered a hole in the pocket of his 6-days-a-week suit — commonly called overalls.

And he sure did give Maria an awful call-down for *her* carelessness.

She got peeved and showed him how he could mend *his* carelessness—by buying a SHARPLES SUCTION FEED SEPARATOR

International Livestock Exposition

[Written for Pacific Rural Press.]

The International Livestock Exposition opened at Chicago December 1. It was an event that seemed to accentuate mainly the rising enthusiasm of stock breeders in the Shorthorn type of beef steer. One of the outstanding incidents of the show was the sale of the red-roan yearling bull Anoka Champion, which was knocked down to B. F. Hales of Oak Park for $17,000. The bidding was spirited and determined, and more than one ambitious breeder felt keen disappointment when Mr. Hales secured the coveted prize. Universities and colleges scored heavily in the blue ribbons awarded. In the Students' judging contest, in which much interest was taken, Nebraska carried away the honors. Space precludes detailed description of the splendid exhibits shown in the several classes, but it may be said that they compared favorably with any of the previous displays, and interest and enthusiasm were everywhere evident.

Forty-five head of young stock brought $69,980, or an average of $1557. Fourteen bulls averaged $2607, and 31 females $1070. In addition to Anoka Champion, perhaps the best youngster ever bred by the Hardings, Mr. Hale secured Augusta Anoka 5th, the top-price heifer, for $2600.

Sheep Pay Alfalfa Farmers and Save Labor

(Continued from first page.)

The "grafting" in this case consists in skinning the dead lamb and tying the skin over the orphan's back. Put the lamb and ewe "in jail" (a small pen) and as soon as the ewe shows signs of owning the orphan, in half an hour or a day or two, cut holes in the skin so the smell of the orphan will come through a little at first. Then cut the holes bigger two or three times and cut off the edges of the skin gradually. All this usually takes about two days.

If a ewe has only one lamb but seems able to suckle two, rub the new born one over an orphan about the same age to give the same smell to the latter. Take the former away from the ewe ten or fifteen minutes, leaving her with the stranger in jail. She soon learns to own it. This may become necessary to save one of a pair of twins born to a mother that has milk enough for only one. They must not be left in jail too long or the ewes will dry up their milk.

COYOTES AND DOGS.

It seems that dogs do not bother big bands of sheep much in Mr. Lemon's district; but coyotes are becoming more numerous and bold throughout the Southern San Joaquin Valley. A State bounty is much desired to aid in their extermination. Dogs are kept with each band and are highly valued for defense as well as for herding. Mr. Lemon has a shepherd collie for which he refused $100. On account of the danger of killing dogs, coyote poisoning is not favored.

SHORTHORNS AT PACIFIC INTERNATIONAL.

Shorthorns brought an average of $416 at the sale held in connection with the Pacific International Show at Portland. The top prices were $1775 for a junior yearling heifer and $1625 for a 2-year-old, both went to South America. The consignment of the Gibson Estate, consisting of 4 heifers and 2 bulls, averaged $375. One of these, a bull out of Greenwood Maid and of King Edward, Ringmaster and Choice Goods breeding on sire's side, went to Paicines Ranch Co. for $475.

At the Show, the University of California won Grand Championship on fat steers with California Marvel, who was declared by the judge the best Shorthorn steer ever shown in this county. California breeders won more firsts than those of any other state, and T. T. Miller won more firsts than any other exhibitor. The Pacheco Cattle Co. won first in calf herd and in get of sire on the get of Truedale.

Thousands of sheep have arrived in Tulare county from the South.

Jack London Ranch
Registered Beef
Shorthorns
and
Duroc Jersey Hogs
ELIZA SHEPARD, Manager
Glen Ellen, California

14 HEAD PUREBRED
RED POLLED BULLS
from 6 to 8 months old
FOR SALE
For further information address
F. M. Meacham Est.
PETALUMA, CAL.

ORMONDALE SHORTHORNS
Are all heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.
EVERY ANIMAL POSITIVELY GUARANTEED
Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.
SHORTHORN CATTLE
DUROC-JERSEY SWINE
ORMONDALE CO.
R. D. No. 1
REDWOOD CITY, CAL.

SHORTHORNS
Herd combines some of the strongest blood lines of this country and Great Britain.
THOMAS T. MILLER
314 So. Normandie Avenue
LOS ANGELES, CALIFORNIA

SHORTHORNS
Paicines Ranch Company
Offers for Fall Delivery, both Registered and Unregistered
Weanling Bulls and Heifer Calves
ENTIRE HERD TUBERCULIN TESTED
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Three Imported Shire Mares all in foal.
Two Stallion Foals and one Filly Foal.
SALVADOR STOCK FARM NAPA, CAL.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

NOTHING MUCH DOING, BUT SHOULD BE.

The poultry business appears to be almost at a standstill these days. Nobody that is anybody in the breeding line around these parts seems to have any difficulty in handling what cash they can get hold of, without doing any great deal of banking. The price of eggs is being kept down by fanatical women. It's nothing but foolishness and ignorance that raises these questions; and, of course, the cereal men and the baking powder men are all helping to "do their bit" towards prejudicing the public against eggs.

SOMETHING MUST BE DONE SOON OR POULTRYMEN QUIT.

It would seem to be the proper time now that everybody is inclined to be helpful, to carry the policy into other lines than just the military. For instance, if these women who are boycotting eggs would make an effort to find out how much labor and feed it takes to produce them, and then decide that a policy of "Live and let live" was better than that of "The devil take the hindmost," their work would be really helpful. There are hundreds of good patriotic American citizens engaged in the poultry industry, and unless something is done soon these men must quit and go to other work that is better paid. The promise of a little better price during the winter months induced many to hold on, and go further in debt for feed, and now I learn that in Los Angeles a whole week's eggs were standing on the floor—no sales in spite of Hoover asking that the people eat eggs and poultry.

DON'T BOYCOTT EGGS.

Unless something is done soon spring will see a regular exodus of poultrymen, and the nation will be crying for eggs and table poultry. This will be a loss to everybody, at a time when we need eggs for our convalescent soldier and sailor boys. If this meets the eye of any of these ladies who are engaged in boycotting eggs, let me entreat them, at this time, when we are all trying to get out of our hard shells of selfishness, to think of "the other fellow" and be just.

PARASITICAL MITES.

To the Editor: Last week one of my year-old turkey's feathers began to fall out. It stopped eating, and walks as if it couldn't see—runs into everything. But it sees me coming. Is there any cure, and is it catching?—B. H., Dos Palos.

I think your turkey is afflicted with a parasitical mite that gets under the roots of the feathers. It is infectious, so that you had better put him by himself and wash the parts affected, that is where you notice the feathers falling from. Usually it is the head and neck that are affected first. Now paint the surface with a good carbolic soap and water, or with coal oil, then make an ointment of one part olive oil, one part flour of sulphur, and one part coal oil, and rub around the bare spots. Give the bird a pill or two made of flaxmeal, flour and sulphur. This you can put down the throat, but internal treatment is not very effective. Give milk to drink so as to keep the strength up.

DROPSY.

A neighbor had a hen that was fat a short time ago, and when they killed it a lot of water ran out. They asked what was the matter. I told them "Dropsy." Then they wanted to know if she was fit to eat? I told them that was a personal opinion, but I would not eat it. Diseased poultry should never be eaten at all. Is there any cure for this disease, was the next question? And I honestly confess I don't know; I would not bother with a hen whose organism was so far out of the ordinary; it does not pay.

Purebred and Commercial

[Written for the Pacific Rural Press by Harry Mortenson, Suisun.]

WHAT IS THE POULTRY SITUATION?

There is a shortage of poultry all over the United States, yet the price of eggs is low—very little higher than last year, yet the price of feed is almost double. The result is very little poultry is being raised. Last year at this season the writer had orders for several thousand day-old chicks, while we have contracted but few to date.

Reports from Eastern states show a shortage of about thirty per cent in the Missouri Valley, the center of the Middle West poultry district. The same holds true in this State; and if the price of eggs remains the same and the price of feed does not decline very few chicks will be hatched next spring.

The public is not using as many eggs as before. They cannot be made to believe that eggs are the cheapest food today. The boycotts on eggs served their purpose to the disaster of the poultry farmer. All the appeals for more poultry and eggs will go unanswered if some steps are not taken to reduce the price of feed. We do not advocate a rise in egg prices. The housewife will not pay more for eggs, she will do without them and buy some other food, no matter if it is more expensive. The orange men advertised their product and increased the consumption, but not so the poultry men. The quality of eggs and poultry all over the country has improved as a result of the educational campaign of the various experiment stations and farm advisers. The "swat the rooster" campaign throughout the Middle West has improved the Missouri and Kansas eggs. Arkansas and Texas, it is said, produce inferior eggs. The eggs from most poultry districts of California are d sirable. There are, however, sections of the State where the poultrymen use backward methods of producing and marketing their product.

BETTER STOCK MUST BE RAISED.

Poultrymen, we cannot afford to hatch from the common hen, for we are doomed if we do.

Hatch from only purebred mature stock and mated to vigorous, well-developed male birds of known ancestry. The fact that same breeder will supply you with chicks at a cheap price should cause the prospective purchaser to investigate. The poultry breeder cannot turn out cheap chicks next spring on the present high feed prices and remain in the business. Neither can the purchaser afford to buy cheap chicks hatched from indiscriminate stock mated to unknown male birds.

FOOLING THE HENS.

The turning on of electric light in henhouses after midnight is now being practiced by poultry raisers of Arlington, causing hens to think it daylight. It is said to have stimulated egg production 50 per cent. This having been proven, the City Council of Riverside are giving the poultry people a special electric light rate of 3c. per kilowatt hour.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

MISSION HATCHERY CHICKS, January, February—R. I. Reds, Barred and White Rocks, Black Minorcas, Anconas, White, Brown, Buff Leghorns; first-class utility stock, well mated; hatched right in our large modern plant. 12,000 chicks weekly. Price and quality talk; see our free circular about them. Mission Hatchery, Box 107, Campbell, Cal.

ORDER NOW — Purebred White Leghorn chicks, 15 cents until March 15th; then 12 cents. Eggs $1.00 per 15, $2.00 per 30, $6.00 per 100. Big plant, best strains, foundation stock, thousands of breeders, 20,000 feet under roof, green feed and fresh cut bone fed daily. Remember, the chick or egg cost is small compared to the feed cost, so get the best. Catalogue free. Newton Poultry Farm, Dept. 1, Los Gatos, Calif.

SPRING CHICKS—We are booking orders now; we start our run in January; Rhode Island Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. Remember, order early. Campbell Poultry Ranch, Campbell, Cal.

SPRING CHICKS—We are booking orders now. S. C. White Leghorn, only selected and fully matured stock that is bred to lay used in the breeding pens, which assures strong and vigorous chicks. $12 per 100, $100 per 1000. H. A. Schlotthauer, Route A, Exeter, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

THOROUGHBRED BOURBON RED TURKEYS for sale; young Toms, sons of First old Tom, State Fair, 1917, $7.50 to $10 each; hens, $4 to $6; also Eastern stock; all choice. Emma V. Miller, Farmington, Cal.

BOURBON RED TURKEYS — Fine stock; dark rich color. My breeding Tom weighs 35 pounds; imported from the highest class Eastern breeder. Albert E. Balmer, Alhambra Valley, Martinez, Cal.

SINGLE AND ROSE COMB Prize Rhode Island Reds. Hatching eggs, breeding pens, cockerels. Send for circular. Wm. Larm, 3915 39th ave., Fruitvale, Cal.

WHITE ORPINGTONS, heavy egg type; Buttercups, fall and winter layers; eggs, chicks; Hoganized stock of all kinds for sale. M. S. Woodhams, R. F. D. 1, San Mateo, Cal.

BABY CHICKS — From select free-range White Leghorn stock; place orders early; prices on application. Western Hatchery.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.; large yearling hens; young birds of both sexes; egg orders now being booked. Petaluma, Cal. W. S. Waldorf, Prop.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

SIXTY R. I. RED PULLETS—Ready to lay; $1.50 each. Ten Bronze gobblers, $8 each. Wm. A. French, Stockton, Cal.

WHITE HOLLAND TURKEYS FOR SALE—Young Toms and hens, range grown. Mrs. A. C. Holly, Dixon, Cal.

EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; choice cockerels. Fairmead Poultry Farm, Fairmead, Cal.

MAMMOTH BRONZE TURKEYS FOR SALE—The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

BUFF ORPINGTONS, Buff Leghorns, Bourbon Red Turkeys. Breeding stock. The Ferris Ranch, Route 2, 144D, Pomona, Cal.

GIANT BRONZE TURKEYS and eggs; choice breeding stock. M. M. Reiman, Planada, Cal.

MAMMOTH BRONZE TURKEYS—Breeding Stock for Sale. Mrs. H. B. Kimball, Farmington, Cal.

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Mrs. Best's Letter.

GIFT GIVING.

My Dear Friends:—With Christmas only ten days away, we need to move quickly if we are to be comfortably ready for it. It does not seem suitable in this year of trouble to give the ordinary trifles. Far better to keep that money for use in necessary ways. But there are so many suitable gifts that would bring joy to the heart of the recipient that it would be too bad to give no gifts at all.

FOR THE SHUT-IN.

For the friend that is shut in, yarn for knitting, books for reading, or a potted plant brings enough pleasure to justify the outlay.

For the less fortunate neighbor, supplies from your pantry shelves or a plum pudding tied with bright ribbon with a sprig of holly, or a basket of nuts would be most acceptable.

FEW PLAYTHINGS.

Except in the case of small children, it would seem unwise to give playthings even in your own household, but gifts of clothing to the various members of the family seems more practical and in line with the conservation policy of the nation now so assiduously urged.

FOR MOTHER

For the mother, anything that is suitable for the home and adds to the comfort of the family, would be welcome. This would include dishes, silver, bedding, table linen, in fact anything that made the home more attractive.

FOR GROWN DAUGHTER.

The young lady daughter might like silk stockings, fancy slippers, writing paper, gloves, books, and if the family purse would stand the strain, furs or a wrist watch. The two last articles are most popular with young people now.

LITTLE SISTER.

For little sister, there are adorable fur sets in light colors, pretty tam-o-shanters and scarfs of wool in bright colors, and what is certain to please, coats cut on just the same lines as mother's, with convertible collars and pouch pockets.

MEN A DIFFERENT PROPOSITION.

For the men of the family, either father or son, it seems more difficult to find articles for gifts. However, bath robes, slippers, ties, hosiery or handkerchiefs are always acceptable, and toilet articles if not already supplied.

CHRISTMAS SPIRIT SHOULD DOMINATE.

The true Christmas spirit is not dependent upon either the giving or receiving of gifts, but a preparation for a holiday helps make the family happier. Have the home bright with holly berries and sweet with the spicy odor of greens. A Christmas tree hung with popcorn strings and cranberries, with bits of tinsel is a joy, even if not covered with gifts. Pretty wreaths out of cedar with holly for the berries are attractive hung in the windows, and the bright color may be secured by big bows of crimson crepe paper.

Let the spirit of Christmas abound in our homes and the material things be sent where needed to furnish cheer and comfort.

ROSABELLA BEST.

THE HOME CIRCLE

CABBAGE RECIPES.

CABBAGE WITH SOUR SAUCE.

After taking off the outside leaves, remove tough stalk from a small head of cabbage; cut in quarters; soak in cold water and cook in boiling salted water in an uncovered dish, adding one-fourth teaspoonful of soda. Cook slowly from 30 minutes to 1 hour, drain, and serve with the following sour sauce: Melt 1 tablespoonful of butter or other fat, then add one tablespoon of flour and one-half cup of milk. Stir over the fire until hot and add 1 teaspoonful of made English mustard and 2 tablespoonfuls of warm vinegar. Pour over hot cabbage. If preferred a plain cream sauce can be used.

SMOTHERED CABBAGE.

Cut fine one-half head of cabbage. Melt two level tablespoonfuls of butter or other fat in a pan and stir in 2 level tablespoonfuls of flour. Add the cabbage, 1 cup of sweet milk, 1 teaspoonful salt, and one-eighth teaspoonful pepper. Cover closely and simmer slowly 30 minutes.

CABBAGE PUDDING.

Shred the head of cabbage closely and cook in salted water until tender. Drain and place in buttered dish in layers with sprinkling of grated cheese between. To 2 level tablespoonfuls of melted butter or other fat add 2 tablespoons flour; add a cup of milk, yolks of 2 eggs, 1 teaspoon salt, and one-half teaspoonful of mustard. Stir over fire until it boils, then add beaten whites of eggs. Pour over cabbage, mix well and bake one hour.

STUFFED CABBAGE.

Remove coarse outer leaves and core. Parboil for 3 minutes. Fill core and inside of each leaf with finely chopped left-over meat (raw meat is best), or sausage. Tie securely in cheesecloth. Place in kettle with two or three carrots and onions. Cover with stock, and let simmer slowly two hours, or until tender.

COLD SLAW.

Slice a small cabbage very finely. Soak in cold water until crisp. Drain and dry between towels and mix with cream salad dressing. It will improve the dressing to add to it a very little curry powder.

A box of rubber bands will be found most useful in the kitchen to be used in place of string. The bands stay in position and are much easier to adjust than the string.

The Sentry

Boy o' Mine!
Where do you stand the weary watch to-night,
  Outside the frozen trenches, where men like gophers crawl?
A watchdog for the army, that, weary of the fight,
  Takes a bit o' needed rest before the bugles call—
To-night my heart is aching, my eyes with tears are bright:
Boy o' mine, where do you stand the weary watch to-night?

Boy o' Mine!
How fares it? No message do you send
  From where the hungry rivers run red with human blood,
Where ten thousand eyes are glassy before the long day's end,
  With ten thousand women praying along the War God's road—
A wretched mother needs you, all sick with nameless fright:
Boy o' mine, God keep with you the weary watch to-night.

Boy o' Mine!
The hand of Fear steals 'round my throat, it seems
  To rob me of my breathing and leave my heart like lead;
For I can see you—little boy of all my happy dreams—
  Upon the frozen hillside, all cold and still and dead—
O God! there is a battle that none but mothers fight:
Boy o' mine, I'm with you on your lonely watch to-night.

—Will D. Muse, in Southern Woman's Magazine.

Let the Things Needed in The Home Be Your Christmas Gifts

A selection this Christmas of a useful and beautiful gift for the home not only emphasizes your own discrimination and good taste, but it convinces those to whom the gift is presented that you fully appreciate their sense of the fitness of things. Such a gift constantly reminds them of the splendid sentiments which inspire a sensible gift at this time when a frivolous one has no place in the thoughtful person's plans.

You'll Find the Sensible, Practical Gifts This Year at Barker's

When you visit Los Angeles on your Christmas shopping tour, don't fail to visit Barker's Store for innumerable suggestions of what is best to give for the home. If you can't come to the city, just write our Mail Order Department about what you wish. Secure the services of our expert shoppers, who will select for you with complete satisfaction.

Send for our beautifully illustrated, interesting holiday book. Sent free to all who write

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The House of COMPLETE and EFFICIENT Home Furnishing Service

724-738 So. Broadway Los Angeles, Calif.

CHRISTMAS CANDIES.

With the shortage of sugar, we must adopt a new type of Christmas sweets. Combinations of fruits and nuts are delicious, keep fresh a long time, and are just the thing for Christmas boxes. The following recipes will be helpful:

Pop-corn Candy—For making pop-corn candy either honey, maple syrup, molasses, white cane syrup, or corn syrup may be used instead of sugar. To one cup of syrup allow one tablespoon of vinegar. Boil together until syrup hardens when dropped in cold water. Pour over freshly popped corn and mold into balls or fancy shapes for the Christmas tree. Little pop-corn men will please the children. Mark in the features with melted chocolate.

Crystallized Fruits—Use your own preserves. Peach, pear, apple, quince or watermelon rind will do. Drain from the fruit all syrup possible. Cut any size desired, sprinkle with sugar, and dry in a very slow oven. It may be necessary to sprinkle the fruit again with sugar during the drying. When dry enough not to be at all sticky, sprinkle with sugar and pack in layers with wax paper between. This fruit may be used for dipping in bitter chocolate for bitter-sweets.

Bitter-Sweets—An attractive variety of candies may be made by dipping sweet fruits in bitter chocolate. Use for this purpose dates, citron, candied orange peel or crystallized fruit. Melt unsweetened chocolate in a double boiler. Keep the chocolate just warm enough to prevent solidifying. With a silver fork drop pieces of fruit in chocolate. See that each piece is completely coated, then remove to wax paper to harden.

Stuffed Dates—Use the best dates. Remove the stones. Fill with peanuts, walnuts, hickory nuts, or any nuts available. Peanut butter makes a good filling that is different. Press dates in shape and roll in granulated sugar, chopped nuts, or a mixture of cocoa and powdered cinnamon.

Fruit Paste—Put through the meat chopper enough cherry, peach, or quince preserves to make a half-pint with the juice. Heat fruit and add two tablespoons of gelatine, previously softened in a very little cold water. Stir well, and continue stirring until it begins to cool and thicken, then pour into oiled dish to make a layer one inch thick. Let dry slowly, sprinkle with sugar and place in box with waxed paper between the layers. A mixture of dried apricots and dates may be used for this paste. Wash apricots and soak overnight in enough water to cover. Pour off water, bring it to a boil, pour over apricots and let stand until cool. Put apricots and dates through meat chopper, and proceed with the proportions as given.

FOOD VALUES.

The value of any food must be reckoned—not in bulk—but in terms of nutritive efficiency. These terms may be divided into energy-giving value and building material value. According to authoritative statements, one quart of milk is equal in food value to any one of the following foods: 13 ozs. of round steak, 10 ozs. of white bread, 3 1-3 ozs. of butter, 6 ozs. of cheese, 6 ozs. of oatmeal, and 7 ozs. of beans.

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President Suspenders for comfort

and for Christmas

The universal favorite—3,000,000 pairs sold last year—so free and easy and great for wear—the best suspender quality at any price. A *Safe* purchase because we

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Buy of any dealer anywhere. Look for the name on the buckle. If the ones you buy are not satisfactory, in every way, mail them to *us*. We will repair, replace, or (if requested) refund your money.

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The Uni-Lectric is a complete electric service station in home size. Generates standard 110-volt direct current. Big capacity--operates one to 60 lights, electric motors up to 1 h. p., electric irons, electric heaters, vacuum cleaners, force pumps, churns, separators, washing machines, etc.--24 hours a day, every day in the year if you wish. Uses standard lamps and fixtures.

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REFLEX SLICKER
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COTTAGE GARDENS NURSERIES, INC.
EUREKA, CALIFORNIA

Good Health.

[By H. E. Pastor, M. D.]

The Mineral Elements in Human Food.

Why do we need mineral elements in our food? For the same reason that we need carbohydrates, proteins, and fats—to replace the waste of those elements which is constantly going on in the living body. While the number of mineral constituents natural to the body tissues is not large, they are important—indeed, indispensable. They embrace lime, soda, chlorine, iron, phosphorus, potash, magnesia, iodine, and traces of some others. With the exception of common salt (chloride of soda) and saleratus (bicarbonate of soda), most of these necessary mineral ingredients are contained in the ordinary foods as supplied by nature. For some inscrutable reason nature seems to have deposited these mineral substances largely in the exterior coatings of our grains and fruits; and those who assume the preparation of food commodities for the table, with an innate perversity peculiar to the human kind, take special pains to remove and discard these valuable parts. Bolted wheat, hulled corn, polished rice, etc., are familiar examples of this perverse and injurious practice, and peeled vegetables and fruits, and much of the seeding of the latter, are another example. How much better a potato tastes boiled or roasted in its "jacket" than the skinned article! It not only tastes better but is better. Stew some peaches with skin and stone retained, and some others with these parts removed, and note the difference in flavor. Perhaps some of our lady readers have tried it. In preparing food for the young, more so than in the case of adults, it is important that these mineral ingredients be retained in the preparation. They not only have to replace worn-out but must form new tissues. Don't have every eatable that is set before a child bleached and blanched, polished and peeled. See that the food is cleaned, put in convenient shape, and properly cooked—and trust nature for the rest.

Botulism.

This is a forbidding-looking word, and to most of us as unintelligible as forbidding. It has crept into popular health literature lately with obtrusive frequency in connection with cases of poisoning arising from eating spoiled canned foodstuffs. "Botulism" is derived from the Latin word "botulus," signifying sausage, and its use was suggested by the fact that the toxin produced by this particular bacillus was commonly found in spoiled sausage and other forms of decomposed meats. To guard against the poisonous effects of botulism extreme care should be taken to effectively sterilize canned meats, fruits and vegetables in accordance with some well-recognized process. If suspicion attaches to the wholesomeness of canned food at any time, the safest course is to chuck it out—not into the poultry yard or hog lot, but where no animal more valuable than a coyote can get at it. Perhaps a hot fire is the best receptacle for food suspected of harboring the Bacillus botulus.

"—use foods that require less sugar"

THIS is one of the most important recommendations of the Food Administrator: "In cooking and baking use foods that require *less sugar*."

In other words—use Ghirardelli's. Use it freely and wisely—in place of other less nutritious and more expensive foods. Not only will you save money but you will help in food conservation.

Cooking and baking require less sugar when you use Ghirardelli's. Because—it contains in itself the sweetening flavor you need. More than this—it adds a new touch of richness to your icings, your puddings and other desserts.

In ½ lb., 1 lb. and 3 lb. cans; a tablespoonful—one cent's worth—makes a cup.

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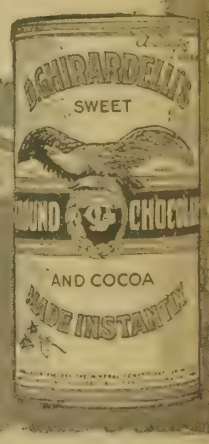

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We pay freight to any railroad point in California.

In three size packages only. Note prices. Only a limited amount at these prices.

RUBBERKOTE, Color Red and Brown, 50 gal. barrels, freight paid.....55c gal.
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RUBBERKOTE, Color Red and Brown, 10 gal. cases, freight paid.....65c gal.
RUBBERKOTE, Color Green, 50 gal. barrels, freight paid.....60c gal.
RUBBERKOTE, Color Green, 25 gal. barrels, freight paid.....64c gal.
RUBBERKOTE, Color Green, 10 gal. cases, freight paid.....70c gal.
RUBBERKOTE, Color Black, 50 gal. barrels, freight paid.....45c gal.
RUBBERKOTE, Color Black, 25 gal. barrels, freight paid.....47c gal.
RUBBERKOTE, Color Black, 10 gal. cases, freight paid.....50c gal.

When sending in your order always figure one gallon for 100 square feet on roofs. For houses, silos, barns, fences, etc., figure one gallon for 200 square feet.

Why pay twice or three times the above prices for cheap paints and stains, when you can get Rubberkote, which is guaranteed to outwear any local paints or stains, which is rust, heat and weatherproof, freight paid and guaranteed for five years? Measure your roofs and buildings and send in your order today. Orders filled same day received. A trial order will convince you.

ARTISANS MANUFACTURING COMPANY

WESTERN BRANCH, P. O. BOX 1328, LOS ANGELES, CAL. TEL. GLENDALE 529J

Long Life and Bare Feet.

One of our field agents sends in the following interesting note, from which the reader may draw his own conclusions: "I spent one night recently with Mr. Wm. M. Moss of Lewis, one of Mariposa's sturdy farmers, who has not failed for 47 years to go to the table three times a day and 'take nourishment.' He has been entertaining his father this fall from West Virginia. This makes his third visit in the past six years, and he is over 80 years old. In fact, he is one of nine children, all living but one, five of them between 80 and 88, all doing their own work. One of the sisters contends that children have no business wearing shoes until they are out of their nineties, and still goes barefoot."

To remove rust stains from linen, place in the sun and squeeze lemon juice over the stain. Repeat if necessary.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, December 12, 1917.

WHEAT.

The market for wheat continued unchanged, Government prices prevailing. While the Government estimates sacking charges at between 7c and 8c, the actual cost is nearer 18c.

(Federal Grain Corporation quotations for bulk grain. Sacked grain 7c per hundred more.)

Sonora wheat	$3.43
Northern Club	3.43
California Club	3.43
Northern Bluestem	3.50
Northern Red	None offering
Russian Red	None offering

BARLEY.

Barley showed an increase in quotations this week due to the prolonged dry spell. There is some dealing in this grain, but the market is not active.

Shipping, per ctl	$2.60@2.65
Brewing	2.60@2.65
Choice feed, per ctl	2.60@2.65

OATS.

White and red feed oats advanced in sympathy with the hay market and the shortage of forage in other States. There was no demand for seed oats, as the lack of rain is preventing the farmers from entering the market.

White Feed, per ctl	$2.75@2.80
Red Feed, per ctl	2.65@2.75
Red Seed, per ctl	3.10@3.25
Black Oats	3.00@3.50

BEANS.

The bean market showed a recession in many quotations and weakness all along the line. Prices, however, are still at a level that allows a profit to the grower. Dealers say that purchases for Government use are not as great as was the case a short time back. This is bound to affect the price, though perhaps at lower prices. There is no doubt that the entire crop will be sold.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl	$ 8.75@ 9.00
Blackeyes	8.00@ 8.25
Cranberry beans	11.75@11.90
Horse beans	5.75@ 6.00
Small whites (south)	11.75@12.00
Large whites	11.50@11.75
Limas (south, recleaned)	12.25@12.50
Pinks	7.70@ 7.90
Red kidneys	12.75@13.00
Mexican reds	8.50@ 8.75
Tepary beans	8.75@ 9.00
Garbanzos	7.50@ 7.75

CORN.

California corn is now coming into the market more freely and is selling readily at from $3.75 to $4.00.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	$4.00@4.10
California sacked	3.75@4.00
Milo maize	None offering
Egyptian	$3.20@3.25

HAY.

Arrivals of hay during the past week were only 712 tons. These light arrivals were occasioned by the stringent car situation, which is now worse. The markets for hay in this city and in Oakland have advanced under these light arrivals, showing a strong tone. Inquiry in the interior of the State is now becoming active and sales are being made daily at higher figures than are quoted in the city. California is decidedly short of rain and should have had a couple of inches to start pasturages during the month of November. December is now so well along that should rain fall the nights are so cold that the grass would probably not amount to much. The situation in the southwestern part of the United States, where the hay crop was nearly a failure, will doubtless necessitate bringing hay into these States to save the herds. California would probably be drawn upon for some of that hay, and already inquiry pointing in that direction has been made. The hay markets are high all over the United States. Advances in the local market seem reasonable.

Wheat, No. 1	$26.00@28.00
No. 2	23.00@25.00
Tame oats	27.00@27.50
Wild oats	22.00@24.00
Barley	24.00@26.00
Alfalfa	24.00@27.00
Stock hay	20.00@22.00
Straw, per bale	60@90c

FEEDSTUFFS.

Feedstuffs have not yet responded to the advance in the price of hay. If the dry spell continues another week an advance may be expected in some of the quotations. Tankage came into the market again this week and is quoted at from $75.00 to $80.00 per ton.

(Per ton, San Francisco.)

Beet pulp, per ton	None offering
Alfalfa meal, per ton	$31.00@32.00
Bran, per ton	41.00@42.00
Oilcake	None offering
Coconut cake or meal	$45.00@46.00
Cracked corn	85.00@86.00
Middlings	52.00@55.00
Rolled barley	53.00@54.00
Tankage	75.00@80.00
Rolled oats	59.00@60.00
Rice middlings	None offered
Rice bran	$32.00@35.00
Shorts	45.00@47.00

POTATOES, ONIONS, ETC.

The market for potatoes is dead and prices are unchanged except in the case of Salinas, which maintained their price last week in the face of a falling market. This week they receded 10c. The market for onions continues unchanged. They are moving very slowly and the supply exceeds the local demand. Los Angeles lettuce is beginning to arrive in this market and is quoted at $1.25 to $1.50 a crate.

Peas, large	Nominal
String beans, per lb	8@10c
Wax beans, per lb	8@10c
Hubbard squash, per sack	$1.00@1.25
Cucumbers (hothouse), per box	$2.00@2.25
Celery, per crate	$2.75@3.00
Lettuce, Sacramento, per crate	$1.50@2.00
do, Los Angeles, per crate	1.25@1.50
Tomatoes, per lug box	1.00@2.00
Potatoes, Salinas	3.00@3.15
Idahos	2.10@2.25
Oregon	2.10@2.30
Rivers, per ctl	2.00@2.20
Sweets, per lb	2¼@2½c
Onions, yellow, per sack	$1.85@2.00
Reds	None offering
Garlic, per lb	5½@6c
Turnips, per sack	$1.00@1.25

POULTRY.

The poultry market is firm all the way through, with higher prices quoted in most cases. The receipts are coming in in good quantities, but the demand is readily absorbing all the arrivals. Some shipments of Kansas poultry have arrived.

(Quotations are for stock sold on commission. Net returns to shippers are about 4c under quotations.)

Turkeys, live, per lb., young	27@28c
do, dressed	30@33c
Broilers, 1½ to 2 lbs	33@35c
do, 1¼ lbs	40@42c
do, under 1¼ lbs	40@42c
Fryers	29@30c
Hens, extra, per lb., colored	27c
small Leghorn	26c
Smooth young roosters, per lb. (3 lbs. and over)	27@28c
Old roosters, per lb	20c
Geese, per lb	20@22c
Squabs, per lb	43@45c
Ducks	20@22c
Old	20c
Belgian Hares (live)	20@21c

BUTTER.

Butter has shown a steady advance in price since last week's close. This is due to the light receipts and to the fact that there has been some shipping from this market to other States. A considerable shipment was also made to Honolulu this week. Butter is expected to continue strong for some time, and if dry weather continues it may make a material advance.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	43	44½	44½	45	45	45

EGGS.

The continued warm, dry weather has brought more eggs to this market than usual for this time of the year, and, added to a falling off in demand which always follows a holiday, the price showed a decided decline.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	52	49	48½	49	51	50½
Extra pullets	41	39½	38½	40	43	43½

CHEESE.

After a long period of unchanged quotations, cheese dropped off a half cent this week.

Y. A.'s	24½c
Fancy California Flats, per lb	22½
Monterey cheese	18@24c

FRESH FRUITS.

There were no features to the fresh fruit market this week, and prices remained firm and unchanged.

Casabas, per crate	50@75c
Pomegranates	$1.25@2.00
Persimmons	1.00@1.50
Grapes, Malaga, crate	1.00@1.25
do, Muscats, crate	1.00@1.25
do, Verdell	1.00@1.25

CITRUS FRUITS.

The demand for citrus fruits remains good and prices are unchanged. Navel oranges are coming in more freely. Tangerines were not quite so plentiful.

Oranges:	
Navels	$3.00@4.00
Valencias, fancy	3.50@3.75
Valencias, choice	2.25@3.00
Lemons:	
Fancy, per box	6.00@7.00
Choice	5.00@6.00
Standard	3.50@4.50
Lemonettes	2.50@3.00
Grapefruit, fancy, new	3.00@3.50
Tangerines	1.50@2.50

DRIED FRUITS.

The market for dried fruits is firm and somewhat higher prices are quoted on white figs and prunes. The Peach Growers' Association has disposed of all its stock and is not offering to deliver any more peaches.

(Net to growers, bulk basis, f. o. b. San Francisco.)

Apples, new crop	13½@14½c
Apricots, per lb	Nominal
Figs, black, 1917	Nominal
do, white, 1917	8½@11½c
Calimyrna, 1917	15½@16½c
Prunes, 4-size basis, 1917	6¾@8¼c
Pears	6½@11½c
Peaches, 1917	9½@10¾c

BERRIES.

The receipts of strawberries and raspberries continues remarkably good, for the season of the year and find ready sale. Quotations are unchanged.

Strawberries, Banners, chest	$8.00@ 9.00
Nicomas	9.00@10.00
Longworths	None
Blackberries, per chest	Nominal
Raspberries, per chest	$8.00@10.00
Gooseberries	None

HONEY.

This market has been stripped pretty bare of California honey through shipments to Europe and other less favorably situated States. As a consequence some honey is being imported from the East to take care of the local demand.

Comb—	
Water white	15@16c
Light amber	13@15c
Amber	11@13c
Extracted—	
Water white	Nominal
Light amber	13@15c
Amber	11@13c

RICE.

While the quotations for California rice are unchanged, the possibility of the growers getting together makes the market firm.

Paddy	$3.40@3.50
Clean Run No. 1 California	$6.50

HORSES.

Outside of purchases made for army supplies, there is not much doing in the horse market. There is always sale, however, at good prices for young heavy draft horses, which range from $250 to $300.

HIDES.

Hides are in somewhat better demand both here and in the East. Prices remain unchanged.

Cattle:	
Wet salted hides, per lb.—	
Steers and cows, all weights	19@20c
Bulls and stags	16@17c
Kip	22@23c
Veal and calf	25@26c
Damaged	6@12c
Horses:	
Wet salted, skinned to hoof:	
Extra large prime	$4.00@5.00
do, medium	4.00@4.00
Small	2.00@3.00
Colts	.50@1.00

WOOL.

The amount of business transacted in the local wool market at the present time is not heavy. Scattered lots are bought in at privately agreed on prices. These prices, however, are outside figures.

Fall clip:	
Humboldt and Mendocino	45 @52½c
Sacramento Valley	37½@40 c
San Joaquin	30 @35 c

Special Citrus Market Report

Shipments of citrus fruits from Southern California from November 1 to December 9: Oranges, 938 cars; lemons, 359 cars. From Central California from November 1 to December 7: Oranges, 1024 cars, and lemons 39 cars. From Northern California from November 1 to December 7: Oranges 89 cars and lemons none. With good receipts of Valencias and some new navels arriving in the East and the weather cold, the market lost tone. While there was fair trading, there was no life to the Eastern markets and Valencias ruled lower. Navels selling fairly. While the shipments from Southern California continue much heavier than a year ago, being made up of belated Valencias, shipments from Central and Northern California show a marked falling off. Taking the State as a whole, the total shipments from the State from November 1 have been 1000 cars lighter than the same time last year. With this showing, prices should hold up well for all desirable fruit. The approach of the Christmas holidays should also help the market. Locally there is no change since last week. Grapefruit is coming in more freely, and is slow of sale and weaker, packers paying 2½@3c per pound delivered. Lemons moving a little better, the best being bid for at 2½@3c per pound from growers delivered.

AUCTION SALES.

New York, December 10.—Twenty-nine cars of Valencias and one car of Navels and five cars of lemons were sold. Valencias lower. Lemons lower. Weather extremely cold. Valencias averaged $1.85 to $5.05. Navels averaged $3.90 to $4.70. Lemons averaged $4.00 to $5.95.

Boston, December 10.—Twelve cars sold. Market unchanged on Valencias; weaker on lemons. Valencias averaged $1.95 to $3.10. Lemons averaged $3.90 to $6.65.

Philadelphia, December 10.—Five cars sold. Market generally lower on account of the weather. Valencias averaged $2.10 to $3.10.

WILL NOT FIX MINIMUM PRICE ON RICE.

The price controversy between the rice growers and the millers of California has been pending for some time. The Rice Growers' Association has been contending for a minimum price of $4 a hundred for their product from the millers. Last Monday, at a hearing before Food Commissioner Ralph P. Merritt, it was definitely decided not to fix a price for rice to be paid by millers to producers. The former hold that $3.50 a hundred pounds will hold the market and give growers a reasonable profit.

LOS ANGELES.

Los Angeles, December 11, 1917.

BUTTER.

There was no especial life to the market the past week, though a fair consumptive demand was had for all extras. Receipts for the week, 256,000 pounds against 262,000 pounds same week last year. San Francisco and Los Angeles both advanced 3c on extras up to Monday. The recent shipments of Australian butter was absorbed by the trade without affecting prices. The market is strong.

There was no trading on call. For extras 46c was bid but no sellers.

We quote:

California fresh, extra	46c
do, prime, first	45c
do, first	[illegible]

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	43	43	45	45	46	46
1916—						
Extra	36	36	36	35	34	34

EGGS.

There was a further break in this market the past week. Receipts were light both by rail and truck, yet with cold storage withdrawals, the supply was equal to the demand. Arrivals by rail for the week were 610 cases. Each week is seeing a little increase in laying production, and dealers are only buying from hand to mouth. Extras and pullets declined 2c up to Monday. San Francisco for the same time lost 4½c on fresh extras, which had its influence. The Eastern markets are a little stronger.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	51	51	49	49	49	49
Case count	47	47	47	47	47	47
Pullets	45	45	43	43	43	42
1916—						
Case count	41	40	40	38	38	40

POULTRY.

While the receipts the past week were the largest for some time, the market held steady under the approaching Christmas demand. Several cars of Eastern poultry are in.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs	33@34c
Fryers, 2½ to 3 lbs	27c
Hens over 4 lbs.	25@26c
Hens under 4 lbs	21@22c
Ducks	22@23c
Geese	18c
Roosters, 3 lbs. up (soft bone)	25@26c
Turkeys, heavy, 12 lbs. and up	28@29c
Turkeys, light	26@27c
Squabs, live, per lb	35c
Dressed, per lb	45c

VEGETABLES.

A healthy demand was had the past week for all good fresh stuff. Potatoes unchanged, but slow sale. The same may be said of onions. Tomatoes are getting scarcer and a little higher. Cabbage dull but firm. Lima beans are firm and in fair demand and the same may be said of string beans. Bell peppers are a little higher and wanted, while Chiles are dull and unchanged. Sweet potatoes coming in less freely and higher. Celery steady but slow sale. Cauliflower in fair demand at old prices. Hubbard squash and pumpkins dull and weak.

We quote from growers:

Potatoes, Northern, per cwt	$1.75@2.00
do, local, per cwt	1.50@2.00
do, Idaho, per cwt	1.65@1.75
Onions, yellow, per cwt	1.75@2.00
do, White, per cwt	1.75@2.00
Garlic, per lb	3@4c
Tomatoes, per lug	40@75c
Cabbage, per 100 lbs	$1.25
Lima beans, per lb	7½@8½c
Bell peppers, per lb	5½@6½c
Chile peppers, per lb	3½@4c
Celery, per crate	$2.00@2.50
Eggplant, per lb	3@4c
Sweet potatoes, per cwt	$2.50@2.75
Cauliflower, per crate	1.50@1.75
Hubbard squash, per 100 lbs	1.00
Pumpkins, per 100 lbs	75c
String beans, per lb	6@6½c

FRUITS.

Apples continue to make up most of the offerings and are meeting with a fair demand at firm prices.

We quote from growers:

Apples—	
Bellefleur, 4-tier	$1.30
Jonathan, 4-tier	$1.75@1.90
Pears, per lb	4@6c
Local apples, per box	$1.00@1.15
Christmas melons, per lb	1½c
Japanese persimmons, per lb	3½@7c

WALNUTS.

All the good nuts have been marketed. Many culls, however, are still in the hands of growers and meet with a ready sale at 5c to 12c per pound.

Association prices:

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.90c
Jumbo	24c	17.50c
Culls	5@12c	.....

BEANS.

The consuming trade is buying from hand to mouth. Prices worked lower the past week on everything except blackeyes. A continued dull market is looked for until after the holidays.

We quote from growers:

Limas, per cwt	$11.50
Large white, per cwt	11.50
Small white, per cwt	11.50
Pinks, per cwt	8.00
Blackeyes, per cwt	7.50
Tepary	7.50

HAY.

There was quite a drop in the receipts the past week, and the market assumed a firmer tone. Buyers that a week ago held back are making fair purchases now.

We quote f. o. b. Los Angeles:

Barley hay, per ton	$25.00@26.00

Dairy Product Prices Below Cost of Production

[Written for Pacific Rural Press.]

"The market prices of dairy products are below the cost of production and I will prove it to you by your own figures," said J. M. Henderson, Jr., President of the California Dairymen's Association and owner of 200 cows, to about 200 dairymen in Modesto, December 7th. The figures on various items of cost were given from the audience, and they showed distinctly what dairymen are feeling, that they are losing money and their families are working for nothing. Mr. Henderson stated that a gain of $35 to $40 per cow had been made in his district by organization. Market Director Weinstock had already pointed out the great opportunity of supplying dairy animals and products to continental Europe where the herds have been devastated; but he pointed out that as individuals, the dairymen would be unable to seize the opportunity. F. H. Harvey, a life-long dairyman of Galt, quoted his own figures on the rise in costs of production and showed that prices of dairy products have risen very little proportionately.

The Federal Bureau of Markets, the State Market Director, the University of California, and the United States Food Administration have been asked by both the producers and the distributors to investigate. The last-named organization has undertaken direction of the work by appointing the following commission to investigate the costs and fix the prices to producers and consumers: Dean Thos. F. Hunt, University of California; C. C. Moore, president of the P.-P. I. E.; Dr. Adelaide Brown, San Francisco; M. T. Freitas, dairyman and attorney of Stockton, and E. A. Green, San Francisco milk distributor.

Oat hay, per ton	26.00@27.00
Alfalfa, northern, per ton	24.00@25.00
Alfalfa, local, per ton	25.00@26.00
Straw, per ton	9.00@10.00

COTTON.

The forepart of the week the cotton market in New York showed nervousness and weakness under conflicting reports from the South and the talk of the government fixing prices. With the opening of the current week, Monday, the New York market showed more life and strength and values made a net gain of 31 to 42 points. January closed at 28.88c. In New Orleans the spot market is holding up fairly well. Middling being quoted at 28.19c.

HIDES AND PELTS.

The market has become more or less demoralized the past week. All hides are dull and lower. Pelts firm and in good demand.

HIDES—Green Salted:	
Heavy steers, per lb	17c
Light steers, per lb	16c
Kips and calf skins, per lb	23c
Bulls and stags, per lb	14c
PELTS:	
California full wooled, per lb	25c
California medium wooled, per lb	16c
California short wooled, per lb	15c

Special Livestock Market Report

San Francisco, December 12, 1917.

CATTLE—The beef cattle market seems to be in an uncertain position these days, whether owing to the observance of meat-fasting days, civil and religious, or to other causes, is not quite clear. However, at the present writing, supplies appear somewhat in excess of demand, some lots of finished cattle ready for the market awaiting offers from buyers.

Steers—	
No. 1, weighing 900@1200 lbs.	9¼@9½c
No. 1, weighing 1200@1400 lbs.	9¼@9½c
Second quality	8¾@9 c
Thin undesirable	6 @8 c
Cows and Heifers—	
No. 1	7¼@7½c
Second quality	6¾@7 c
Common to thin	4 @6 c
Bulls and Stags—	
Good	5¾@6¼c
Fair	5 @5½c
Thin	4 @4½c
Calves—	
Lightweight	9 @9¼c
Medium	8¼@8½c
Heavy	7½@7¾c

SHEEP — The mutton market rules strong. Sheepmen are indifferent about selling, owing to the wool price situation, and while the consuming demand is limited, killers find it no easy task to meet requirements. Feeder stock is the main reliance. Prices paid are outside figures.

Lambs—	
Milk	15 @16 c
Sheep—	
Unshorn wethers	12 @12½c
Unshorn ewes	9½@10 c
Shorn sheep	1½@2c less

HOGS—Hogs were in good supply, and the condition was good. While most of the offerings were taken, slightly lower quotations prevailed.

100 to 150	14¼c
150 to 300	15¼@15½c
300 to 400	14¾@15c

Los Angeles, December 11, 1917.

CATTLE — The tone of the market is hardly so firm. While the receipts the past week were only fair, yet they were ample for the demand. A dull meat market and light consumption of beef, causing killers to restrict their operations more or less. What cattle coming in are mainly beet-top and hay-fed steers and in very good condition. Calves are dull and weak.

Per cwt., f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs.	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt.	8.00@9.00

HOGS—A very good run of hogs was had the past week and of good quality. While California furnished most of the supply, a few came in from Arizona. Killers were all in the market and wanted a few hogs, though they were not urgent buyers and the tone of the market was not so strong. Prices, however, are not quotably lower.

Heavy, averaging 250@300 lbs.	$13.00@14.00
Mixed, 200@250 lbs.	14.50@15.50
Light, 175@200 lbs.	14.50@15.50

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—Not many coming in, yet the arrivals are equal to the demand. Killers not wanting but few, but under scarcity prices continue steady and firm.

Per cwt., f. o. b. Los Angeles:

Prime wethers	$ 9.50@11.00
Prime ewes	10.50@11.00
Yearlings	10.50@11.50
Lambs	14.00@15.00

Portland, Dec. 10, 1917.

The receipts at the North Portland Yards were extremely light for the opening market this week, due probably to reports of labor troubles in the Sound cities and to general questionable conditions confronting the live stock market. We are delighted to report, however, that the salesmen in the Portland Yards got away at steady prices with a demand outreaching the receipts. Double the shipment would have gone without exhausting the demand on today's market at today's prices.

A number of buyers were in the yards today from outside points and were not able to get stuff to satisfy their demands. We anticipate a thorough clearing of conditions and an excellent call for finished stuff in all classes. Prices continued steady in every department in the market with the closing prices of the previous week. We quote as follows:

CATTLE—Medium to choice steers, $9.00 to $9.65; medium to good steers, $8.25 to $9.15; common to good steers, $6.75 to $7.90; choice cows and heifers, $6.65 to $7.50; common to good cows and heifers, $5.15 to $7.00; canners, $3.00 to $5.25; bulls, $4.50 to $6.75; calves, $7.00 to $9.50; stockers and feeders, $4.25 to $7.85.

HOGS—Prime light, $15.85 to $16.00; prime heavy, $15.85 to $16.00; pigs, $13.75 to $15.00; bulk, $15.85 to $16.00.

SHEEP—Western lambs, $13.00 to $13.50; Valley lambs, $12.50 to $13.00; yearlings, $12.00 to $12.50; wethers, $11.75 to $12.25; ewes, $8.00 to $10.00.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Nov. 6	32.66	41.41	33.00	42.00
" 13	32.80	40.83	33.00	41.33
" 20	35.25	40.83	35.66	42.22
" 27	36.00	42.70	....	....
Dec. 4	35.60	41.70	36.80	42.00
" 11	34.83	44.50	35.16	44.66

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Nov. 6	47.66	57.41	45.50	57.80
" 13	49.50	56.25	48.00	55.16
" 20	52.59	56.25	49.50	54.36
" 27	47.50	55.70	....	....
Dec. 4	45.10	52.70	45.40	52.16
" 11	40.25	50.00	45.50	49.66

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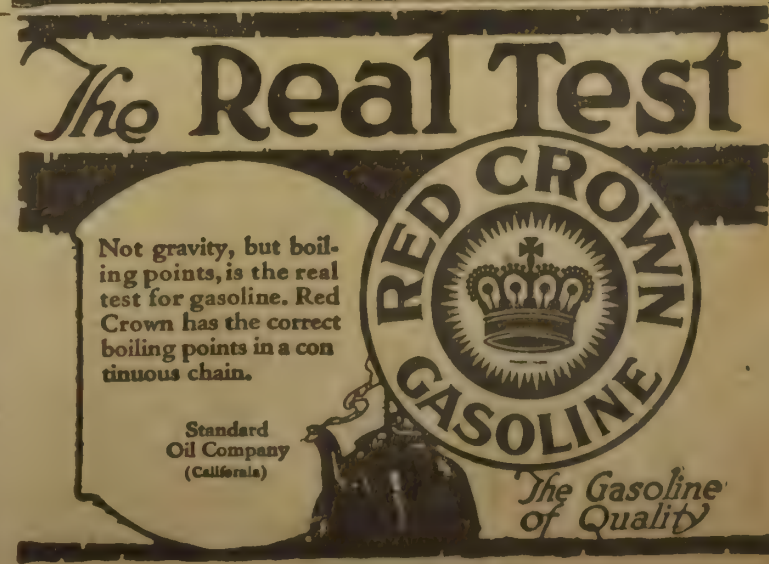

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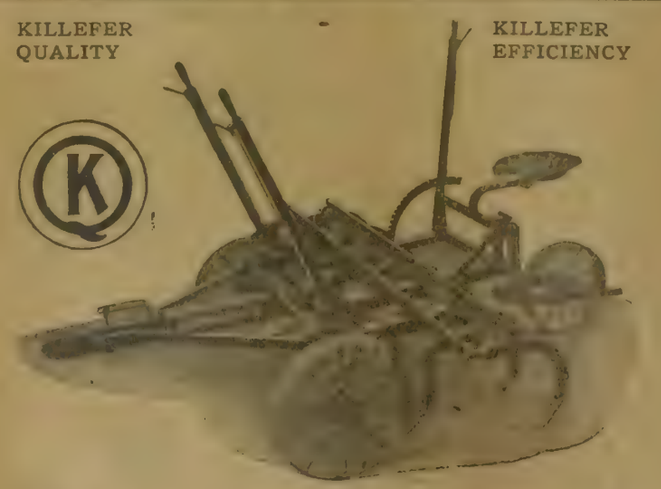

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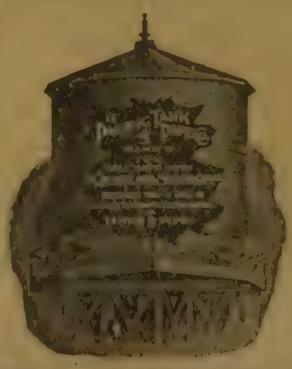

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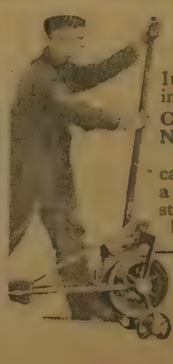

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Vol. XCIV—No. 25 THE PACIFIC RURAL PRESS Forty-seventh Year

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Poultry with Dairy Makes Optimists

Written for Pacific Rural Press

SOME TWENTY YEARS AGO J. NELSON came to Sacramento county without any money and went to work on a ranch for $20 per month. Four years ago the first of November he and his wife bought forty acres, including 200 White Leghorn hens. He leveled twenty acres, installed a $400 pumping outfit, and planted alfalfa. Cows were bought to provide a steady cash market for the hay. A system of daily bookkeeping on the cows and hens was established. The remaining land was planted to other general farm crops. One year seventy loads of oat hay were cut from fourteen acres that had been summer fallowed. They now have a dozen cows, 900 to 1,000 hens, good dairy and poultry buildings, and a commodious new home—the reward of thrift and hard work.

RECEIPTS FROM POULTRY AND DAIRY ON FORTY ACRES.

	Eggs	Cream and Milk
1916—		
November	3,182	$105.82
December	2,622	110.18
1917—		
January	5,689	115.49
February	8,335	92.00
March	10,230	81.21
April	8,614	69.92
May	5,962	48.22
June	6,341	33.22
July	5,362	75.22
August	4,442	125.72
September	1,666	176.98
October	2,874	126.63
Eggs sold for	$1,882.71	$1,160.61
Poultry	$166.81	Stock $165.00
Totals	$2,049.52	$1,325.61
Grand total income, 40 acres		$3,375.13

Have Done Their Own Work.

Mr. and Mrs. Nelson have done all the ranch work, poultry being the special interest of the latter. To reduce the dairy labor when farm work pressed hardest, as well as to have most milk when prices are highest, the cows have been bred so they were more nearly dry in summer and freshened from August through fall. Hay-making kept them both busy. Mr. Nelson cared for the cows early and late. He hauled as much as ten loads of manure in one day—eighty loads last season on one ten-acre field and forty this season before he was injured. The man hired then has found enough work to take care of cows and milk alone.

The cream checks have totaled a neat income besides the manure and stock increase and sales.

Alfalfa is never pastured except that the chickens have free run on it at all times. It is cut and fed fresh in stanchions through the growing season and as hay in winter. All skim milk from the cows has been fed to the chickens. This and alfalfa were neither figured in the cost of feed for poultry nor in the proceeds from the cows.

Poultry Experiences.

The Nelsons had never kept poultry until they took this place. The starveling hens were not used to the good and plenty of feed they were provided; and many of them died. Not an egg was laid from November until February. All but 25 of the old hens remaining in April were sold. Spring eggs from the old flock were hatched and Mrs. Nelson raised 80 pullets. During the first laying year these 80 pullets produced an average of $1.84 each.

The flock was increased, and, in the spring of 1916, 1,000 baby chicks were bought and raised in the cabin the Nelsons lived in at first. It was papered tight inside and no fire was needed for the chicks.

There were about 600 laying hens in November, 1916. About 600 pullets began their good work in January. The eggs sold for $1,882.71. Roosters and hens sold for $166.81, making the total poultry income for the year $2,049.52. Thirteen hundred baby chicks were bought and raised last spring. These and feed for the flock cost a total of $1,264.44, leaving $785.80 clear money from the poultry. In the week ending December 4, 1917, the eggs brought over $70. The week previous they had brought $100.70. Accounts were carefully kept.

Culling for Winter Layers.

In culling the flock, early molters were retained. Their egg production dropped during molting in September; but it came back in October and beat by five dozen per day a neighbor who had stock a month older but had culled out the early molters.

When layers get started early, says Mr. Nelson, they lay all winter. Just before beginning to lay, their combs get small, white, and drawn up. Then they come out plump and red all at once and eggs begin to come; and to keep them coming keep the fowl healthy and well fed.

Feeds and Care.

Besides free run on alfalfa and more or less skim milk, the hens have been fed wheat, corn, barley, and mash. Last year wheat cost $1.70 per cwt.; but no wheat has been fed in the past nine months. Milo and gyp corn have filled in; but the principal grain is whole barley soaked 24 hours. A lot of corn was bought in the head last spring. It molded but was fed without noticing the mold. The chickens showed effects at once. Four or five died and the rest stopped laying. All feed was withheld three or four days and the hens were required to drink a weak solution of bluestone in water. They began laying after two or three weeks. Chickens drink an awful lot of water in the summer time and must have it fresh in hot weather. Mites are troublesome unless treated right. This year there seems to be none in the old chicken house. Roosts and droppings boards were brushed every two weeks in hot weather with sheep dip boiled with a little soap. Mites got into the new house promptly; but three treatments practically cleaned out the last of them. Droppings boards are scraped off every morning in quick time and the manure placed where chickens will not get at it.

The combination of dairy-

(Continued on page 660.)

Poultry and cows are a good combination for a forty-acre ranch, where most of the feed for both can be grown and home labor can be depended on to do the work. Alfalfa is needed for both. Skim milk is needed for the chickens. The fertilizer from both is needed for the land.

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EDITORIALS

WHAT IS GETTING IN OUR STOCKING!

WE SAY it like that because that is the modern way of it. In normal times we would write: "What are we getting in our stocking?"—but now it is more of a question of what is getting us. And then it is quite interesting to see what is getting into our ankles, for it is becoming monotonous to get it all in the neck, as farmers have been doing for some time back in spite of all the well-intended and patriotic things which national administrators are trying to do to protect him and promote his production. And the farmers' current experience seems to be in a way an illustration of the way things are running in the world.

We have the world permeated by a great yearning among all peoples of which the proper expression is: "Glory to God in the highest and on earth peace, good will toward men." We have also, lurking in the shadow of a few tottering thrones, a devil of autocracy which has so inflamed a few with the lust of class privilege and domination that they hasten to perpetrate all conceivable outrages upon the soul and flesh of mankind in the vain hope of thwarting the manifest design of the Creator and perpetuating their ill-gotten gains. And in pursuit of this purpose this great-class devil is now sending little hireling devils to tempt, intimidate and pervert even those who have seen the Light of the World, by crying peace—when there can be no peace between the godlike and the devilish in mankind!

WHAT THE WORLD WILL GET IN ITS HOSIERY.

AND NOW, having established a bogus peace with Russia by lifting a bunch of hireling anarchists to a semblance of authority in that unfortunate country, and having dazzled the timid elsewhere by a great feint of force on other fronts, the demon of autocratic rule hopes to drive a bargain for its life by subtlety with the democratic powers which are now successfully advancing to liberate those who are enslaved by autocracy and to free the world forever from its oppression and aggression. The European cables are heavy with the dramatic furniture of what may be the last attempt of kaiserism to dupe the world. And how dramatic the arrangement and how stupid—unless it should be an honest declaration of intention to square itself with an outraged world, which no one has yet credited it with. The game seems to be to set up in the environment of Christmas, and when the Christian world is thinking most deeply of peace and good will, a covered statue labeled "Peace," of which there can be seen neither form nor lineament, and call upon the victims of autocracy and the pacifists of other nations to fall down and worship it. Of course, it is late in the day for such a trick to win much gratitude. Even the people of the central powers are losing much of their old admiration for the "peace propositions" of their rulers. On Monday one of their leading journals demanded "that the government tell the German people what it intended to communicate to Great Britain. When will it be realized," the paper asks, "that it is a great honor, instead of a disgrace, to strive with the enemy for a means for reconciliation with freedom and self-respect to end this insane human slaughter?"

But it is hardly likely that the central powers have as yet any strong desire to be open and fair with their own people or with any others. They never have been. Their course has been one of physical and moral outrages throughout and even their own subjects are demanding honesty and fairness, as they should. When they succeed in securing these things, Germany will be able to make the world a welcome Christmas gift of Peace.

HOW THE FARMER GETS DISAPPOINTMENT.

HOW, THEN, can the current experience of the farmers be an illustration of the disappointment which the world is likely to encounter if it dreams of peace to be made by the autocracies of central Europe? It is merely illustrative in method—not in degree nor purpose. Not in degree, for the farmer has only his share in the world's suffering; not in purpose, for the Government of this country has manifested a more direct and lofty purpose to protect the farmer and secure him fair return for his labor and investment than has ever been cherished so specifically by any government since the world began. But in working out these plans for patriotic service by food producers there has been hardship which, perhaps, could not have been foreseen, and there have been conditions arising which have not been sufficiently considered from the farmer's point of view and in accordance with his essential requirements. Possibly they could not have been avoided: possibly they cannot be immediately corrected. We shall know more about that, perhaps, when Congress secures more light upon the operation of its own attempts at beneficent legislation for patriotic purposes. We do not find farmers rebellious or complaining, but they have many sad facts of current experience which must limit their operations, though they patriotically desire to do otherwise. A few of them may be stated to show how they must automatically act in limiting producing efforts.

The regulation of trading in food products for which price was not fixed, while it may have guarded the consumer against much profiteering, has made it harder for the producer to realize money from a crop to pay his debts and start another crop. Our mails are heavy with inquiries such as this: "How can I get the money for my crop which your market quotations indicate that it should command?" It was probably not foreseen that the protection which was given the producer by authorizing him to hold his crop and forbidding a buyer to hold it, would work out practically as a prohibition from selling except at a great reduction to some profiteer who knew where he could make a quick turn with the stuff. Of course, if producers were organized in groups, each to handle a particular product, with warehousing and financing resources of its own, existing regulation would have worked with less hardship and more prospect of fair returns—but producers generally are not so organized and equipped and have to lose either to the quick-turn gambler or to the high rate money-lender what the consumer has perhaps saved—or perhaps not. In fact, it is not clear that the new method of regulation has benefited anybody except as it has made everybody practically wiser. As a promoter of production it is rather clear that a price which he could get would push the farmer faster than a price he can only talk about.

And price-fixing has not worked much better so far, though it may clear itself later. Unforeseen conditions have arisen which may explain matters but do not help a grower to pay his debts incurred to make the crop. We know of one case where a man paid two inspection fees on his wheat; blew in the cost of a follow-up trip to the city; could find no chance of delivery to the Government within three months, and went back home and sold to his local buyer for the price he refused to take before he started on his costly investigation tour. It was, perhaps, nobody's fault, but it was the grower's misfortune.

A CHRISTMAS SHORN OF SWEETS.

THE SUGAR situation is still fermenting across the whole face of the country, but manifestly it cannot produce alcohol, for the House of Representatives passes a national prohibition amendment as we write and the Senate is going the same way. Still sugar is fermenting just the same and one cannot see at the moment what will come out of it. We are giving much space to the exposition of the California growers' view of it. As we have said before, beet growers have never had their share of the value of the sugar product, and on the whole the sugar makers have also lost out probably—in fact, nearly lost their whole outfit to serve political purposes in 1913. The great aggravation about the present situation is that this year the beet growers either made little money or lost money, while the sugar makers made oodles of it. As the situation appeals to us, both beet growers and sugar makers had better let by-gones be by-gones and divide the profits which the gods allow in the future. It is the only way through which California can do her duty to the world's sugar supply. Unless something effective can be done for the labor supply, the factories cannot grow their own beets nor can large operators grow beets for them. The alternative is to grow beets on small areas by family labor and that will never be undertaken unless beets pay according to the labor they require. Small growers will chuck the crop unless they can live at it. They will grow things they can sell to better advantage, and that seems to be almost everything just now. For this year, at least, it seems to us that the factories should pay the price which the grower requires. They can afford to do that and take the chances. We have not much respect for the argument that the close of the war may break the sugar market during 1917 and therefore there is risk of over-paying for beets. It will take a lot more than a year to make this sour old world sweet again, even with the strongest effort toward that end.

WHY NOT EAT BEEF?

THERE IS quite a loud complaint from cattlemen that the efforts made to reduce meat-eating are lessening the demand for flesh-food which the growers thereof should have a chance to sell—especially as the lack of feed and high price of forage make it economically imperative for them to market what they can to save the rest. This growers' view is supported by the Government reports, which show an increase of frozen and cured beef in storage throughout the country in November, 1917, over that of a year previous, and this being the case the people ought to be allowed to go to eating beef more freely. Food Commissioner Ralph P. Merritt dissents from this view on the ground that the very purpose of the food administration is to secure a surplus, and that to turn people to eating it up would destroy the surplus and inflate prices. But one local trouble is that we have not on this coast the capacity to carry in storage all that stockmen should now be helped to market to protect themselves against losses and therefore we cannot hold a surplus, and there is perhaps no way to move our local surplus to Eastern storage. This is surely a matter to be carefully looked into, for no patriotic or other commendable purpose could be served by having cattle sacrificed as they were in 1897-8. It is both more merciful and economical to encourage our local people to eat up the stock than to force the owners to lose it, as they did in that unfortunate year.

MR. FORD WRITES A CAROL.

WE HAVE rather a serious turn this week—which, perhaps, befits the war situation and the lack of rain but makes naught for joy. If we should take up the question of reforming railroads by nationalizing the ownership of them, we might strike another kind of glum. Fortunately, however, we can escape it by noting Henry Ford's view of railroad wrongs which need reform and it is surely a new line of high crimes and misdemeanors. He says:

"For the last decade railroad presidents and even operating officials have been talking like their banker-managers about increases in freight rates and security values, instead of devoting their

thoughts and energies to eliminating waste and improving equipment.

"The freight car weighs as much as the load it carries. Generally it travels two-thirds full and comes back empty. Passenger trains weigh 50 to 150 times as much as the passengers in them. A Pullman car weighing 60,000 to 80,000 pounds averages less than two thousand pounds of passenger loads. Heavy cars require heavy engines, more coal, heavier bridges, greater strains in starting and stopping, and result in increased waste and depreciation.

"Four-fifths of a railroad's work today is hauling deadweight of its own wastefully heavy engines and cars. It is hard to figure out rates high enough on the 20 per cent of live load to cover the cost of hauling this enormous deadweight of 80 per cent around.

"Who would carry home 25 pounds of flour in a hundred-pound market basket? See how light and strong nature makes a bird's feathers and the spider's thread. It was never intended that man should make common steel low tensile strength. Nature has distributed alloy materials which, with heat treatment, makes steel of 150,000 or 200,000 pounds tensile strength instead of 50,000 pounds, and then the weight can be cut down proportionately.

"Constantly appealing for 15 per cent increases to protect stocks and bonds does not solve our transportation problem."

In short, Mr. Ford proposes to apply the law of gravity to national transportation. We do not know how such a train as he proposes would stick to the tracks nor what would happen if it didn't, but surely to shoot a lightning express of tinlizzies across the landscape would go far to silence the slander that we are not a musical nation!

NONSENSE ABOUT BEES.

IN AN Eastern State this declaration is officially published:

"Should war make it necessary this country could produce a large part of its sugar supply without planting an acre. It would merely be necessary to install upon waste lands and in vacant lots colonies of bees."

Of course honey sweetening can take the place of sugar sweetening and as people learn the desirability of honey much greater production can be profitably undertaken, but to proclaim that honey making is a haphazard business is worse than nonsense. As soon as bees are taken from a wild to a cultural condition they have to be fed, tended and protected quite as carefully and constantly as other kinds of livestock. Bees, left to themselves in waste country places, will perish if robbed of their stores for human uses, and bees on vacant lots in towns will drive away the human population until they are themselves raided by the police with the aid of the fire companies. Of course many more bees can be profitably kept in this country by those who know or will learn how to keep them, but to promote bees on the basis of the publication to which we refer is a fool job.

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Influence of Grafting on Fruit Size.

To the Editor: In 1914 I grafted two fifteen-year-old apricot trees and two fifteen-year-old prune trees with scions taken from a bearing Imperial prune. Both the apricot and prune stock have been bearing slightly for the last two years. The apricot stock produces prunes that average about ten or twelve green prunes to the pound, while the fruit on the prune stock averages about thirty to thirty-five. Before grafting, the two prune trees had always produced very small fruit, and I have been told by several orchardists that it is useless to graft such trees because their experience proves grafting will not improve the size of the fruit. I have always understood the scion and not the stock controlled the size and quality of the fruit. But this is evidently not always the case. As I have about one hundred trees I want to graft next March, I would like your opinion.—Subscriber, Santa Rosa.

It is of course an error to hold that a tree which naturally bears a small fruit will not produce a large fruit if grafted with scions of a large fruiting variety. It was to accomplish that result that grafting was resorted to thousands of years ago, and all propagation since that time has proceeded upon demonstration that with rare exceptions the character of the fruit is determined by the nature of the scion and not of the stock. If this were not so, our fruit interests could never have existed as we now find them. But size of fruit is determined by several conditions, viz.: nature of the wood which bears it, thrift of the root which supports that wood, number of specimens it is required to produce, soil, moisture supply, etc., and cultural operations. All that your experience indicates is that under the conditions prevailing the apricot has a stronger push for the Imperial than the prune has, which one might anticipate from its freer growth. And this suggests of course that if a tree bears small fruit because of unthrift through hardship it is not reasonable to expect that grafting will change the size, except perhaps of the first few specimens which may come while the graft is young.

Application of Lime.

To the Editor: How much lime should be put on land which is heavy and inclined to be sour, and how applied?—J. C. N., Nevada City.

Applications of lime vary from 500 per acre to a ton. The smaller doses can be repeated several times at one-year intervals and stopped as results become apparent. The time to apply is in the early part of the rainy season. If the lime is powdered, it can be applied with the fertilizer attachment to a grain drill or with a special lime spreader which is fitted to apply more per acre at once over. In small limings it can be spread by throwing to leeward with a shovel from a wagon. Rock lime may be dropped in piles of about 100 pounds, the piles 50 feet apart each way; give about a ton to the acre. As the lime is slaked by a light rain and dries quickly, it can be then spread with a shovel. Of course you will protect your boots and your horses' feet from too much quick lime.

No Easy Way With the Cucumber Beetle.

To the Editor: Please tell me if there is any contact spray which will get the young of the cucumber beetle or squash bug. I planted Hubbard squash on part of my place last year and the bugs about cleaned them out. I want to plant most of my place to cantaloupes the coming season. The one thing that deters me is the cucumber beetle, and I wish to know how to get him in all his stages. Do you think it is desirable to tackle melons the year following a scourge of this pest on squashes?—R. C. P., Ripon.

We suppose you refer to the black-spotted, light green beetle (diabrotica) often called the "green lady bug," because it is about the same size. If this is what you mean, we grieve to tell you that you cannot get the eggs or the larvae by spraying, because the eggs are laid on the stems of plants just below the ground surface, and the larvae feed on the roots of many plants—only the mature beetle appearing above ground. You have therefore only one chance, and that is by poisoning the foliage with an arsenical as soon as the beetles appear. Six pounds of lead arsenate added to 100 gallons of Bordeaux mixture has the best reputation as a dose for this pest. It is, however, also true that for some reason unknown this insect does not always appear in large numbers year after year. You may have a scourge one year and many less the year following, etc. There is then a chance that they may not greatly trouble you during the coming summer. It is supposed that some natural enemy checks its multiplication by attacking the pest in some of its stages.

Ashes for Pear-Root Aphis.

To the Editor: I am told to make a bowl several inches deep around each pear tree and put therein several pounds of ashes. This is supposed to help keep the pear aphis away or kill it, and also to act as a good fertilizer for the tree. I have grape vine ashes. Is there any danger of hurting the tree from this potash which the ashes contains? We are bothered here with aphis.—Subscriber, Concord.

This is a very old prescription for woolly aphis of the apple and the root aphis of the pear is practically the same beast. We have reduced the insect to a negligible quantity on our own apple trees and repeat the application every few years. We have used a five-gallon oil can full of fresh ashes on a full grown apple tree without injury. Application must be made in the rainy season to leach the potash to the root crown and main roots. We have no idea that it will keep the aphis away, for he is not likely to arrive when the caustic is active, but it will kill all the old settlers it reaches. Of course on small trees one should not use fresh ashes too freely.

Fertilizing Potatoes.

To the Editor: What kind and how much commercial fertilizer will give the best results for potatoes?—J. C. N., Grass Valley.

We have in earlier issues given many accounts of what our readers have actually used in the descriptions we have published of their methods. Perhaps you will be best served by Prof. Gilmore's generalization of the subject from a California point of view, as follows: "The benefits from fertilizers depend upon several factors, prominent among which may be mentioned the type and character of the soil and the amount of moisture available. In general, where fertilizers are desirable a mixture containing 2 to 3 per cent of nitrogen, 6 to 8 per cent of phosphoric acid, and 8 to 10 per cent of potash will probably give good results. A mixture of forty pounds of sulfate of ammonia, 120 pounds of superphosphate and eighty pounds of sulfate of potash per acre will be sufficient for all but very light soils. The mixture should be applied in the furrow and stirred in the soil before planting."

Wait Awhile with Zinfandels.

To the Editor: I have a patch of Zinfandel wine grapes which I am thinking of taking out and want your opinion as to whether it is the thing to do or not. If the State is going dry next year, I want to pull them out now.—Reader, Yuba City.

As it is a matter of business, not of conscience, with you, we advise you not to hurry about pulling up the vines if they are bearing and selling well. The amendment now prepared to come up in this State at the next general election will not prevent wine making. The prohibition amendment now passing Congress cannot be voted upon until the Legislature meets in 1919, and will not be in effect for some time afterwards, even if it carries a sufficient number of States.

California Willows.

To the Editor: I would like to know which willow is best to plant on river banks—the "white willow," or is there any other?—B. G., Stockton.

In his great work, "The Silva of California," Dr. Jepson says there are seventeen willows which are found either as trees or shrubs in this State, but of the white willow (Salix lasiolepsis) he says: "It grows on the banks of living streams in valleys and canyons and also follows the winter flood-streams into the foothills, where it is the common and often the only willow on summer-dry arroyos." This natural habit of the species might be taken as an indication that it is the best there is to thrive both in flood and on summer-dry banks.

How Much to Plow in a Day?

To the Editor: How much of the average farm land should a man and pair of horses be able to plow in a day?—Reader, Nevada City.

It depends upon the man, the size and action of the horses, the character of the land and the depth of the plowing. If you average all these factors, the expectation might be about one and one-half acres per day.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., December 17, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.24	7.50	13.76	64	38
Red Bluff	.22	2.12	8.08	66	34
Sacramento	.04	.80	5.43	64	36
San Francisco	.05	.88	6.15	68	48
San Jose	...	.95	4.59	68	34
Fresno	...	.39	2.79	64	34
San Luis Obispo	...	.57	4.66	74	32
Los Angeles	...	.42	3.62	86	46
San Diego	...	.25	2.18	74	44

If We Are to Grow Wheat, How?

Written for Pacific Rural Press

THERE are two great classes of wheat growing in California, requiring different cultural conditions, and yielding different conclusions regarding the financial profit in this cereal. Where wheat is irrigated in the great central valleys of California, there is an optimistic feeling due to large annual crops. Where irrigation is not practiced, the crop yield is generally smaller and it comes only once in two years. Only on irrigated or subirrigated grain fields can alternate years of summer fallow be avoided; and on these lands the danger of rust is a deterrent. Wheat growers whose views were recently published regarding the justification for increased wheat acreage also gave their views as to the best practices, generally as followed by themselves. We add experiences of others also.

PLOW, IRRIGATE, DISK, AND SEED.

J. F. Michell, Kings county: Crop every year in Tulare Lake bottom, where land is a silt that cracks open in summer but gets mellow. The lightest land is best for wheat. Is trying two systems this year, one of which is to irrigate first, then plow, harrow, and drill the seed. The preferable way is to plow, irrigate, disk, and seed. Some people plant dry and irrigate to bring the grain up if rain does not come. It is possible to plant late here, as Mr. Michell has planted in May where the lake was receding. In 1907 he planted 65 pounds of seed per acre, April 1, after water receded, and got 12 sacks per acre, weighing 140 pounds per sack, from 560 acres. The crop was ready to haul August 1. Late in November, 1917, he was seeding 50 pounds per acre, but more is needed later. Fall irrigation is obtained by pumping over the levees from the excavations, which are kept clear and furnish water fourteen miles from the open lake. Water wheels have lately been installed to throw water over the levees much faster and cheaper than pumps. Spring irrigation is by gravity and siphons.

FAILED ON UNFALLOWED LAND.

Wheat grower, western Merced county: Had 1,000 acres last year on upland not cultivated for several years and not summer fallowed. It was cracked adobe. The yield was about five sacks per acre of shriveled wheat. Not enough moisture where ground was not cultivated the previous season.

BOTTOM LAND TOO MOIST.

Grower, western Stanislaus county: Wheat does best on upland. Seldom grown in the bottoms, where there is too much moisture in the spring, and rust stunts the plants and shrivels the grain.

EARLY IRRIGATION PREFERRED.

J. J. Granville, western Fresno county: Has 400 acres in 1917 for wheat. Not much rain expected. Depends on fall irrigation to supplement rains. Late irrigation in January and February, after the grain is up would start wild oats and weeds, which seem to be at home here.

Fitzwilliam Ranch, western Fresno county: Begin irrigating in August and plow soon as ground is ready. Have 1,500 acres able to be irrigated; but not all would have required irrigation if rains had come early.

DEEP PLOWING AND HEAVY ROLLING.

Liberty Farms, Kings county: Have planted 11,000 acres of wheat and 7,500 barley on newly reclaimed land. Some 12,000 acres which had been plowed in the usual way were disked early in the fall and plowed six to eight inches deep, then disked and rolled with 4,500-pound rollers to firm the seedbed. Seeding was done between November 15 and December 15. Much of the area is to be rolled again after seeding because of lack of rains to pack dirt close around the seed. Right after harvesting the fields will be randalled and plowed for the next crop.

DEEP PLOWING PERMITS ANNUAL CROPS.

Lou Ulrich, Yolo county: Stubble is and should be burned before plowing. Mr. Ulrich has seen it lie two or three years without rotting. Summer fallows practically all of grain land. Soil, which is adobe, mellows so it harrows easily after lying rough all summer. Finished dry-plowing 100 acres early in November, 12 to 16 inches deep, with a tractor, following the example of a neighbor, who has done this three years and obtained good annual crops.

Good harvests of wheat depend largely on good seedbed preparation and early seeding.

NO DEEP PLOWING FOR WINTER SOWING.

George W. Pierce, Yolo county: Formerly grew much wheat but only a little now. Mild winters here are such that no crop is obtained if stubble is plowed under and there is little rain. It decays all right if plowed under deeply for summer fallow. Deep plowing for winter sowing leaves ground so loose that it dries to the depth of the plowing, especially in a dry spring. The practice used to be to work summer fallow down in the spring; but of late years it is left rough all summer to aerate. This loses moisture, but improves physical condition of the soil.

NO PLOWING AT ALL.

Perry Anderson & Sons, Solano county: Very seldom is a field in the Montezuma hills planted to wheat without fallowing. No work is done until rains come. The hills are all planted to wheat; but it does not thrive in the bottoms, which are too moist. In the hills, after first rains, wild oats, etc., are allowed to sprout and are cultivated under. Wheat is then broadcasted and cultivated in. After this, next year's summer fallow is prepared. Not often is any of the land plowed. It is cultivated two to four inches deep to get rid of foul growth, using standard (narrow shovel) cultivators. This has been found better than plowing and leaving it, as usually done, rough all summer. The cultivation, exposing less surface, saves more moisture. Harrows are sometimes hitched behind the cultivators, for soil in the hills does not run together when smoothed down before the rains, as it does on the bottom. Pastured fields are cultivated right after first rain, sometimes twice, then sown and cultivated or harrowed.

HEAVY SEEDING ON PLOWED FALLOW.

Archie McCormack, Solano county: Ground ought to be plowed deep about once in seven years and only cultivated between times. Mr. McCormack uses a cultivator about 7 feet wide, having 13 shovels. This goes about 4 inches deep. It makes a better seedbed than plowing—it leaves the seedbed pulverized and not so open; retains moisture better because plowing is usually left rough all summer; reason unknown. To summer fallow, cultivate early in spring and again in May.

WHEAT $90 PER ACRE.

A 110-acre field of wheat made $90 gross per acre in 1917. It was plowed to a good depth in April, 1916, left rough until fall, then harrowed with a spike-tooth before fall rains, and broadcasted dry with about 120 pounds of Club wheat seed per acre. It was harrowed at once about November 1 to cover the seed. The soil is a mixture of sandy loam and adobe, which cracks and mellows in the summer sun. The crop was sold at 4c per pound to the Shredded Wheat Co. at Oakland, who bought a total of 5,000 sacks from Mr. McCormack last summer.

SEED EARLY, THEN PREPARE FALLOW.

Wheat grower, Montezuma hills, Solano county: Club is the principal variety in the hills because it does not shatter so much in the strong winds which prevail during summer. The adobe soil is often underlaid by sandy clay, which is dead but which would be turned up by deep plowing. Stubble is always burned (winrows from the harvester are about all that usually burn) because it will not rot for several years. Seed is generally put in after the first rains and then preparation for summer fallow continues all winter whenever suitable. When weather is such that not all the fields can be finished, the unprepared fields must be left an additional year. Then the next crop is usually larger than if it had been grown in the alternate year.

OFFICIAL ACTION ON FARM LABOR SUPPLY.

[By State Horticultural Commissioner G. H. Hecke.]

Commissioner Hecke issued the following statement:

"No more important question is before the people of California today than that of farm labor supply. The farmers must do their part in feeding our allies and in keeping down the cost of foodstuffs to the consumer at home, and therefore they must be given a dependable supply of labor to harvest greatly increased acreage. The testimony of the best informed farmers in the State is to the effect that without additional labor the 1918 crop will fall below the production of 1917. For this reason the farmers and fruit growers at the fiftieth Fruit Growers' Convention instructed me to appoint a labor committee which would take up with the State and Government authorities this vital question of a labor supply. This committee has been appointed after mature deliberation and consultation with the various farming interests of the State, and I feel certain that no better committee could be selected at this time, nor one that would be surer of getting results. The organized farming interests of the State are squarely behind this committee, which will meet immediately and plan to co-operate with other organizations in solving our problem.

LABOR COMMITTEE.

F. B. McKevitt—Farmer and fruit grower, president California Fruit Distributors, Sacramento, Cal.

Frank Wilson—Fruit grower and vineyardist, president California Peach Growers' Association, Dinuba, Tulare county.

Senator P. F. Cogswell—Citrus and walnut grower, director California Walnut Growers' Association, El Monte, Los Angeles, Cal.

George W. Pierce—Fruit grower and farmer, president California Almond Growers' Association, Davis, Yolo county.

C. C. Dunlap—Fruit grower and secretary Prune and Apricot Growers' Association.

R. C. Merryman—Citrus grower and director California Fruit Growers' Exchange, Exeter, Tulare county.

George C. Roeding—Fruit grower and vineyardist, president Fancher Creek Nursery Co., Fresno, Fresno county.

George W. Whitman—Fruit grower and farmer, director California Pear Growers' Association, Concord, Contra Costa county.

C. C. Chapman—Citrus grower, Placentia, Orange county.

ALFALFA RENOVATOR.

To the Editor: What implement has proved itself the best alfalfa renovator? My alfalfa is about seven years old, with some foxtail coming in, and the land gets pretty hard in places.—P. W. R., Gonzales.

The best we know is a spring-tooth cultivator type with the points tapered six to eight inches and rather sharp in front. A blacksmith can fix this if you cannot get a satisfactory implement from our advertisers.

How the Finest Peaches are Grown

Written for Pacific Rural Press

"THE FINEST large lot of peaches we receive—the best size, color, shape, and uniformity," is the way Dr. C. W. Evans' fruit was characterized by W. R. Hamilton of the Pratt-Low Preserving Co. at Modesto. We asked Dr. Evans how he got such fine fruit and how much of it. He has 180 acres in peaches. The bearing part consists of 30 acres of seven-year Tuscans, 20 acres of eight-year Muirs, 20 of Lovells, and 20 of Phillips the same age. Forty-five acres of Phillips and 45 of Tuscans are now three years old. The whole orchard is as uniform in stand as could be found and Mr. Evans proposes to plant 100 acres more. Forty acres of apricots and 25 of plums were planted last year.

"The future looks good," said J. A. Evans, the doctor's son, who only a year ago became convinced that it was worth his while as a college graduate to spend his time on peaches.

HIGH PRICE IN BAD YEAR.

During the hard year, when peaches could scarcely be sold at the canneries for $8 per ton, the Evans crop, being contracted, brought $25 per ton and there was no quibbling as to quality. Manager Crane of the cannery was enthusiastic in commending the quality and size.

HEAVY YIELDS OF NO. 1'S.

Last year the Phillips averaged 12¾ tons per acre; and the whole 90 acres in bearing averaged over ten tons. The year before, the whole 90 acres averaged over eight tons. Of the Tuscans last year, 353,638 pounds were No. 1 and 43,296 pounds No. 2. Of the Phillips, 481,173 pounds were No. 1 and 27,384 No. 2. Lovells to the cannery totaled 473,093 pounds, and Muirs 222,323 pounds. No No. 2 freestones were sold. Muirs ripened so quickly all at once that about 100 tons became too ripe for the cannery and were dried.

SPRAYING AND THINNING.

A good bit of credit for the high percentage of No. 1 sizes is due to the work of 20 men six weeks thinning off five-sixths of the fruit when about half grown. The No. 1 quality was due to the excellent thrift of the trees and absence of disease. Twice a year they are sprayed. As Bordeaux was too expensive last season, lime sulphur was applied, starting about December 1, and seemed as effective as Bordeaux had in previous years. The late fall in 1917 will permit spraying late into December for blight. The second spraying, also with lime-sulphur 20 to 1 was applied when the buds were swelling and showing a little red. Evidently this controlled curl leaf, for the Evans orchard was free from this trouble though orchards all around were affected. Some of the neighboring orchards were sprayed by man power, which may account for their troubles. Man power sprayers usually do not keep the pressure up to the 175 or 200 pounds which is necessary. "Red spider" has not troubled the Evans orchard.

PLENTY OF IRRIGATION.

The doctor says there is no question that much of the thrift of his orchard is due to never allowing the trees to suffer for water. It is checked off with high levees, which are flooded full four or five times per season. The first water comes late in February or in early March. The last water available is in July or August. It has to be used when available. The Muirs were watered a week before picking, and no difference in quality for drying or canning was observed. The trees were irrigated last year while in full bloom, though fruit men said this would ruin the crop. It did not.

ALFALFA PRECEDED PEACHES.

The field was in alfalfa eight or ten years before it was plowed up to plant trees. Manure is scattered when it is available. No commercial fertilizer has been used, "though we may come to it," says the doctor. Vetch for a cover crop was planted this fall, depending on rain to sprout it.

PLOWING AND CULTIVATION.

Heretofore, the orchard has been plowed once in winter after vegetation started, and again in early spring; not over four inches deep in winter, and shallower the second time. Winter plowing reduces the humus that might be obtained, and of course cannot be done with the cover crop. Cultivation follows every irrigation.

Spraying now and in the spring and pruning as late as practicable are the operations requiring next attention in order to raise high quality peaches for the next fruit harvest.

PRUNING IS MOSTLY THINNING.

Pruning is done by the day, the same Japanese having been employed for several years. It was hard to prevent them from clipping back the new growth; and even now they do it occasionally. The aim is to thin out enough wood to let sunshine well to the center; but leave the limbs nicely clothed with fruit brush to prevent sunburn and place the crop as low as possible. Too much has evidently been cut from the tops, for especially among the Tuscans considerable sunburn was observed high up, though the low-headed trunks look healthy all through. It seems harder to keep plenty of small brush in the Tuscans than in the Muirs, which are well supplied.

GOOD BOARD ATTRACTS HELP.

Labor has not proved much of a problem with Dr. Evans heretofore. Five or six Japanese stay with him all the time and employ extra help when needed. White help is used when available. Neighbor girls cut fruit for drying.

At one time over 60 men were employed. It seemed easy to run down the street in town and pick up men when they were needed. One time, when other ranchers were offering $3.50 per day for help in field crops, the doctor needed 20 men. He followed others down the street who were failing to get help and picked up three auto loads at $2 per day and board. Mrs. Evans is held responsible for the ease of getting help, for she has charge of the dining room; and she feeds them well.

INCREASED SIZE BY FERTILIZATION.

Lime and fertilization increased the size of small peaches and crop for Adolph Schnabel & Son of Placer county the first season after the first application. Low spots in the orchard were sour; and that is where the lime was put—five or six tons per acre. Each of the past two years Messrs. Schnabel have shipped in six or eight carloads of manure. In these seasons potash had to be omitted from the commercial fertilizer which had been applied containing about 32 per cent nitrogen, 8 per cent phosphoric acid, and 10 per cent potash. Nitrate of soda at $75 per ton was applied last spring. The harder, thriftier wood and buds that resulted from liberal fertilization are also believed to be more frost resistant than before. Bur clover has also been successfully sowed for green fertilizer after manuring spots where it had refused to come.

SPRAYING, PRUNING, AND VETCH.

Cutter Bros. of Sacramento county used to get alternate heavy and light crops on their Tuscans, Phillips, and Levis, but are now getting more nearly a normal 14 to 15 tons every year of better peaches by pruning out fruit wood so the trees will not be taxed heavy enough to prevent new fruit wood and buds becoming strong enough to set and hold fruit the next season. The amount to be left must be judged by the vigor of the tree the past season and its crop. Vetch cover crops have helped supply vigor the past two years. Ever since they have sprayed in the fall before much winter rain, they have had peach crops, according to E. G. Cutter.

BIG PEACHES FOR DRYING.

The development of an unexpectedly strong market for peeled peaches will result in an increasingly greater premium for well-cured, large dried peaches, according to Sales Manager A. J. Sturtevant, Jr., of the California Peach Growers, Inc. It has been demonstrated that the consuming public will pay a premium of several cents per pound after the fuzz has been removed. The organization has control of a patented peeling device and is equipping plants of large capacity. The question now is, "Can we secure dried Muirs suitable for peeling?"

"Go to work at once," says Mr. Sturtevant. "Spray this fall. The Association will furnish materials at minimum cost. Thin the fruit next spring and pick by hand. It will pay in dollars."

PEAR SCAB EXPERIENCES.

[By Claude Van Dyke, County Horticultural Commissioner, Ukiah, Cal.]

If the pear grower, who is harrowed and wrought to anger by the ravages of pear scab, is to be permitted to rest and completely forget this invader during any time of the year, it should be during the present month (October). But as the pear growers, generally, are in a splendid mood for punishment at this time I shall again revive the worn subject and relate a few conclusions at which the producers of this section have arrived. These conclusions are based upon observations made during the past three years, the first two of which were very favorable to scab production.

Our orchards, when properly sprayed to control scab, need no dormant or early winter spraying. It is found that after the trees have been sprayed and resprayed several times with fungicides and insecticides which go to complete the scab campaign, a timid little pernicious scale will never get settled nor will a particle of moss get started. Likewise a fall spraying is of no value in preventing the attack of the disease the following spring. I make this statement since it has proved to be impossible to eradicate the spores of the fungus entirely and work done during early winter must simply be repeated later. It is more economical then to save the material and energy for the spring drive which starts with the growing season.

All available materials in the nature of spray combinations, including commercial preparations with both sulphur and copper sulphate as basic ingredients, have been tried. In the successive use of these the unusual has happened. Instead of each grower finding some different material with which he had satisfactory results, practically all combinations were discarded as unsatisfactory and the survivors were lime-sulphur and Bordeaux mixture.

In this county the past three years have marked the decline in popularity of the copper sulphate and lime combination, and the increasing favor of the lime-sulphur solution. There are several factors which augment the growing favor of the latter aside from its fungicidal value. It is less expensive, simpler to prepare and easier to apply. It is generally conceded, however, that there is a greater chance of "burning" through its use than through the use of the Bordeaux mixture. From the comparative percentages of clean fruit resulting from the use of these two fungicides the writer is unable to say one is more effective than the other. There is apparently no choice.

Pruning Young Apricot Trees in San Benito

[By Leonard H. Day, County Horticultural Commissioner, Hollister, Cal.]

The ideal tree which most apricot growers here have in mind is a tree branching near the ground and spreading gradually with a more or less open center, filled in by some branches higher up from the ground, the tree being held in to a height of 12 to 14 feet by heavy annual cutting back as soon as it reaches mature size. This ideal form has no doubt arisen from the necessities of climate and economy in picking fruit. The more or less open center seems to be necessary to admit light enough to mature a proper amount of stocky fruit wood, spurs and buds, and to sweeten the fruit. Of more recent years the brown rot disease (Sclerotinia fructigena) has become quite prevalent. This fungus attacks more readily the less sweet, slow-maturing, shaded fruits.

Perhaps the greatest diversity of pruning practice has been in regard to (1) amount of top removed each year, (2) number of main branches retained, (3) summer pruning, and (4) attention to developing strong, fruit-bearing laterals and spurs. In regard to the amount of top removed each winter a very prevalent idea has been that heavy cutting back must be done to develop stocky main branches, the contention being that "long pruning" would develop slender main branches and trunk, and encourage such heavy bearing as to exhaust the inherent strength of the tree while it is young. The fruit spurs, it was thought, would be weakly in the lower parts of the tree and the fruit-bearing be largely relegated, within a few years, to the outer and upper parts of the tree. Many have taken this heavy cutting idea too seriously and cut back the young trees so short as to dwarf the growth temporarily and postpone the bearing a year or so. Trees cut too short run wildly to wood—lower growths which otherwise would have been fruiting laterals become large "suckers."

In direct contrast to this practice several growers have not topped their trees except when they were planted. One of these orchards is over twenty years old, and has been a very profitable orchard. The trees bear plenty of fruit in the lower parts as well as the tops, but they are very high, so that picking is relatively expensive. This same grower has 700 trees planted and topped in the spring of 1912. These have not been topped since but thinned out to a few main branches. This summer, during its fifth season's growth, it produced four 40-pound boxes of apricots per tree. Thinning of fruit was necessary in the spring, and all forming fruits knocked off the ends of the long unpruned branches to prevent breakage. The trunks and main branches of these trees are very large in girth measure for trees of this age. He does not summer prune.

Another orchardist headed the trees low in the spring of 1911, and thereafter thinned to a few main branches and merely removed the slender tops of these trees each winter—possibly one-fifth or one-fourth of the previous summer's growth. No summer "suckering" was practiced. He also materially increases the fruit-bearing capacity of the trees by retaining and encouraging many horizontal branches which grow outward just above the height of a man's head. A lateral growth, suckerous or otherwise, is selected and pruned back each winter to two feet or so until a fruiting branch five or six feet, or more, long and an inch or so in diameter is developed. I have observed in many orchards that branches of this sort, more or less horizontal, are very heavy bearers. Another practice carried out in this orchard is a similar treatment of smaller growths throughout the tree to encourage stocky, fruiting branches beset with fruit spurs and buds. This method consistently followed should retain indefinitely a large fruiting area in the lower parts of these trees, as I have observed in some older orchards thus treated. Smaller spurs may succumb, but these will persist. Even suckerous growths can in this manner be converted into fruit-bearing branches if necessary. The above orchard began bearing bountifully during the fourth season's growth. The trunk and main branches of these trees are greater in girth measure than other trees of the same age in this district. The height and spread of branches is also unsurpassed.

Another grower has adopted a long-pruning method, but in this case too many main branches were retained and rigorous summer pruning practiced, with the result that the main branches are relatively slender and the interior of the tree too much shaded.

Summer pruning to remove the suckerous growths in the lower parts of the tree some consider essential, others do not. My observations and experiments lead me to believe that trees trained under the summer pruning regime are not as stocky at bearing age as those not so treated. In my experiments trees not given this early summer pruning showed, in the following autumn, greater diameter of trunk and main branches, but shorter growth than did the trees not so pruned. This reduction of foliage by early summer pruning also prevents the root from growing to its utmost, so that the tree has less root to push growth with the following spring, while soil and climatic conditions are most favorable to growth. In the nursery row I have seen a striking difference in size of root system between trees summer pruned and those not so pruned, and also between roots grafted to slow-growing tops, such as the prune, and those grafted to rank-growing tops, such as the apricot. In my judgment a late summer suckering about the time the moisture supply is becoming short—when the terminal growth is stopping and terminal buds forming—would usually be the more reasonable procedure. Even those occasional immense "suckers" probably add so much to the sap-carrying capacity of the branch it is "robbing" as to justify its retention until late summer.

In conclusion, the writer would suggest to growers in San Benito county a longer pruning system in developing young apricot orchards than has usually been practiced, coupled with a studious attention to detail of securing the usual ideal shape with center not filled so dense, and the development of stocky fruiting wood throughout the lower parts of the tree. The early returns secured by this method should be especially helpful to the beginner who is working on limited capital.

SAVES LABOR IN PRUNING.

[Written for Pacific Rural Press.]

A man can prune three trees by simply thinning out, in the same time he could prune two trees by the usual system of clipping back new wood, says O. Persson, who handles 400 acres of fruit in Merced county.

CORY'S
Thornless
BLACKBERRY
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Olive Possibilities in Yuba County

[By G. W. Harney, County Horticultural Commissioner, Marysville, Cal.]

There are at least fifteen thousand acres of land suitable for the culture of the olive in Yuba county. By suitable I mean land that has been tested, land that needs but little preparation for planting, and land that carries, from 30 to 75 feet beneath the surface, a stratum of water, from which may be economically pumped an abundant supply of water for required summer irrigation. Of the fifteen thousand acres, about twelve hundred acres are now planted to the olive in Yuba county, and of the twelve hundred acres three hundred and fifty acres may be said to be in full bearing.

The Sierra (or San Joaquin) loam soils of Yuba county—red gravelly soils, well drained with an abundance of water for summer irrigation—have proven to be the ideal soils for the olive. The bearing orchards of Yuba county are planted on such soils and they are producing right along an average of three tons of fruit to the acre; in some seasons as high as four tons.

The first commercial orchards of Yuba county were planted some twenty-five years ago, and one 100-acre orchard planted about that time pays at least 15 per cent net on a valuation of $1,000 per acre. This 100-acre orchard has gone through some vicissitudes, however. The trees were planted 24 feet apart, or 75 trees to the acre, and are now becoming crowded, and constant pruning is required to keep the grove open. If not kept thinned out, the inside rows especialy mature the fruit late and in small sizes. Part of the grove was planted to a variety known as Nevadillo Blanco, the larger part to Missions. The Missions having done so much better in every way, the Nevadillos were grafted over to the Mission variety.

Experience has proven that olive trees should be planted about forty feet apart each way. This distance gives room for the proper setting of the tree in its prime, gives plenty of sun and air in the groves, retards the forming of a humid atmosphere in the inner spaces, which is conducive to the growth of black scale, and insures the early maturity of large-sized olives. Note that phrase "early maturity of large-sized olives." The fruit must be large, well colored and off the trees before the early fall frosts. Fall frosts may shrivel or crinkle the skin of the olive, making them unsuitable for the processed edible ripe olive and leaving the fruit in a condition useful for oil only. This is said to be the reason why the French and Italian groves can not turn out the edible ripe olive. They can not color and mature the fruit before the early fall frosts and are thus forced to process the olive in the uncolored or green state.

The Mission variety has proven the best for all purposes, as it contains a large percentage of oil, and has a delicious and nutty flavor which is entirely lacking in some varieties that produce a larger-sized fruit than the Mission. The Mission is more prolific.

The planting of the olive in Yuba, taken up about twenty-five years ago as a commercial proposition, progressed slowly at first. Mistakes were made as to varieties; irrigation was considered unnecessary. Slight attention was given to cultivation and too much stress was laid on the fact that "the olive is a hardy tree." In recent years planting has been progressing more rapidly. Better matured nursery stock is being used—two and three-year-old trees are being planted—thirty to forty trees to the acre with an inter-row of prunes or shipping plums, on land properly graded for furrow irrigation. The prunes and shipping plums will mature in three or four years and produce dividends before the olives come into profitable bearing. When the olive trees need the space the inter-rows of plums and prunes, having passed their more profitable days, can be entirely removed. It has been shown that from five to six years are required for the olive to produce to any extent.

Planting Trees for Full Stand

[Written for Pacific Rural Press.]

"Don't pinch the toes of a tree in setting it out," says A. F. Blumenberg of Merced county, whose great success in planting is commended by A. L. Wisker of Grass Valley. Mr. Blumenberg has 10½ acres, of which five are figs interset with peaches. A 98 per cent stand was obtained in planting this orchard. In planting five acres of apricots interset with walnuts in alternate rows in Riverside county he got 100 per cent stand.

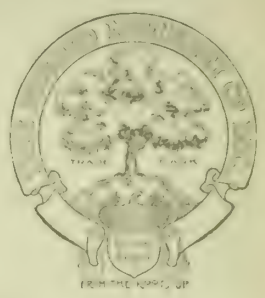
"Plant early," says he, "to get the benefit of winter rains. Cut off the roots with smooth ends and dig the holes big enough to give rootlets room to grow from the cut ends into soft dirt. Do not crowd roots in or leave them turned upward around the sides of the hole, for that will delay the starting of new roots and waste the energy of the tree on the old ones, which are likely to die anyway.

"Do not tramp or tamp dirt around the roots. You injure them that way and provide good places for root knot and crown gall to get started.

"Set the trees no deeper than they were in nursery and cover the roots till the hole is two-thirds full. Finish filling the hole with water, which will settle the dirt around roots in a way that no tamping could do, and without injury. (I hauled four or five gallons of water per tree on one job.) Then put on some loose dirt; but leave a basin around the tree to catch winter rains."

When this is filled in the spring by plowing, dirt will not be piled too high around the trunks. By early planting the rootlets will have a chance to grow before leaves start in spring. If leaves get started first, they rob the tree of nourishment that should be used in making rootlets which would a little later supply the leaves.

Come to Headquarters for Trees



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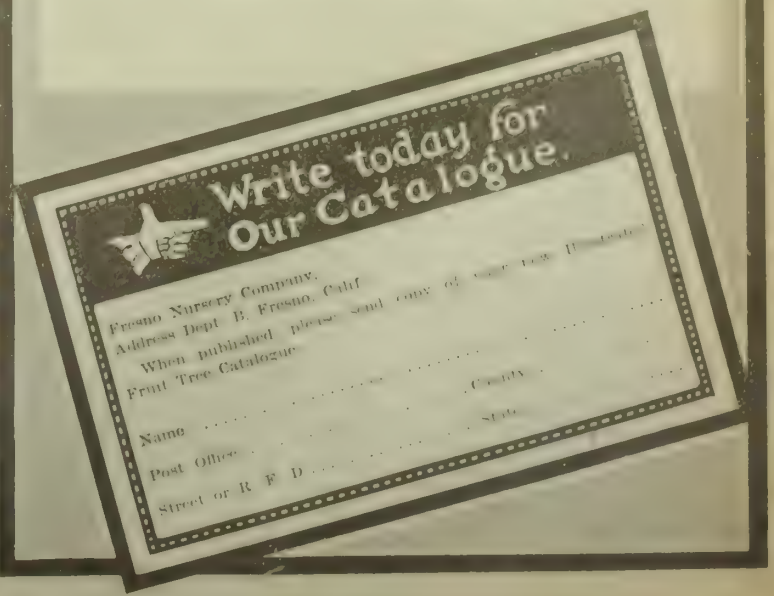

Protection of Fruit Trees from Rabbits

[Written for Pacific Rural Press.]

The San Diego Farm Bureau Monthly collects a number of ways with marauding rabbits which our readers may be interested in trying.

POISONED ALFALFA.

Dissolve one ounce of crystal strychnine sulphate in two gallons of hot water and sprinkle over ten pounds of dry alfalfa leaves. Mix the leaves thoroughly until all the water is absorbed. The poisoned leaves should be distributed in small handfuls in lines a few feet apart across portions of fields where observations made at night show the rabbits to be feeding, or on trails near and leading to this feeding ground. Stock should be excluded. If stock is about, poisoning can be done in corrals. These may be baited with a small quantity of clean alfalfa hay a few nights previous to poisoning in order to get the rabbits accustomed to feeding there.

POISONED ROLLED BARLEY.

Dissolve one ounce of crystal strychnine sulphate and one-tenth ounce of saccharine in three quarts of hot water. Stir into this twelve quarts of rolled barley and spread out to dry. This may be put out in the same manner as the alfalfa leaves described above, being careful that the small piles of grain are well exposed so they may readily be found.

POISONED BARLEY HEADS.

Dissolve one ounce of crystal strychnine sulphate in one and a half gallons of hot water. In this soak ten pounds of barley heads, stirring at intervals until all the water is absorbed. Put out as directed for the alfalfa leaves above.

POISONED SALT.

To ten ounces of ordinary table salt add one ounce of powdered strychnine alkaloid and stir thoroughly. Make several blocks by sawing a two by four piece into four-inch lengths. With an inch auger bore a hole in the center of these an inch deep. Fill these holes level full with the poisoned salt and set along the trails or along the edge of growing grain or alfalfa. This poison gives splendid results if there is no salt grass or alkali land near.

WASH FOR TREES.

Dissolve one ounce of crystal strychnine sulphate in three quarts of hot water. Dissolve one-half pound of gloss starch in one pint of cold water. Pour the starch in the sulphate solution and boil the mixture until it is clear, adding then six ounces of glycerine and stir thoroughly. When it is cold enough apply with a paint brush to the tree trunks. Rabbits attacking these trees will be quickly killed.

HABITS OF RABBITS.

To successfully cope with the rabbit, a careful study has to be made of their habits, especially where, when and on what they are feeding. They often range over considerable territory in a day. Experiments have been conducted which showed that they would be four miles from their regular evening feeding ground. It is necessary to locate this feeding spot by studying their movements during the early evening, noting the trails over which they are traveling and where they finally collect. They feed during the early evening, some during the night and early morning.

FOODS.

Their food consists chiefly of growing grains, mature grain, fruit, grasses and bark of trees. Traveling in such large numbers as they often do, it doesn't take long for them to consume a tremendous amount of food. Experiments have shown that a rabbit eats from six to eight ounces of food during twenty-four hours. His appetite is variable. Many times it has been observed that under practically the same conditions he would take a certain food or bait one night and refuse it the next. Owing to this peculiarity he is difficult to poison. One has to practice considerable patience and not become easily discouraged.

A Good Word for the Loquat

To the Editor: I find few persons know the value of the loquat tree. In the last few years I have grown two beautiful trees on my home lot; they are ornamental, vigorous and unhurt by frost. When ripe the fruit hangs in clusters, resembling in color the lemon; is juicy, sweetish, tart; is very palatable and requires none but nature's curing. All that is necessary is to pick them from the growing tree when ripe; with a soft cloth wipe off the dust, if any, put them in an ornamental or plain dish, and your guests will feel their mouths water at sight if they have ever tried them. If there could be pride in the heart of a grower, I should feel proud of my loquat trees. I was one day sitting on my southwest porch (looking bilious, I suppose) when a friend passing called and handed me a couple of ripe loquats; I had never seen the fruit, but ate it, and placed the seeds in a flower pot in which grew an ornamental plant. After a short time this soil, which had water about twice a week, began to send forth a growth of beautiful green. These vigorous plants grew large enough to be transplanted, and now stand full twelve feet high and filled with bloom for the coming season.

MRS. AMANDA KNOWLES.

San Jose.

[Our correspondent is right about the loquat, but she should not be content with seedling fruit. The improved varieties which are propagated by the nurserymen are much larger and there are early and late varieties and variations in color and flavor, which are desirable.—Editor.]

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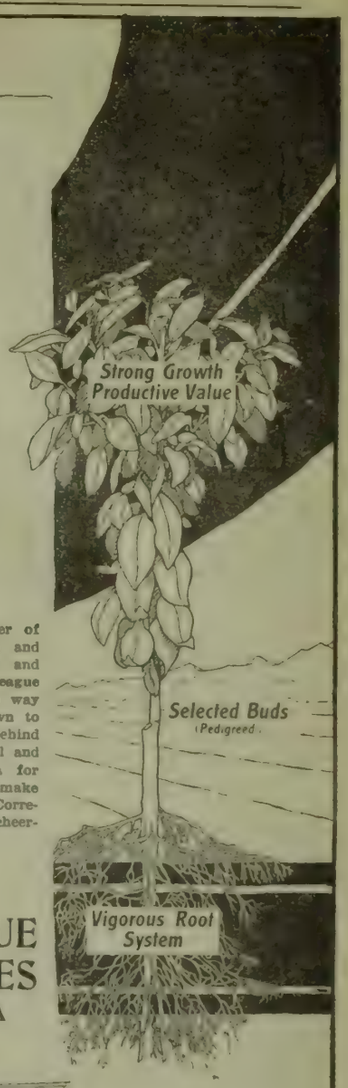

Have stood the test for over a quarter of a century, not only in robust growth and good habit, but in bountiful crops and quality fruit. There is behind every Teague quality tree the finest equipment in the way of modern methods and appliances known to the citrus nursery business; there is behind every Teague quality tree the best soil and climatic conditions known in California for producing orange and lemon trees that "make good." Then why plant any others? Correspondence invited. Price list for 1918 cheerfully furnished on application.

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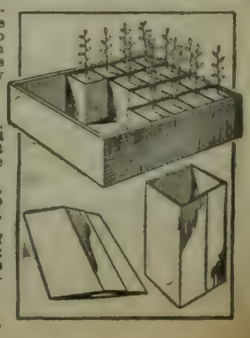
Why not plant your early Cabbage, Chilis, Tomatoes, and have good healthy plants to set out that will not stop growing a single day, for you can plant both pot and plant?

These pots are the up-to-date method of plant growing. Don't take our word for it; try them yourself. Write for samples of pots or protectors. Tell us which you are interested in.



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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

AMES FRUIT TREE PRUNING.

To the Editor: Will Mr. Ames of Newcastle go a little farther in his article on pruning in Pacific Rural Press of October 6th, and tell us how he would prune the apple, almond, and apricot?—G. H. C., Lodi.

Mr. Ames does not grow those fruits commercially; but he would undoubtedly say to apply the same principles to them as to plums, peaches, and pears, using judgment as to how much fruit to leave on and thinning out spurs on apples on the same principle as he would twigs. We know of no fruits which do not make an excessive number of sprouts when cut back. These sprouts not only retard development of fruit buds and fruit wood within the tree, but their thick shade kills fruit wood that is already down where branches are strong to hold it and low to pick from. Mr. Ames' principle is to thin out enough to let plenty of light and air to the centers of trees, making all cuts close above laterals when shortening limbs; and when thinning out laterals, cutting each lateral off entirely to its own junction with older wood. See issue of November 10th.

CLIPPING FRUIT BUDS FROM PEACHES.

Clipping back the new growth of Muirs, Lovells, and Tuscans clips off the fruit. In pruning them, thin out the laterals; and if branches must be shortened, cut them off just above a good lateral. The man with lots of time and interest in his work could thin the fruit in pruning by clipping just enough from each twig to leave a fruit or two, if he were sure the buds left would develop, and if there were enough small fruit brush so one or two fruits on each twig would make a good crop.

EARLY GRAPE PRUNING INADVISABLE.

Many Tokay vineyards in San Joaquin county are being pruned. This will induce early growth in spring and consequent danger from late frosts. Otherwise it might not be so bad, unless we have a warm spell during winter, which would start the buds, followed by a cold spell, which would kill them. Better wait at least until the vines are entirely dormant, cautions Horticultural Commissioner H. H. Ladd.

ROOTING FIG CUTTINGS.

Make fig cuttings not less than sixteen inches long, cutting them through the nodes. Bury them entirely except about an inch with a good node at the top, says G. P. Rixford of the U. S. Department of Agriculture. If left half way above the surface they are likely to dry out and die. They must be kept very moist, but do not let water stagnate around them.

SELECT FIG CUTTINGS SOON.

If you are going to grow fig cuttings, prune the trees and select the cuttings while the trees are most dormant in winter, says J. H. Johnson, who had grown figs twelve years in Coachella Valley. Then store them in a cool, dark place, perhaps in slightly moist sand or sawdust so they will callus without starting growth until spring.

KEEP RAIN OUT OF FROST POTS.

Having smudged almonds fifteen times in a rainy spring, H. and A. Losee of Butte county emphasize the need of keeping rain out of the oil. It makes the oil spatter and waste, so that where a potful should burn three hours it may burn only one hour. This would be serious if it were needed two or three hours in one night.

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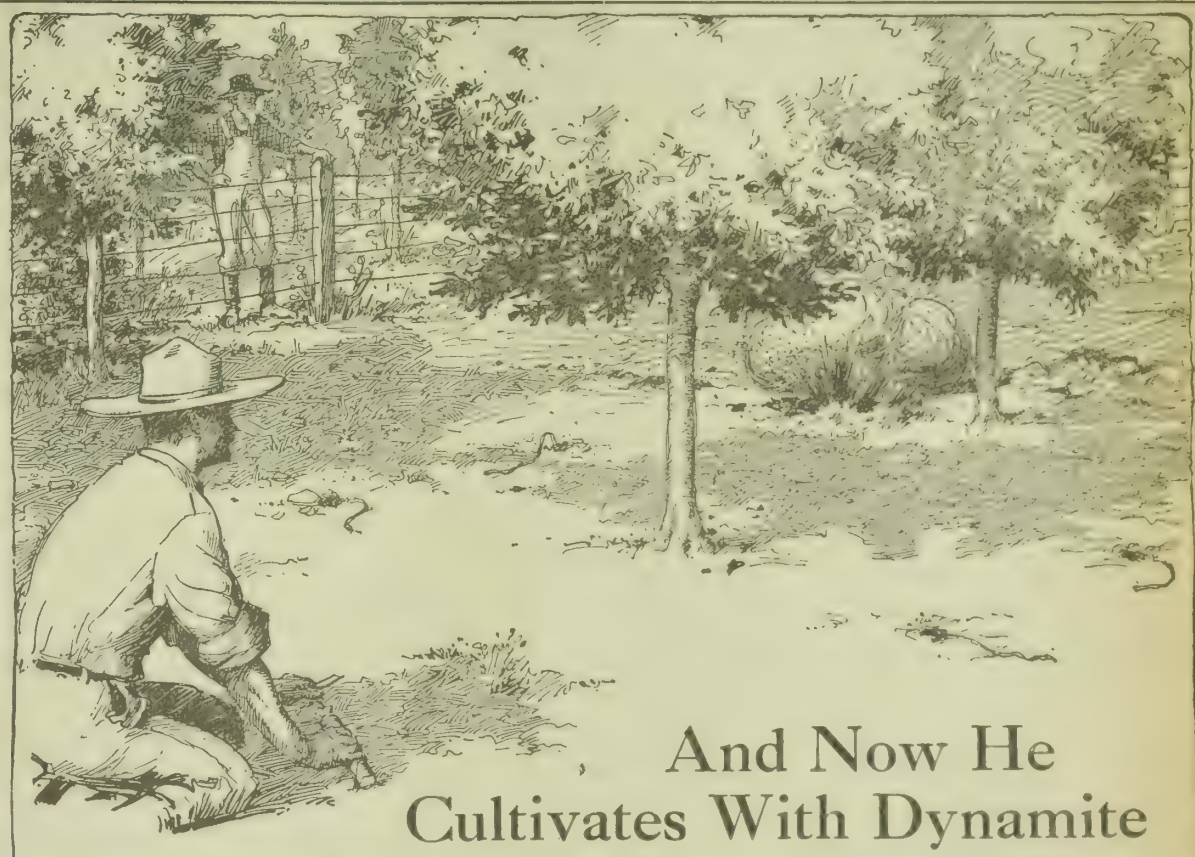

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The man who plants an orchard with Hercules and then cultivates with Hercules will obtain full crops of splendid, healthy fruit—fruit that can be sold at the highest prices. And because his trees are in good condition he will obtain such crops year after year.

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Can We Grow Chestnuts Commercially?

[Written for Pacific Rural Press.]

Earl Mills, the horticultural commissioner of Butte county, has recently strongly advocated planting the chestnut on a commercial scale, particularly in the foothills. Mr. Mills' recommendation is both timely and logical, since the growing of the chestnut on a large scale in California would add an important food product and one that could be produced on land that is of relatively low value.

ADAPTED TO HILLY LOCATIONS.

The chestnut in its natural environment, whether in America or Europe, is essentially a tree of the hills and mountains, often growing on land that is shallow, rocky and dry, just such land as may be found in the foothills of the Coast Range and the Sierra Nevadas. Any well-drained or gravelly soil is adapted to the chestnut if not heavily impregnated with lime. Many of the vineyard sections that must inevitably face a re-adjustment as a result of the growth of anti-liquor sentiment have soil conditions thoroughly suited to the chestnut.

HIGH FOOD VALUE.

In parts of Italy and some of the islands of the Mediterranean, chestnuts constitute one of the most important staple foods of the people, and the best groves are worth $1000 per acre. The nut is prepared in various ways and has a food value about equal to wheat flour and five times as great as the potato. Unlike many other nuts, the chestnut is so readily digestible that it may be partaken of in quantity sufficient to constitute a major portion of the daily ration without ill effects.

AMERICAN CHESTNUT OF HIGH QUALITY.

While of good size, the chestnuts of Europe or Asia are so inferior in flavor to the sweet chestnut of the Eastern United States that they could not be marketed in America in large quantities to good advantage. The native American chestnut is of highest quality, but usually small. Even so, there is a profitable market for many more than are now grown, the price generally running nearly as high as for walnuts in California. But there are large varieties among those of the American species, some of which have been named and are sold at a high price as grafted trees. Of course the product of these trees brings fancy prices, much above the price for seedling nuts.

SELECT THE BEST STOCK.

Californians who wish to raise chestnuts should raise the best or none. As grafted trees of the high-quality American varieties are expensive—about $2.00 each—it is advisable to plant seedlings in orchard rows and graft to the larger varieties the following year. While budding the chestnut is exceptionally difficult, grafting is not. Occasionally seedlings bear nuts as large as the best grafted sorts. The grafted trees commence to bear profitably at as early an age as walnuts.

SELECT VARIETIES CAREFULLY.

Japanese or Italian seedlings should not be used if it is intended to later graft to the American varieties, since the union with these stocks is not always satisfactory. Rochester, Fuller and Progress are among the best with which to top-work the seedlings. Two varieties should always be used, that cross-pollination may result. Paragon is a hybrid variety of good quality, but should never be introduced into California, since it is propagated in Eastern districts, where the chestnut blight is destroying the chestnut industry. California's opportunity is largely due to this destruction of the Eastern groves, and this opportunity would disappear if the blight came to California. Thus far it has not crossed the Mississippi river.

C. K. Sober of Pennsylvania has the largest grove in the United States, containing 35,000 trees. He ships in car lots to many markets—even to Seattle, a market that should belong to California.

English Using "Buckeyes"

[Written for Pacific Rural Press.]

Our "buckeye" is brother to the "horse chestnut" of the East and Europe. It is reported from London that the British school boys' horse chestnut harvest is one of the amazing war activities of this autumn. Some time ago an appeal was issued to the school boys, stating that the government could use unlimited quantities of horse chestnuts and acorns in the manufacture of munitions. The quantities that have been turned in have exceeded all expectations, and the harvest is only about half in. One small London school has collected 24,000 pounds. A record is kept of the number of nuts collected by each boy and the best record so far is 21,175. One school room of twenty boys has gathered 115,700.

Generally the school room is used for collecting and drying the nuts, which must be brown-ripe, dry and free from husk. If allowed to "heat" while in storage, the nuts are useless for the purpose required. They are therefore not kept in sacks, but spread out on a dry floor space not more than a foot thick and turned over occasionally with a fork or shovel. Farmers who have large quantities of acorns find them a profitable crop this year, as the government pays $18 a ton for them on the spot.

We are, however, not aware that our California "buckeyes" have any recognized commercial value.

ALFALFA IN YOUNG TREES.

O. J. Ames of Oakdale is well pleased with the results of planting alfalfa among young nut trees three years ago. The alfalfa is cut green to feed his registered Jerseys in the corral; and the trees have done well. They were set on alfalfa-check borders, 40 feet apart. Walnuts are alternated with almonds, 20 feet apart in the row. The almonds have been thrown into fruiting with quite a few nuts on them as two-year-olds. The walnuts made an average of two or three feet of new growth, avoiding the fast growth which in many orchards cannot hold itself erect.

CAN'T SPRAY—LACK HELP.

With forty acres of almonds and about 330 of peaches in Merced county, Dr. S. R. Langdon will be unable to protect them from shot-hole and blight by fall spraying, for lack of help. One man was put at the pruning the last of November; and it was doubted whether all of the pruning could be finished before spring, according to O. Persson, who has charge of the ranch. They usually spray before December 15 with Bordeaux mixture, 30-30-200, and again when buds are swelling in spring, with lime-sulphur.

EARLY-PRUNED PEACHES DIE BACK.

Peach wood is soft and easily dried out. If pruned early in winter, the twigs are likely to die back. The best excuse for early pruning is to distribute labor through the season.

CHESTNUTS
A New Food Crop for California

In southern Europe the chestnut is a staple food. Its food value is almost identical with wheat flour and is five times as great as the potato. It will grow on poor, dry, rocky soil where other nut trees would not live. The nuts of the sweet species—both grafted and seedling trees—are in strong demand in the East at good prices. As an ornamental, it is one of the noblest American shade trees. The best grafted nuts are as large and incomparably superior to the puckery Italian variety generally grown in California. Every home should have a few trees of the sweet species, and commercial groves should be planted in every foothill district where grapes will grow.

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PACIFIC RURAL PRESS
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525 Market St. San Francisco

Field and Garden Suggestions

[Written for Pacific Rural Press.]

TOMATOES SHIPPED IN MAY.

Coachella Valley has a great advantage for early vegetables, according to R. R. Cheatham, who has raised many acres there under pump irrigation. Among other kinds are tomatoes, of which he grew three and a half acres in 1916. The crop was about four thousand 30-pound lug boxes. Only the Earliana were used, all other varieties having been discarded because they are later. Seed having been sown in a canvas-covered hotbed in October, and the plants set in field form early in February, shipping to the Los Angeles market commenced in the middle of May.

Along in January the field was prepared by flooding, plowing and working down nicely. The plants, about five inches tall, between February 1 and 15, were set about three by six feet apart on the level with a sweet-potato planter, watering the holes as the plants were set. A furrow was run along the row right away and a little over a miner's inch of water run into each. A slow stream is desirable to avoid washing and to get subirrigation to meet between furrows without the water touching the plants. The pump supplies about fifty-five inches of water, which was used on fifty rows at once.

The field was irrigated and cultivated every ten days of the growing season, training the vines out of the furrows, in which the pickers walk when the fruit is ripe. During picking, half of the patch was irrigated while the other half was being picked. The water soaked out of the way quickly. Prices for the 1916 crop started at seven cents; but as the express was 87 cents per cwt., shipping had to cease about June 25, when the price got down to 50 cents per box.

LIME AND WATER FOR SWEET POTATOES.

H. Culbertson of El Cajon believes that the liming of his soil, which was done as a Farm Bureau demonstration, has greatly increased its yielding powers. In the fall of 1916 lime was applied to his moderately heavy soil at the rate of six to seven tons per acre. In order that a check might be had on his work, he limed seven to eight rows of sweet potatoes, and left as many rows unlimed. The crop harvested this spring showed a marked effect from the lime application. The rows on which lime was applied gave a twenty-five per cent greater yield, and had at least six more larger, ideally-shaped potatoes to the plant than did the untreated rows. This application of lime was a little heavier than usually advised, and there was a question as to whether a lighter application would not have given as good results at a much less cost.

Mr. Culbertson also found that a leaky flume which watered several rows of sweet potatoes almost continuously for five days raised the yield from the rate of nine to thirteen tons per acre. This indicates that where sweet potatoes are planted high enough, it is not very easy to give them too much water.

KAISER'S ALLIES IN CALIFORNIA.

San Joaquin county is in the midst of a big squirrel campaign, holding fourteen meetings in various parts of the county, December 3 to 21. One meeting was held in the courthouse by about twenty ranchers, twelve of whom represent 200,000 acres in the delta. They formed a club for more efficient destruction of the pests and enrollment of their neighbors in the work. Heretofore much poisoned grain has been distributed to Oriental and foreign renters who have disposed of it the easiest way (river). The railroad furnished a sackful to a section foreman, but a hole digger for the telegraph company found it buried. A squirrel week will be set at the most convenient time, when it is hoped that everybody will do a good job all at once. The State law for squirrel extermination is drastic, and is in the hands of horticultural commissioners of the various counties. But Farm Adviser Ralph D. Robertson and W. B. Jacobson of the U. S. Biological Survey are co-operating with Horticultural Commissioner H. H. Ladd in San Joaquin county.

WEEDLESS FIRST-CROP ALFALFA.

We found J. C. Petersen baling some alfalfa that was mostly needle-grass and foxtail, on the Sycamore Ranch in Tehama county. This field had been in alfalfa seven years and never been cultivated until last spring, too late in the season to prevent the weeds. The field next to it had been cultivated twice this year, besides some in previous seasons. The cultivation killed weeds and made a clean first crop; it split the overgrown old alfalfa crowns and made new plants of them, according to Mr. Petersen. Until last spring a spring-tooth cultivator with the usual 1½-inch point on its teeth, had been used. The new cultivator last season had points which tapered seven inches and was much more effective. This work must be done when the cultivator will dig well into the ground, generally in January or February; and Mr. Petersen says three times over would be better.

VALUABLE PRODUCTS FROM WORTHLESS BRUSH.

The yucca plant or Spanish bayonet, common in the hills of Southern California, is now being used for the manufacture of brooms. Another species of the yucca is used for the manufacture of surgeons' splints, and is being experimented with for use as artificial limbs. The common manzanita bush, grown everywhere in California, may be of value in dye-making. A carload of stems and roots was recently shipped from Northern California to an Eastern dye manufacturer for experimental purposes. The root swellings or burls of the wild lilac are proving valuable as a substitute for briar in the manufacture of tobacco pipes. Bay rum, used in toilet preparations, is manufactured from the California bay tree, and quinine is produced from the wild quinine bush that grows widely over the southern deserts.

At a meeting held in Los Angeles last week 2,239 Los Angeles county agriculturists signed up to help the Government win the war by organizing a farm bureau. This makes the twenty-seventh county in the State to form a farm bureau.

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PACIFIC RURAL PRESS, Publisher, 525 MARKET STREET, SAN FRANCISCO, CALIF.

View of California's Labor Situation

[Written for Pacific Rural Press by Robert G. Williams, Stockton, Cal.]

Consideration of the subject of the farm labor situation in California at this time must necessarily have reference to the world war, because the activities of the war have not only caused unusual demand for increased farm production, but have caused some farm laborers to seek other and more profitable employment. The most keenly-felt losses of farm labor are of the young men grown and educated on the farms who are in some way associated with their parents in the conduct of the farm. It is a discouraging blow to farmers to be deprived of this class of help, as it is the most efficient and desirable of any. These are the young men of military age. The country must have an army as well as farmers, and as farmers as such have no more right to exemption than other classes, there seems to be little remedy for this loss.

COMING EVENTS CAST THEIR SHADOW BEFORE.

That this war came, and that this country became involved in it, ought to cause no surprise. We as a people have long known of the causes that made it inevitable. We knew that the people of Central Europe were arming and drilling to the last man and the last resource—certainly for some far-reaching and world-wide purpose. We knew there was building a colossal war machine, finished in every detail. We knew that behind this was a school of thought directly opposed in its teachings to the long-accepted ideas of the relations of men, and reversing the fundamentals of righteousness. We heard of the doctrine of "blood and iron" put in the place of "peace and good will to men." We heard of the doctrine of the divine right of a king, instead of the right of a divine king. It was a subject of common conversation everywhere—the system and efficiency of the German army. It was the commonest of knowledge that the personality and autocrat of this coming storm was developing ever the art and science of life to the ends of military efficiency. We knew that the teachers and bookmakers of that country were glorifying war, and instilling in youthful minds that it was necessary and was to be. We knew that books were written filled with such sentiments as "the end justifies the means"; that whatever or whoever stands in the way of the purposes of that state must be ruthlessly destroyed, and we ought to have known that such things mean, ultimately, universal war.

"SCRAPS OF PAPER" ETHICS.

We saw the capsheaf placed upon this heap of iniquity when it was proclaimed that treaties are but "scraps of paper," and still we had no enthusiasm for war. When we saw this monster of invasion, pillage and ruthless murder stalking down through Belgium, devouring the fruits of civilization and devastating the earth, we still thought he could be placated. We thought that our President, guided by the great, just and Christian ideals of our people, might in some way bring these rulers to reason and restore the stability and peace of the world. But it could not be so. Promptly and unavoidably this conflict, guided by a soulless and ambitious monarch, overtook us, and with it came the necessity to develop swiftly the man power and the wealth power of the country.

It immediately became the duty of every citizen to subordinate his own personal ideas to those in authority; to merge himself temporarily in strong central government for the purposes of the war.

FOOD PRODUCTION AND THE LABOR SITUATION.

Though able men may have charge of affairs, some mistakes will be made in the management of complex industrial affairs, but to indulge in criticism of the public agencies and semi-official bodies that now largely control avenues of trade and production, even though such criticism may be well grounded, may do more harm than good. Hence, it is difficult to discuss broadly those matters that have to do with food production. Especially is this true of the labor situation on the farms.

At the beginning of our part in the war, it was wisely foreseen that farm production should be increased, and that the supply of farm labor would be depleted. It was at this time that a flood of advice began to pour in upon the farmers. They were advised to speed up production of a lot of perishable commodities for which there could not possibly be adequate transportation or local demand. The farmers were directed explicitly what they should do to increase their efficiency. This advice came from almost every class except farmers. Some of it was accidentally good and helpful, but much of it was ridiculous and evidently based on the fallacy that farmers as a class do not understand their business as well as merchants, mechanics and tradesmen understand theirs. The most useless of all of this advice was in regard to the labor situation. With the first blast from his megaphone, the salaried man shouted "you'll have to pay more wages." The farmer of course knew this as early as any one, and they did pay more wages. Just how much the megaphone had to do with the upward trend of wages cannot be accurately estimated.

ADVICE THAT WENT AMISS.

Again we were advised that the patriotism of the moderately well-to-do people of the cities could be appealed to to secure assistance to harvest the crops. At the same time these advisors were shouting from

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the housetops that conditions of living on the farms were deplorable; that farmers roomed their help in pig sties and horse stalls. Farm laborers slept on haystacks and were looked down upon. Farmers would have to clean up in a sanitary way. Then high authority said we must install shower baths, and phonograph amusements on the farms; they said, must have far more attention. If this was not done it was feared even increased wages would not induce labor to forsake the dazzling allurements of city life. Well-informed persons knew that conditions on farms were not generally very bad, but as this class of city labor was shy and scarce it is reasonable to suppose that the various proclamations from high sources gave them cold feet and did the farmers a great deal of injury.

A PERPLEXING PROBLEM.

It is really an exasperating problem with farmers now how to secure an adequate supply of competent help while undergoing the stress of war. It is probable there is no way to fully supply the need.

The Fruit Growers' Convention wrestled with the problem, and in its desperation affirmed a plan to import Chinese and Orientals, but these farmers probably are not whole-hearted in this. This proposition is fraught with too much danger in many ways to be considered seriously. It would be a reversal of one of the vital policies of the Pacific Coast in Congress; consequently, from the beginning it is destined to cause tremendous friction among our own people. Its consideration will prompt retaliatory suggestions from labor people that are impracticable and injurious. It is a repulsive thought anyway, that of sending our own boys to war for our preservation and putting Orientals in their place at home.

WOMEN TO THE FORE.

Rather than that, it would be better if women would take their places in the field. The farmers most active for the Chinese proposition are the owners of the intensively cultivated lands of the delta regions. Asiatic labor is essential to these crops, but these crops are the least essential to the present emergency. If patriotism is in any sense the motive of agriculture now, it would be better policy to devote the fertile lands to the production of cereals, thus using only a small amount of labor comparatively. The lands would be a little less profitable, but the owners would be contributing more to the common good. A limited number of women during the past season donned overalls and successfully performed many kinds of farm labor. These women deserve special commendation. They are true patriots and have not discredited themselves by doing so. We need many more women who will see their duty in this way.

LABOR CONSCRIPTION SUGGESTED.

Some relief may be had by the conscription of the labor of the shiftless poor as well as the idle rich in the service of the Government or in industries essential to the war. By far the greatest contribution to the efficiency of farm labor will come when the saloons and drinking places are closed. If those who desire to assist the farmers in their problems of labor will get behind the move to eradicate saloons, they will do farmers and humanity the greatest service.

HOBO LABOR BUT FIFTY PER CENT EFFICIENT.

A large part of the farm labor of California is necessarily performed by the so-called hobo element. Nearly all of these men are wrecks of alcoholism, and it is no exaggeration to say that their efficiency is depreciated fifty per cent by reason of drink. Many of them are educated and intelligent, but ruined by association with saloon society. These saloons as they prevail in California are a curse to the State, farmers and humanity. No one has such an opportunity to know the truth of this as the employer of farm labor. Great is the toll they are taking of the young manhood of the State. They perform no useful purpose and it is a national folly to permit them to exist any longer.

Planting Tomato Seed

[Written for Pacific Rural Press.]

To raise tomato plants in a small way for home use, get boxes about three inches deep, about one by two feet, and fill them half full with sandy or loamy dirt (avoid heavy dirt, which will break the rootlets in transportation). Smooth and press the surface with a small piece of board. Sow the seed about mid-January, three or four per square inch. Sprinkle one-fourth to one-half inch of light soil over them. J. W. Davies of Glenn county has good success every year by covering the boxes with burlap. He sets them near the kitchen stove and wets them through the burlap to avoid washing them out. When they show white threads, take the burlap off. When they have about four leaves, transplant to pots or to cold frame beds four inches apart.

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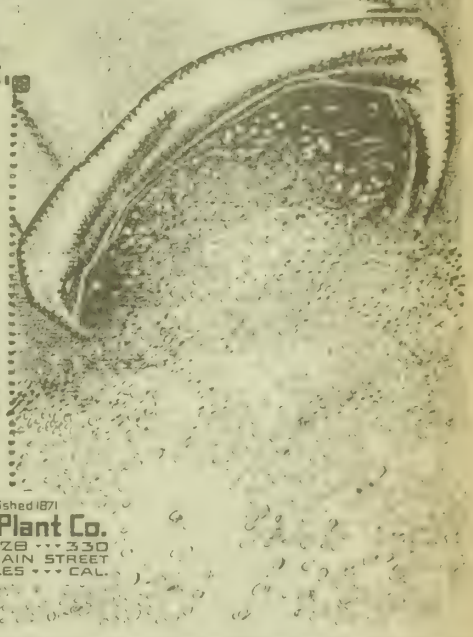

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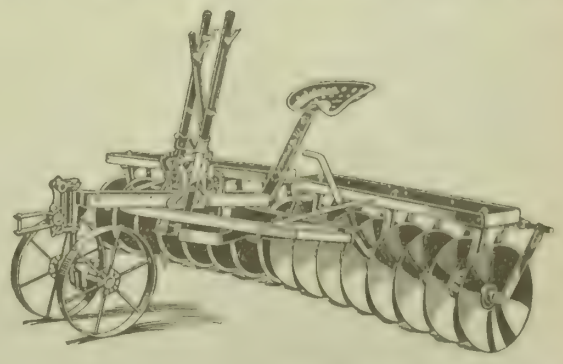

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General Agricultural Review

Field Crops.

Colusa rice in carload lots is being shipped to Texas.

The projected wheat acreage of California will be much restricted by lack of seasonable rain.

Officials of the sugar factory at Visalia have informed beet growers that unless there is a material increase in the beet acreage next year the Visalia factory will be closed next season.

With a guaranteed price for wheat and no fixed market for rice, Oakdale rice men have decided to plant wheat the coming year. The experiment will be made of growing the cereal under irrigation for the first time.

The Michigan sugar beet crop this year will total about 30,000,000 pounds. The product was marketed at an average price of $675 a hundred pounds in 1916, whereas this year, under agreement with the Food Administration, the crop will net about $7.10.

It is said that the bean crop for the Torrance and Wilmington district has been harvested, and according to the manager of the Torrance Milling Co. it will reach over 100,000 sacks, 25,000 sacks greater than last year's.

David Larson of Stevenson turned over an alfalfa soil, 1¼ acres, last year and planted to beans, and harvested 38 sacks from the 1¼ acres. Sowed to oats and harvested by June 15th two tons, and listed the ground without plowing and planted to beans and harvested 49 sacks.

The work of an imported parasite, used in Australia to exterminate the sugar beet leaf hopper, which is reported to have caused considerable damage in the beet fields of the Antipodes and which has invaded the fields of California, will be observed by E. J. Vosler, an expert entomologist of the State Insectary.

The Weather Bureau service for the principal cotton States was reorganized in the spring of 1917 by the establishment of a regional center at New Orleans. In place of the district averages formerly telegraphed, a summary is being wired from the regional center to twenty-six points, there to be published in the form of daily bulletins.

The State Horticulturist announces from Sacramento that he has named a committee to put the demands of the California orchardist up to the Government of the United States, to the end that there may be labor obtained to work the orchards of the State during the season of 1918. Many are asking direct importation of Chinese. Others are opposed.

Notices are being sent out over the State to all men interested in cotton raising as a California industry to attend the Cotton Growers' Convention on December 28. Prof. John W. Gilmore of the U. C. College of Agriculture will lecture at 1:30 at the Fresno high school auditorium, dealing particularly with cotton culture in the San Joaquin Valley.

The Central California Bean Growers' Association was organized in Sacramento last Saturday by twenty of the large bean growers of California. A fee of two cents for each hundred pounds of beans produced in 1917 will be collected from all those who join the Association, which will attempt to produce better market conditions and will loan money to the small growers to aid them in harvesting their first crop.

The differences between the sugar beet growers and refiners of Southern California have been composed. The increased price offered by refiners has been accepted by a majority of the growers. The price is $7.50 a ton for beets carrying 15 per cent sugar content, with a 50c a ton advance for each per cent of sugar above that basis. In addition there will be a bonus of 50c a ton if the farmers plant 80 per cent or more of the acreage that is in beets this year.

It is announced from El Centro that Imperial Valley farmers are receiving 44 per cent advance in prices for their products, while labor has advanced only 12 per cent and rental 18 per cent, compared with this time last year. Cotton has advanced 52 per cent; cottonseed 41 per cent; milo maize 43 per cent; hay 53 per cent; hogs 66 per cent; sheep 66 per cent; lambs 75 per cent; butter 26 per cent and cattle 28 per cent. The Farm Adviser's forecast of the cotton crop puts it at 33,735 bales, worth $12,567,750. The crop from 50,000 acres on the Mexican side of the Valley is put at $2,890,000 more. Total, $15,457,750.

Deciduous Fruits and Nuts.

Fruit driers of Banning are reported to have large stocks of dried fruit on hand and are meeting with very little demand. Prunes are being offered at 6¼c loose and very few buyers.

It is estimated by the Prune and Apricot Growers' Association that about 80 per cent of the prune crop has been disposed of and nearly all of the apricot crop. The crops have brought about $18,000,000.

More than 350 peach and apricot growers attended a series of pruning demonstrations in Fresno county closing December 14. Prof. W. T. Clarke of the University of California and the county farm advisers conducted the meetings.

The prune crop of Colusa county has fallen from 30 to in some instances 40 per cent below estimates. The trees bore a greater tonnage of prunes, but in drying there was not enough sugar to keep up the estimated weight.

The Whittier walnut packing house closed last week, after having shipped 800 cars of walnuts. Secretary Wallace Gregg says that the growers received a little over a quarter of a million dollars for the season's nuts in spite of the damage from the heat wave in June.

While the yield of the old walnut trees was cut short by the heat wave in June, the increase from new bearing trees made the crop a good one as a whole. This, with the high prices obtained for nuts this season, made it the most profitable in the history of the California Walnut Growers' Association. Secretary Weber says the sales for the season will reach between $4,000,000 and $5,000,000.

Citrus and Semi-Tropical.

A forty-acre tract of dredged land in southern Butte county will be planted to figs as an experiment by James S. Crain, who is confident that figs can be grown to advantage on the land.

The California Olive Growers' Association is employing about fifty people at its new plant near Lindsay. It is packing the olives in pint and quart tin cans. Its olives are running extra fine, and there is a demand for its output at good prices.

Exports of almonds, raisins and figs declined this year because the season was about three weeks later than usual. The first shipments of almonds and raisins, which are usually made about August 28, were not ready until the middle of September.

Some orange growers believe the short crop of Valencias in the southern part of the State, and the small stock remaining on the trees, will make navels valuable in February and March. A number of growers intend to leave the fruit on the trees as long as its condition remains good.

Lee Farnsworth, who lives three miles from El Centro, eight years ago decided to plant a ten-acre orange grove. By mistake the nursery sent him 108 Marsh seedless grapefruit. He accepted the trees and determined to give them a trial. He has been surprised at the mellow taste and early ripening of the fruit. There are scores of groves of grapefruit in the Valley now. They were not affected by the heat last summer and all are doing well.

Grapes.

Many of the leading grape growers and winemakers of Sonoma county are advocates of the Rominger bill going on the ballot next November, and they predict its success.

The entire vintage of many small wineries in Sonoma county has been purchased at high prices, ranging from 25 to 29c. a gallon. Contracts for next year's yield of grapes are being made at $30 a ton.

The California Associated Raisin Company started a button campaign Saturday. "I have signed. Have you?" is the slogan in the campaign to get 125,000 acres under the new six-year contract. Well-to-do growers who have been holding back waiting for the success of the campaign to be assured are said to be coming in with their contracts signed. President Wylie M. Giffen hopes to sign the required number by February 1.

The vine pruning demonstrations in Fresno county have already reached 1,000 growers. Prof. Frederic T. Bioletti of the University of California spoke to hundreds at Kearney Park Saturday. The demonstration was held in the ten-acre experimental plat and object lessons of four years' work were given. Prof. Bioletti recommended high pruning for the first years of muscats, seedless, wine and table grapes. A. E. Way is conducting the demonstrations at the farm centers.

Miscellaneous.

It is reported that grain sacks will be available next season at prohibitive prices.

The Liberty Canal District of 10,000 acres, near Summit Lake, is the last district canvassed to declare in favor of the project.

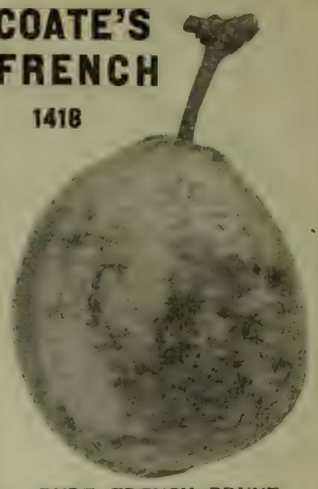
More stringent regulations for preventing the spread of bee diseases will be asked of the Fresno supervisors. There are about 175 bee keepers in the county.

It is estimated by the Department of Agriculture that America's war crops this year were the most valuable in its history, considering acreage, production, and value.

Charles G. Johnson has been appointed State Superintendent of Weights and Measures and will work under the general direction of California division of the Federal Food Administration.

After enduring a four-years' shortage in potash for fertilizer the Department of the Interior has finally promulgated regulations under which government lands may be prospected for this very much desired mineral.

COATE'S FRENCH 1418



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Dries 32 to the pound. Grafting wood for sale, 25c. per foot, $15 per 100 feet, $100 per 1000 feet, and grafting wood of "1401" and "1403" at half these prices. See catalogue for full description. Order at once or it may be too late.
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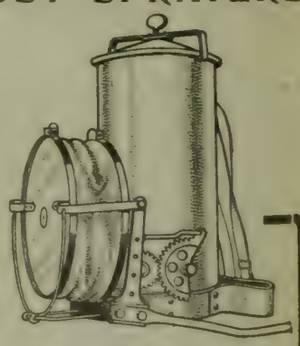

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Guaranteed Nursery Stock. Everything for orchard, garden or yard. All "home grown."
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The Best on the Market for the Price
We have two left over from our last shipment which we are offering at last year's prices. Also two demonstrators, good as new at less than cost
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THAT REALLY PROTECT
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PRICES PER THOUSAND
Seven inches wide

10 inches long..$9.00	18 inches long..$12.50
12 inches long.. 9.50	20 inches long.. 15.00
14 inches long..10.50	24 inches long.. 17.50
16 inches long..11.50	30 inches long.. 20.00

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ANGELO & SON BAY & MASON STS. San Francisco
DEALERS—Write us today for our Sales Proposition.

An Oakdale lady grew corn to make silage for her dairy stock, but did not use it that way because labor was so expensive at silage cutting time.

George McDonald of Redlands is said to have invented an artificial honeycomb which he declares will prevent disease in the broods and save thousands of pounds of honey to growers of Southern California.

President Wilson orders Arsenic Insecticide Industry placed under the license system for regulation as a food conservation measure. A shortage is threatened in compounds used by farmers to kill potato bugs, grasshoppers, and other pests.

The big F. E. Johnston ranch and cattle range of Berryessa Valley was sold this week to a company of Nevada cattlemen. The purchase also includes 1500 head of Durham cattle and a band of purebred Shropshire sheep, together with the full ranch equipment.

In the past year, Arizona range cattle on the tax rolls have increased 136,174; sheep, 86,134; horses, 1600, and mules, 1332. It had been expected that the prevailing high prices would have served to deplete ranges, but this does not appear to have been the result.

The final official forecast of the jute crop in Bengal, Bihar and Orissa, and Assam (India) places the 1917 area at 2,729,699 acres, an increase of 27,000 acres over last year; and the yield at 8,904,364 bales of jute, an increase of 524,511 bales over the production in these three Provinces during 1916.

Plans for the control of the Humboldt river in Nevada for the irrigation of tens of thousands of acres have been announced by R. A. Hart, of the irrigation engineering department of the United States. It is reported that the project, if carried out, will be one of the largest undertaken by the Government in the West.

Report comes that the Secretary of the Treasury is authorized to purchase not exceeding $100,000,000 of farm loan bonds each year for two years, upon recommendation of the Farm Loan Board, in a bill favorably reported December 15 by the House Banking and Currency Committee. The bill as reported limits the interest on the bonds that the Treasury may purchase to 5 per cent.

Since moving the Pathological Laboratory at Whittier, there has been some trouble in getting the general public to realize that Prof. H. S. Fawcett, Mr. C. O. Smith and Mr. E. E. Thomas should be addressed at the Citrus Experiment Station, Riverside, Cal. Also mail addressed to the Pathological Laboratory, Whittier, should be mailed to the Citrus Experiment Station, Riverside, Cal.

The Kings River Conservation and Irrigation District Committee met in Fresno, Monday, December 17. A. E. Chandler of the State Water Commission was listed among the speakers. The land owners, who wish to build the $9,000,000 irrigation storage dam and increase the watered acreage by 500,000, discussed the proposed measurement of all water used and unused, to be undertaken by the United States Geodetic Survey, the State Engineer and the Water Commission.

W. S. Conduit of Redlands has for several months been experimenting with guayle or the Mexican rubber plant and has leased 120 acres of land near San Jacinto and will plant it to rubber. He has an ample supply of plants from his nursery near Hemet to place on the leased land. He has a large acreage of the rubber plants now maturing near Hemet and other acreage in San Diego county and more in Arizona. It is said that the plant, when it matures, which it does in four years, is 30 per cent pure rubber.

It is announced from El Centro that Imperial Valley will enter into a contract with the Secretary of the Interior for an auxiliary supply of water from the Laguna Dam above Yuma. A committee of Imperial men consisting of Director J. S. Nickerson of the Imperial Irrigation District; Walter E. Packard, representing the County Farm Bureau, and J. S. Lack and J. E. Ellmore, a committee of the Imperial Water Users' Association, have agreed to a tentative contract for a connection with the Laguna Dam with A. P. Davis of the Reclamation Service in Washington, which is to be approved by the Secretary of the Interior.

The recent order of the Government prohibiting supplies from crossing the Mexican border at Calexico is meeting with strong opposition, and cotton ginners and growers have telegraphed a vigorous protest to Secretary Lansing. The closing of the border after December 1 to all but Mexican citizens and those holding State Department passports is also objected to. It is claimed that Calexico is isolated from the main body of Mexico and is the only means of ingress and egress to Lower California. An enforcement of the present ruling will, it is said, completely ruin that section of the Imperial Valley.

Classified Advertisements

MISCELLANEOUS.

GROCERIES WHOLESALE—Our prices are the Lowest and our quality the Highest. Dollars saved on every order. Freight paid within 100 miles. Send for catalog. Freese & Company, Mail Order Grocers, 1264 Devisadero St., San Francisco.

ASK FOR SNOW'S GRAFTING WAX—In use all over the State. If your grocer does not keep it, send to D. A. Snow, Route 1, Box 443, San Jose, Cal.

TO REDUCE THE HIGH COST OF LIVING, send for our Wholesaler to Consumer Catalog. Smiths Cash Store, 106 Clay street, San Francisco.

SECOND-HAND PIPE—Absolutely first class. Write for prices. San Francisco Iron & Metal Co., 256 North Point St., San Francisco, Cal.

PATENTS THAT PROTECT are procured through Pacific Coast Patent Agency. Savings and Loan Building, Stockton, California. Established fifty years.

ALL SIZES OF PIPE and screw casing, both new and second hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial St., San Francisco.

WANTED—One or two-bottom sulky, mold board plow and disc harrow. State size, condition, cash price. Box 920, Pacific Rural Press.

WANTED.

WANTED—Young men and women to attend the Western Normal Courses—Normal and Academic. The Normal course gives an adequate preparation for teaching, at a great saving in time and money. Academic course gives practical finish to education. Write for Bulletin "A," Western Normal, 524 E. Market St., Stockton, Cal.

YOUNG MAN WITH WIFE and child wants place on registered dairy or hog ranch; state living conditions and wages. Box 930, Pacific Rural Press.

PRUNING WANTED — By a thoroughly competent pruner, work on trees or vines. Address P. W. Brodt, 2150 Center St., Berkeley, Cal. Phone Berkeley 610W.

COUNTRY LANDS.

152 ACRES SUB-IRRIGATED LAND, especially adapted to diversified farming, grain, alfalfa, vegetables, fruit, hogs, dairy. 30 acres of bearing almond orchard, ½ mile good graded school, ¾ mile station, two houses, possession at once. Price, $150 per acre. R. O. Gray, Knightsen, Contra Costa Co., Cal.

DAIRY RANCH FOR RENT — 341 acre dairy ranch, half in alfalfa, balance farming. Rent $20 per acre per year. Rent can be paid in milk at sixteen cents per gallon on the ranch. Horses, wagons, machinery, etc. J. B. McCutchen, owner, Route B, Bakersfield. Phone 14F3.

OREGON, CALIFORNIA GOVERNMENT LANDS—Latest Green Booklet Free. Tells "How, Why, Where." Write Joseph Clark, Sacramento.

SEEDS, PLANTS AND TREES.

RECLEANED ALFALFA SEED of known purity and vitality. Grown under various soil and climatic conditions. Write us of your conditions and let us help you in selecting the proper kind of seed to plant for largest crops. Order direct and save middlemen's profit. Desk A, Bomberger Seed Co., Modesto, California.

ALFALFA SEED—Common variety, hairy and smooth Peruvian. Grown under ideal condition. Do not buy until you have compared my prices and samples with seed others offer. E. F. Sanguinetti, Yuma, Ariz.

OLIVE TREES—Mission, Manzanillo, Ascolano. Propagated by me from trees of known bearing qualities. Guaranteed. L. T. Schwacofer, Hemet, Cal.

FIG TREES—Thrifty, large Calimyrnas and Capris; correspondence invited. C. A. Nelson, Exeter, Cal.

QUALITY TREES—Seed Potatoes Cash Nurseries, Sebastopol, Cal.

Home Gardens Multiplied Ten-Fold! Next Year Will Be Still Greater! Important to Start Now and Start Right! A NEW BOOK TO INSURE BOTH:

"California Vegetables in Garden and Field"

By E. J. WICKSON
Editor of Pacific Rural Press

A Manual of Practice
WITH AND WITHOUT IRRIGATION
FOR ARID, SEMI-TROPICAL COUNTRIES

Fourth Edition — Revised! Extended! Beautified!

NOW READY

WHAT THE CRITICS SAY OF THIS BOOK

"California Vegetables," by E. J. Wickson, 525 Market street, San Francisco, is the most valuable book on growing vegetables in California yet published. It contains over 300 pages and is more than worth the price, $2.—Rural World.

New Book of Former Dean at University of California Out

The Californian enjoys the comforting knowledge about Professor E. J. Wickson that what the former dean of the University of California says horticulturally is as nearly right as can be. It saves the reader a whole lot of trouble. It removes the advisability of conferring with other authorities. Californians have come to understand "if it's Wickson, it's right," to be synonymous with the Eastern "if it's Bailey, it's right." The men are comparable at all points, but Wickson is specifically California's.

The newest edition of his volume, "California Vegetables," so revised from previous editions as to have the complexion and content of brand new work, has just made its appearance. It is composed in that same lightsome Wicksonesque spirit which has made his previous works readable whether one is horticulturally interested or not.

The most notable consideration about the revision of former editions is the bringing down to date of various market and production figures in which changes have been needed by war conditions. In this respect, this fourth edition is really a war book. What yield may be expected from California soils has been accessible in former editions and in numerous tables of statistics, but where these were to find sale and to what extent Professor Wickson has been able to present with succinctness most valuable to the commercial grower.

In this regard Professor Wickson has several observations to make on current vegetable gardening operations, especially with reference to the need for some stabilizing of the onion market. Regarding foreign competition, he conjures the native grower to give as much attention to cultural, climatic and seed conditions as he has to other sorts of agricultural work and promises him thereby a surcease from worries about competition.

But the volume, while devoting its major space to a consideration of vegetable gardening from the commercial standpoint, is replete with information for the domestic grower who likes a bit of this and that fresh upon his table instead of wilted or a root to pick here and there when the soup kettle is on the stove. It is to be said without fear of contradiction that no other source of information is so immediate and of so general value to the home gardener as this.

The arrangement of the volume is logical and handy. Professor Wickson devotes the first portion to climatic, seedage, cultural and irrigation questions, and has so arranged several of the chapters in this section as to make them applicable to every limited geographical division of the State. The latter half of the book is given to a detailed consideration of various vegetable crops from artichokes to turnips, as well as to vegetables for canning and drying, seed growing, garden protection and weeds.—R. H. D.

("The California Vegetables in Garden and Field," by Edward J. Wickson: San Francisco, the Pacific Rural Press, $2.) — Oakland Tribune.

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University Tractor Short Course—IV.

LUBRICATION.

[From notes taken at University Farm Tractor Short Course]

ALL outside service men, mechanics and farm school instructors emphasized the need of proper continual lubrication. This includes vigilant attention, an efficient oil distributing system, and proper oils and greases. S. S. Chaderton of the Standard Oil Company gave the principal lecture on this subject, from which the following notes were taken:

Tractor drivers can eliminate three-quarters of their troubles and avoid loss of time by correct lubrication, which eliminates friction as nearly as possible. Results of lubrication depend on the system of distribution and on the amount, grade and quality of the oil.

LUBRICATING SYSTEMS.

Two general systems are employed usually in combination, to lubricate the motor. The force feed is most efficient in reaching all bearing parts and is used in aeroplanes. Big tractors will come to use it in the near future. It consists of a plunger or rotary pump which forces oil from a sump through a bore within the crankshaft to every connecting rod bearing. The connecting rods are either bored to carry the oil up to the piston wrist pin, or a pipe is fastened along the connecting rods for the purpose. From the wrist pins it works to the cylinder walls, which are also helped by the "fog" from oil working out from connecting rod bearings. The surplus runs back into the sump. Auxiliary oilers are provided on some engines to oil the cylinder walls. In actual practice they cannot generally be found all working properly. Oil is also forced to the timer and camshaft which works the valves. A pressure gauge shows whether the pump is working. There is very little danger of clogging the pipes or stopping oil flow if oil is kept clean and the strainers at the pump are not clogged.

To clean a force feed system, drain the oil from the reservoir and replace it with a gallon or two of kerosene. If you have a starter, turn the engine over a few times on that with your ignition system switched off. If you have no starter, turn it over by hand enough to force the kerosene through the pipes. In neither of the above ways will the coal oil be likely to get much to the cylinder walls. You don't want it there; but you will get it there if you run the engine under her own power. That will wash the lubricating film off and you will have to run dry quite a while after removing the kerosene and refilling with lubricating oil before the film will become re-established on the cylinder wall. That is dangerous. Variations in force feed oiling will be discussed separately.

SPLASH SYSTEM.

The splash system is cheaper, less complicated, and if the oil level is maintained, it gives satisfaction. Usually the connecting rods have a small projection, called a "dipper," which dips slightly into the oil in the crank case at every revolution and throws it so violently that it reaches every inside bearing part, including the cylinder walls. A combination of both systems is used in most tractors. Oil is pumped from a sump into a pan or a compartment, often separate for each connecting rod, and the dipper does the rest.

It is very important in the splash system to keep the correct level as indicated by the gauges or pet cocks usually attached. The dippers should go one-eighth to three-sixteenth inches deep when the motor is level. Hundreds of operators figure that the more oil the greater splash (which is true) and the better lubrication (which is far from true). The indicated level gives enough. Any excess is likely to go to the combustion chamber and cause all of the carbon troubles, etc. Overflow pipes in the crank cases should be at the right height to keep the oil level right if enough oil is provided.

Each connecting rod should be separately tested occasionally to see if it is dipping right. Removal of shims in the bearing may raise the dipper too much. The babbitting may be of varying thickness, a dipper may be longer or at a different angle, or the overflow may vary in the different compartments. Regulate depth of dipping usually by adjusting the overflow. To test the dipper, have the engine turned over slowly while you watch it go through the oil with side plates of the crank case removed.

(Continued next week.)

WATER UNDER PRESSURE ON THE FARM.

[Written for Pacific Rural Press.]

"I can throw a ¾-inch stream of water over my house with a great deal more pressure than folks who have tanks located high up, but here is my tank on the ground under cover with the pump and engine," said J. F. Gibson of eastern Stanislaus county, who has had a Kewanee water system in use two years without getting a new part. He is thoroughly pleased except that instead of a 700-gallon tank he says any ordinary family should have a thousand-gallon tank. Mr. Gibson has the modern plumbing conveniences in his home and supplies water for work stock. In summer he pumps the tank full three times per day. A larger tank would keep the water as cool longer. It could be pumped up in twenty minutes more than the smaller one and would avoid waste of gasoline once a day in getting up pressure. In winter, however, one pumping per day is enough with his outfit.

While neighbors' high tanks require as much as ninety minutes to fill to the same capacity, Mr. Gibson cannot eat a full meal while his outfit is pumping. A Kewanee engine operates a single-action plunger pump lifting water 170 feet and fills an air-tight tank so that when practically full the air in it is compressed to about 70 pounds pressure per square inch and is all mixed up with the water. This purifies the

No Pit

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KROGH DEEP WELL TURBINE PUMPS

For bored or drilled wells from 10-inch inside diameter up; and for capacities of 250 gallons per minute up to 3000 gallons per minute. Built for pumping from any depth to and including 250 feet. They are absolutely balanced and are self-aligning. More water can be obtained from such wells than with any other type. Built in belted or direct motor driven types. If interested, write for Bulletin.

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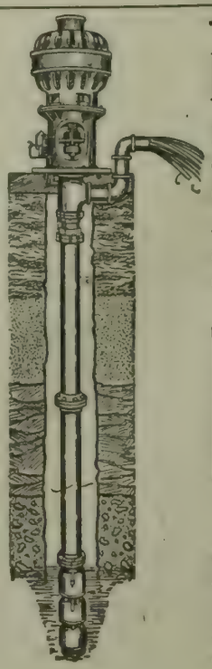

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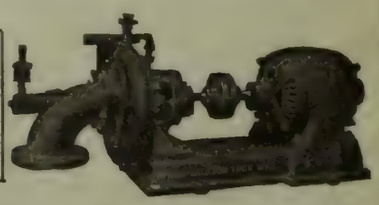

WRITE FOR CATALOGUE NO. 47.

BYRON JACKSON IRON WORKS, Inc.

SAN FRANCISCO.

LOS ANGELES, STOCKTON, VISALIA

water, thinks Mr. Gibson, though when drawn from a faucet it looks milky until the air has separated.

Ten gallons of distillate and about a quart of lubricating oil are required to pump the tank full to pressure of 70 pounds every day for a month.

PACIFIC GAS AND ELECTRIC COMPANY
PACIFIC COURTEOUS CONTINUOUS SERVICE

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THE LAMP
that is made in California
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A pocket memo. booklet giving speed and power tables will be sent FREE to all who mail this coupon.

BAGS OF GRAIN ELEVATED BY MACHINE.

[Written for Pacific Rural Press.]

Grain warehouses use power elevators to pile sacks of grain and to load them on cars. One such was noticed at Farmington, Stanislaus county, carrying grain over a track from the warehouse to a car and being run by a gas engine set within its frame. Another is in use in the A. L. Gilbert warehouse at Oakdale. This one is run by an electric motor within its frame. Electric wires run along the roof truss so they may be connected to the elevator motor perhaps every fifty feet. The elevator carries grain bags from a short distance and then may take them over twelve feet high. The height is regulated by a standard supporting the elevator, which is hinged at the lower end. The upper ends of the standard have wheels, so when it is drawn nearly erect the wheels run along the under side of the elevator toward its lower end, thus raising the other end. The whole thing is on a truck which can be moved anywhere.

AUTO TRUCK TESTED OUT.

A Maxwell one-ton truck carrying a full load started from New York November 30 on an official truck performance and durability drive to all the army camps in the South, going through Philadelphia, Baltimore, Washington, Richmond, Charlotte, Spartanburg, Atlanta, Annison, Montgomery, Macon, Augusta and Columbia, then back to New York, a run of some 2500 miles. The truck has undertaken to deliver one ton of merchandise from New York to Spartanburg, S. C., for just half of what it would cost by express. A running schedule of fifteen miles per hour for the entire distance has been fixed. L. A. Smith of the Maxwell Company, pointing out that the truck of light, economical and durable design is certain to command a still greater place as a factor in American industrialism because of railway congestion and hampered express service, emphasizes that the A. A. A. sanction test will be so complete as to enable any business house to arrive at definite tables of cost by the week, month or year for truck delivery service.

HOW MANY ACRES WILL A PLOW PLOW?

[Written for Pacific Rural Press.]

"It costs $1 an acre depreciation on plows besides upkeep, which has been 25c an acre already," said Geo. N. Merritt of Yolo county regarding plowing 14 inches deep where an 8-inch layer of hardpan lies about 4 inches under the surface. A tractor pulls the two three-disk gang plows, which cost $950. "They won't last for 950 acres; and moldboards don't stand up to the work at all," he says.

TRACTORS ON FRENCH FARMS.

A leading French farm publication places great importance on increased mechanical culture of the soil as an economic benefit to the country. Plowing and harvesting have been accomplished in one French canton at the rate of 72½ acres in a total of 75 hours.

WE HAVE LEFT OVER A FEW
Big Bull Tractors
ALSO A FEW
J. I. Case Three-Bottom Plows
WHICH WE WILL SELL AT REASONABLE PRICES, AS WE ARE DISCONTINUING THE TRACTOR BUSINESS
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—usually the hardest job on the place—make it the easiest and save time and help-hire besides by using
THE Martin FARM DITCHER TERRACER AND ROAD GRADER
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Simple and practical. Cuts V-shaped ditch up to 4 feet deep; cleans old ditches; grades roads; builds terraces, dykes and levees; works in any soil, wet or dry. 2, 4 and 6-horse sizes; large size fine for tractor. Write for catalog and list of users near you. No charge. No obligation.
OWENSBORO DITCHER & GRADER COMPANY, Desk 4B, DENVER, COLO.

No Other Tractor Like It

SEND the coupon below for the wonderful story of the little Bean TrackPULL Tractor—the tractor that works in orchards and vineyards as no other tractor can. Note some of the features listed below. Then get the book at once. Compare this tractor with the kind you know. See how this one fits your needs.

1. Pulls instead of pushes itself over the ground.
2. Can be "gee-ed" and "haw-ed" out of holes and soft places like a team.
3. Has full-power pull on turns as on the straight-away.
4. Turns clear around in a 10-foot circle (5-foot radius).
5. Plows or harrows as close up in the corners of fields as a team.
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8. Goes under branches of trees no team can get under.
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11. Pays for itself in what it saves.
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13. Cultivates 10 to 15 acres in 10 hours.
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15. Little power required to pull tractor—power all goes to pull implements.

BEAN TrackPULL Tractor

Mail the coupon now — it doesn't obligate you. It simply brings you all the facts. When you get them decide if you want the patented Bean or an ordinary kind. For more than 30 years we have built and sold reliable orchard and farm machines. You can rely on the fact that the Bean Tractor *at work* makes good our every claim.

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Please send me your Tractor Book with full information about the BeanPULL Tractor.
Name
Street
City
County State
Number of acres Kind of crop grown

How Dairying Can be Made to Pay

Written for Pacific Rural Press

The two prime requirements of profitable dairying now are (1) to get rid of cows that will not pay the cost of their keep at prices of feed and labor likely to prevail in the near future, and (2) for dairymen to organize so solidly all over the State that prices can be obtained which will cover the cost of production plus a fair profit.

CAN'T AFFORD BOARDERS.

It costs money to locate and beef the boarder cows; but it costs more money to keep them at present prices of feed and labor. Banks have generally been ready to loan money on cows for labor-saving and milk-testing equipment, and to enable dairymen to replace boarders with producers. Boarder cows would lose money even if dairymen were all organized into an iron-clad association. At this time, when feed is so high, it would even pay to sell one cow to buy testing apparatus for the rest of the herd if a cow tester is not available. The Babcock test is simple enough for anyone to learn shortly. Lacking that, the dairy at University Farm will perform a reasonable number of tests. There would be a profit in paying a creamery operator to test individual samples monthly.

USE REGISTERED BULLS.

Low producing cows and herds can be bred up by use of registered bulls from good-producing families at little relative cost. Other things being equal, the nearer purebred a herd is the higher the production. There are several large herds in the State of registered cows used primarily for dairying.

OBJECTS OF ORGANIZATION.

The objects of organization are to set prices on milk and butterfat which will insure profit on good cows, well managed, to reduce cost of production by buying supplies wholesale, to secure a respectful hearing on all proposed legislation, such as tariff, oleomargarine, etc., and to standardize dairy products so consumers may depend on getting what they call for—"a fair price for a better product," is the way J. M. Henderson, Jr., puts it.

Something must be done, for Uncle Sam's defenders need dairy products. Yet dairymen are going out of the business, beefing cows, and not producing the usual number for the future. This is due principally to two causes: (1) inability to get dependable labor, (2) inability to buy enough feed with the money they get from milk and butterfat.

Dairymen are producing at a loss, for they are not making wages for their families or interest on investment, or figuring on replacement of cows, buildings, and equipment. Items on costs of production named by J. M. Henderson, Jr., at a meeting of over 200 dairymen in Modesto, December 7, were estimated by the dairymen for normal years—not on the high costs of last year; and in many cases the general feeling seemed to be that the costs as estimated are too low. The general sentiment was that a good cow could not be bought under $100. Only items pertaining directly to maintenance of the cow and caring for the milk were included. A herd of 20 cows is assumed to be cared for by labor the equivalent of one man. Figures were posted on a blackboard.

ANNUAL COSTS OF DAIRY PRODUCTION PER COW.

Milk barn, cooling or separating room, and silo, estimated value $1,000 to $1,000, finally assumed to be $1,500; charge a total of 10 per cent per year for interest on investment, depreciation, insurance, and repairs, $150 per year for 20 cows; per cow per year	$7.50
Cow value $75, at producing age, interest at 6 per cent	4.50
Cow worth $15 after six years of production on average market, normal annual depreciation	10.00
Cow, average one lost by death from the herd of 20 cows every six years, charge each cow in herd $3.65, or each cow per year	.61
Taxes per cow per year at 2 per cent on $30 assessed valuation	.60
Veterinary services per cow per year (voices said "too high")	1.00
Equipment, cans, buckets, separator, cooler, etc., estimated value $250 (voices said "too high"), interest and depreciation 20 per cent per year, per cow	2.60
Man to feed, milk and care for cows at $60 a month and furnish own board (estimated at $60 to $80 and board), per cow per year	36.00
Feed (costing about the same per figures below, whether all alfalfa hay or whether silage, grain, hay, and pasture):	
Silage, 5½ tons per year at $4 per ton in the silo	22.00
Grain, 8 pounds per day (voices said "too much"), 2,920 lbs. at 1½c	43.80
Hay, about 15 pounds per day for 30 weeks at $12 per ton	19.25
Pasture, 22 weeks at 50c per week	11.00
Total cost, not including extra losses from accident or condemnation for disease, birth of dead calves, transportation of milk, record sheets, scales, Babcock tester, owner's supervision, feed and interest on bull, etc. (fencing, rent of land, cost of water, labor putting up hay, etc., all included in costs of feed, pasture, labor, etc., above). Total items estimated	$158.86

Total value of silage, grain, hay, and pasture above equals $96.05. If fed alfalfa alone, 8 tons at $12 would cost the same.

ANNUAL RETURNS PER COW.

Calf, value as soon as milk can be marketed	$5.00
Butterfat (letter from Prof. F. W. Woll of University Farm stated that the average cow produces less than 150 pounds and it is a rare cow that produces a pound per day the year around), estimated average 200 pounds at 50c per pound (man in audience said it averaged 29c last year)	100.00
	$105.00
Loss per cow per year	$53.86

FERTILIZER AND SKIM MILK.

It was pointed out from the audience that the value of manure had not been considered; but Mr. Henderson retorted that most dairymen don't use it, and if they did its value would be more than offset by cost of hauling milk or cream, which is not figured in.

The value of skim milk was called for. Mr. Henderson asked if anyone in the audience had a herd that would average 6,000 pounds of milk per year. No one responded, so 6,000 pounds was considered a liberal estimate. At a normal value of 30c per cwt., this would be worth $18. This wouldn't pay for your time bossing the hired man, which is not figured in the costs.

CITY MILK PRICES.

If, instead of butterfat, the milk were sold at retail in the city, there would be greatly increased cost for sanitary requirements, transportation, etc. At the costs figured above, without the extras mentioned, the milk costs 22c per gallon. Before organization in the bay cities, the producers were selling whole milk at 12c and 14c. In the Sacramento district dairymen were receiving 7½c to 13c per gallon.

HOPE FOR LOWER COSTS AND BETTER PRICES.

If the costs and prices shown were to continue, further dairying would not be justified nor even patriotic. Good sense would demand that dairymen sell out and produce something that will enable them to keep on producing. That is what many are doing, now that costs of feed and labor have gone beyond the normal costs figured. But it was pointed out that the dairymen's organizations around the bay cities had raised the price to 25c per gallon. At Sacramento, according to F. H. Harvey, a lifelong dairyman of Galt, the morning the association opened its office and offered its milk for sale at its own price of 19c, like any other business organization, the dealers came there and paid it. The price to producers of milk for Sacramento is now 23½c.

Market Director Harris Weinstock had already pointed out that the latest and not entirely satisfactory investigation showed that milk costs over 22c per gallon to produce in the bay district; and that by solid organization, including 95 to 98 per cent of the dairymen, they are getting 25c per gallon in San Francisco and have instituted a more thorough investigation, which is likely to be completed by New Year's. Mr. Weinstock believes 25c does not equal the present cost of production.

New dairy barns just completed for the Diamond Dairy at Brentwood, Cal., where 400 dairy cows are kept. Buildings equipped cost about $20,000. The De Laval equipment and Louden litter carriers were installed. It pays.

Secretary S. N. Ayres of the State Dairymen's Association and for some years of the Southern California Association, mentioned the difficulties which have finally resulted in Southern California dairymen now generally getting $3.50 per cwt. for their milk.

IT IS WRONG TO QUIT DAIRYING.

There are two ways for dairymen to turn. Mr. Henderson said he could sell out his 200-cow dairy and pocket the loss. A man in the audience said that most dairymen could not do that. Another said that he had quit dairying with cows that averaged 8,000 pounds of milk, and that the costs figured on the blackboard were entirely too low. Mr. Henderson said quitting was the wrong way to remedy the situation. The right way is to join the association.

"FAIR PRICES FOR BETTER PRODUCTS."

Market control by the association would be accomplished by diverting the milk into various channels (city retail supply, butter, cheese, condensed milk, casein, etc.) in such a way that a fair price could be maintained. Co-operative creameries would be used, and if other creameries, condenseries, cheese factories, etc., did not co-operate satisfactorily, the association would build its own factories. It is to have $3,000,000 capital. In the Central West, the Government has guaranteed condenseries 30c per package profit at a price that enables them to pay dairymen at the rate of 95c per pound for fat in the milk. An association could pay the 95c and make the 30c profit per package as well as private individuals.

With control of the supply, the association could improve products by insisting on standardized practices; and uniform dependability would make higher prices (if necessary) cheaper to consumers.

EASTERN AND AUSTRALIAN COMPETITION.

The audience pointed out in answer to Market Director Weinstock's citations of the success of co-operative fruit organizations, that California dairying encounters competition from all over the United States and will eventually have to compete with Australian butter, while we have nearly a monopoly on the fruits we market most successfully. The Market Director pointed out that while a bunch of individual dairymen could argue with Congress for tariff protection from Australian butter until they were black in the face, one man who could say that he represented the dairy industry of California would have weighty influence.

Regarding competition with Eastern States, Mr. Ayres mentioned the fact that nearly two-thirds of them have State dairymen's organizations, and these are federated into a national organization which has already been doing good work at Washington. He also mentioned that investigations in Illinois, Wisconsin, Michigan, and New York have shown that $3.47 per cwt. of 3.5 per cent milk is a proper price to the con-

denseries. With our most favorable conditions the Eastern States will not compete injuriously with California if we put out uniform standard products.

COMPETITION AT HOME.

Competition among dairymen at home is most to be feared. There are four or five associations in the State and each of them has done good work in raising prices of city milk. But if an unorganized district like Stanislaus county should quit selling to creameries and send their milk to the cities they would break the market control of the associations, as Mr. Harvey pointed out. It is the unorganized condition of the San Joaquin Valley that has prevented the associations from taking a hand in the butterfat market. It is clear that the State-wide association must have State-wide support.

The Angora, the Homesteader's Friend

[Written for Pacific Rural Press.]

The Angora goat can be raised with profit by the homesteaders of the mountainous parts of Madera county. The ideal range for the Angora is a high, rough, well drained, brushy land, with plenty of spring or clear creek water, which describes the uplands of Madera county to a tee. Laurel, buckeye, balsam fir, pine and cedar are about the only things a goat won't eat. If fed on brush the meat of the Angora is not unlike venison, but if fed on grass it can't be told from mutton. A goat will dress about 40 pounds. A goat clips about 4 pounds per year. The mohair quotations for December 15 were 30c to 40c per pound.

The Angora is also a great help to the homesteader as a brush remover. If confined on a piece of brush land a jack rabbit has to go round; he will soon transform it into a park. You don't have to wait to get land cleared to go into the goat business. All you have to do is chop out a fence line, put up a woven wire fence 32 inches high, with stays a foot apart, with two barbed wires on top and a shed with two sides open. The Angora will stand the dry cold of the severest winter, but they must be sheltered from the rain. Allow 4 square feet of shed room per goat.

START IN WITH PUREBREDS.

The most important thing in starting in the goat business is to get purebred or high-grade Angoras that will produce hair that will bring the top price. Good grade goats can be had for four dollars up and purebred kid bucks for twenty dollars up. In selecting the goats for your start, see that they are well haired on the neck and belly, also look along the backbone for straight, coarse, white hair, called kemp. Very much kemp is a sure sign of a poor goat. You should keep your buck up and feed him grain and hay during the breeding season. If he is turned with the does only at night, most of the kids will come in the daytime and save the necessity of night work. The does only need feed when the brush is covered with snow, and it pays to give the does a little middlings and alfalfa meal a few hours after they kid.

A FEW DONT'S.

Don't have the stays in your fence less than a foot apart. If you do, when a goat sticks her head through the fence her horns act as barbs and she can't get loose without help.

Don't use anything but a purebred buck, as he is half the flock.

Don't build your sheds on low ground.

Don't let your goats out in bad storms.

Don't try to raise goats on low, marshy ground, as they die like flies of liver and hoof disease.

Don't buy a man's reputation. See that he doesn't give you culls.

And, above all, don't turn your buck with the does before December 15, as the kids will die of cold if born in January, February or March. —J. H. W. Baker in Madera County Farm Bureau Monthly for December.

Devon Steers Dressed 65 Per Cent

[Written for Pacific Rural Press.]

Ever since W. E. Gird's father drove horses and Devon oxen across the plains in 1853 and found the oxen held up better than the horses, he and his son have bred Devons in the hills and fertile valleys of San Diego county; and the son now has the largest and nearly the only herd of this breed in California. That he can put 60 pounds of flesh per month onto steers on good feed and that he has sold steers that dressed 65 per cent are good commentaries for the breed. The animals are all purebred; but only the bulls are registered, as Mr. Gird's ambition is only to make beef. That this has paid him well seems to be indicated by the magnificent home finished last winter on the site of the old home in which he lived thirty-five years. There are about 100 brood cows, for which three service bulls are kept separate except at breeding. Calves come in October, November, and December, while the cows are strong from the abundant dry feed which is reserved for them in the hills until their summer pasture in the river bottom is played out.

Calves suckle their mothers (except two, which give up half of their milk to supply the farm milk and butter). Steers are kept growing from the start on pasture that is not overstocked. About August 1, before they are two years old, they are turned onto a grain field held for them and the cows to be beefed, and are sold usually before they are two years old. Two registered bull calves were bought last winter from Illinois to keep up the good work.

To substantiate the 65 per cent dressing percentage we quote from a letter from J. F. Martin of Oceanside, stating that he has killed steers out of Mr. Gird's herd that dressed 65 per cent, as they will do any time they are well finished on grain. J. T. Garner of Riverside writes of a cow and heifer from this herd which dressed 60 per cent. "This beef was of excellent quality and we had lots of compliments on it," says Mr. Garner.

BREED FOR BUTTER FAT

To make dairying pay under conditions prevailing at present and which will continue to prevail, we must breed up our dairy cows by the introduction of blood of proven production.

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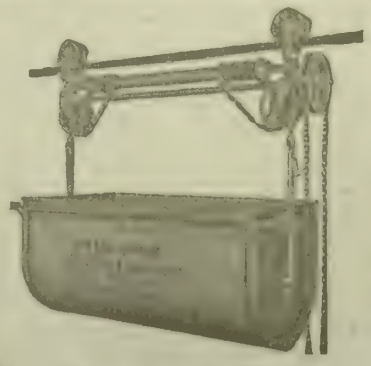

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Cattle Growers Must Get Fair Returns

[Written for Pacific Rural Press by Roy E. Miller, Fresno.]

The possibility of increasing the beef supply of California by feeding alfalfa is very large, according to W. E. Premo of Porterville. Whether or not the alfalfa fields of the State will be devoted to fattening steers will depend on other things than the fact that the fattening can be done at reasonable expense. The farmers, he finds, have the patriotic motive to supply all the meat they can. They probably can get along in the alfalfa belt on the feed available. But they must get prices to justify their efforts, or at least enough to keep the cost of production below the prices received. The condition of the market is weak now. Mr. Premo is depending upon the spring market to justify his feeding.

He has charge of about 1,700 cattle of the Porterville Alfalfa Company, Porterville Alfalfa Farms, and the Prosperity Ranch, west of Porterville. All the steers are to be fattened partly on alfalfa, the marketing to be done over an extensive period.

NOT TOO MANY CATTLE.

"The Christmas market is a poor market for beef cattle," he said. "This year we need some outlet for the Christmas surplus. The Government Food Administration should provide for the slaughter and storage and probably the market. But in the presence of an oversupply of cattle, considering the grass shortage, the cattle raisers have so far found no relief. The Government properly wants us to raise more cattle, but it must not permit us to 'go broke' before relief comes. We have been patient while the Food Administration got under way, and we need early relief in some form. I hope the spring market will be better, however. I will market several hundred head then. I look for an actual shortage of fat cattle for home consumption through a large part of 1918."

On a 400-acre ranch near Woodville more than 600 head of cattle have been fed this fall, the year's experience showing that one-half more than enough alfalfa to fatten a steer can be grown on one acre. A little over 300 acres is in alfalfa, and about 100 acres in grain and sorghum. Practically all the feed used, except the cottonseed cake, was grown on the farm. The early crops and some surplus summer crop were cut for hay.

Cattle weighing 800 to 950 pounds, and numbering 393, were turned into part of the field June 23. The stock was turned in as the hay was ready to cut. The animals were permitted to eat the alfalfa pretty close, and were then turned into another maturing field.

August 1, 250 more cattle were turned in, and 80 head were withdrawn October 15. In order to give variety and to some extent balance the ration, and to hasten growth and the fattening process, the feed was changed in November to half a ton of dry hay, and some sorghum. The heavy sorghum crop was fed off at the rate of one acre a day for 440 head. The cattle were taken off the alfalfa field, which is now supporting 3,300 sheep, with enough feed to last until February 1.

USES COTTONSEED CAKE.

The final feeding has begun, the rationing being six pounds of cottonseed cake and 22 pounds of hay per day. The hay is dry and is fed in mangers twice a day after being run through a cutter. The dry first cutting proves excellent feed, when reduced to where it will not hurt the mouths of the animals. The cake is fed in troughs. As the cattle get fat they will be sold from February 1 to March 15.

WHAT IT COSTS HIM.

The cost of turning out a 950-pound California-raised steer of fair quality into a 1200-pound animal ready for slaughter, Mr. Premo estimates at nearly $125. The cost of the stock animal and the prices of labor and feed vary so that he does not consider the figures show more than a general idea, but he submits the following from this year's accounts:

Cost of steer at 7½ cents	$71.05
Five months alfalfa pasture, etc.	25.00
Cotton seed cake, 3¼c. lb.	12.00
Dry hay	13.00
Interest, rent, labor, veterinary, loss	5.00
Total	$126.05

To insure anything like a fair return, he says the cattle must sell for at least 11c a pound, in which case a steer weighing 1200 pounds would bring $132. The loss by death of cattle was very light on this alfalfa ranch, only two head dying. On the larger ranch 24 head were lost. The heavier loss was largely due to the cattle getting out into a new field when a bull broke the fence. Cattle have to be watched closely when on alfalfa, as the bloat attacks often when little expected. The trocar was used on some of the animals, but for the most part those affected were chased about by a man on horseback. Sheep have to be herded in one corner of an alfalfa field and kept from getting too much at once.

EASY FEEDING METHOD.

The ranch was abundantly supplied with water and the conditions were well above the average for alfalfa growth. No effort is made at stall feeding, and expense is kept at a minimum by letting the animals mow the hay. They did not appear to damage the stand on this soil, a sandy loam of good depth. Mr. Premo says the same principles of feeding could be applied where the yield is less. Alfalfa caterpillars attacked the crop in August, but heavy flooding shortly after cutting seemed to kill most of the worms.

DRY PLACE FOR CATTLE IMPORTANT.

He finds a dry place for cattle to lie down in wet weather is much more important than keeping them out of the rain or keeping their feed dry. A convenient patch of sand is a good thing to have on a cattle ranch. The hay used is valued at $10 a ton as raised on the ranch. The figure is low. Where hay has to be bought for feeding, the price is now practically prohibitive. On account of general conditions, Mr. Premo says alfalfa fields will have to be plowed up unless the farmer-cattleman gets a good price for his fat cattle.

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A Western National Swine Show

[Written for Pacific Rural Press.]

At the last meeting of the Poland-China breeders at Hanford, Mark Bassett proposed that as much as possible of the association's funds be set aside for the purpose of promoting and holding a national swine show in the West. Upon a motion by Mr. Bassett, it was voted that the association go on record as favoring an annual Western national show on this coast, probably one year in California and the next in the North, the first to be held in 1919. The secretary was instructed to write all swine organizations on the coast, giving them an outline of the plan, asking them to ratify it, and requesting their views and suggestions. Commenting on the plan, R. H. Whitten, secretary of the Poland-China Breeders' Association, says:

"We want a show for hogs exclusively, like the National Swine Show at Omaha, where the spectators' interests are not diverted by other kinds of animals, crop displays, flying machines, horse races, side-shows or pretty girls at pink lemonade stands.

"We want it on this coast. It will be given wide publicity and the advertising value will be tremendous. Some day the hog map of the United States is going to be changed, and the best hogs in the country will be found on the Pacific Coast. Breeders back East will send out here for new blood. But not until we show our goods and let the world know what really fine stock we have.

"For the same reason we want the entries open to the world, so that Eastern breeders who think they have better hogs than ours can send them out here and let us prove to the contrary. In fact, our idea is to hold the show right after the National Swine Show, and to get a good share of the exhibitors to send out their winners. We're not afraid of 'em.

"Doesn't this make your blood tingle? Doesn't it make you want to do everything in your power to make a grand success of this show? All right, we'll need you later on, for there'll be plenty of work for all to do. In the meantime spread the glad news far and wide, get as many members as you can to join our association, and contribute as much as possible to the fund."

Compact Hog Outfit

[Written for Pacific Rural Press.]

A compact, efficient, labor-saving, but very inexpensive, outfit is the result of three years of hog raising and fattening by G. H. Kilbeck of Stanislaus county. Mr. Kilbeck had over 420 head when visited by the writer, December 7. They occupied two rows of pens in the alley between which were the tanks for slop feed, which is all they receive. The total space occupied was about an acre, besides five acres of alfalfa on which the pigs from 75 or 80 sows have free range. Mr. Kilbeck had sold early in October 96 March pigs averaging 165 pounds at what he considers small cost. There is no equipment, except troughs along the alley, and movable cheaply but well built houses.

Sows with new pigs are kept up about two weeks and given a gallon or two of slop per day made of a little rolled barley, Suremilk, and buttermilk. Once per day, through the whole year, the herd gets as much as seems desirable of a slop made by mixing a 70-pound sack of rolled barley and a 100-pound sack of Suremilk with 250 gallons of buttermilk, more or less, according to the amount available and the size and condition of the pigs. Less buttermilk is needed in the two or three weeks when they are being fattened for market. About 590 gallons of buttermilk are hauled on alternate days from the creamery as an average throughout the year.

Good registered Berkshire boars are used, one having been obtained from the University of Washington and another being a son of Grand Leader 2nd, the P. P. I. E. grand champion.

Grain Feed Needs Protein Supplement

[Written for Pacific Rural Press.]

To make a hog weigh 240 pounds at seven months is unusual, but Haden Smith of Woodland has done it with a Duroc. He has also made a hog weigh 420 pounds at ten months twenty-one days.

There is nothing complicated about his feed. Alfalfa pasture is furnished for all ages until fattening time. At 15 to 21 days old the pigs are given what they will eat of a mixture of equal parts mids and finely-ground barley with 10 per cent of tankage added. Gradually after the end of four months the mids are reduced to nothing and the feed consists of ground barley with 8 to 10 per cent of tankage and good alfalfa pasture. The ground feed is just wet but not soaked.

PEDIGREES ON HOGS' BACKS.

[Written for Pacific Rural Press.]

"A pedigree is no good unless it is worn on the hog's back," said H. P. Eakle, Jr., of Woodland at the California Swine Breeders' banquet at the 1917 State Fair. "I am raising hogs principally from a pork standpoint, selecting a few for sale as breeders. I think if all breeders did the same and used the knife more freely purebred hogs would get ahead faster."

FIRST LITTER, 20 PIGS.

To the Editor: At my place near Linden, San Joaquin county, a sow last week farrowed 20 fine, healthy pigs for her first litter. Can you tell me what the record number is for this vicinity?—Jos. S. Hale, Berkeley.

[We think you hold the record for California, though we have heard of older sows having 20 pigs.]

Bassett's Poland Chinas

For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year — uniform in size, high in quality, quickly and economically matured and finished.

Grand Champion Sow, P. P. I. E., 1915; Sacramento, 1916.

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10 HEAD REGISTERED MILK COWS.

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Quality Product

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Invaluable also as a cover crop. Can be planted for their forage and later turned under for green-manuring.

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By W. S. Guilford

Written by a California swine breeder to meet California conditions. Read what one purchaser of the book thinks of it:

"By a stroke of good fortune, I happened to see the wonderful "California Hog Book" in one of our book stores, and I can assure you that I lost no time in acquiring it. It is the most interesting and instructive work that I have read, and more so that it treats on California conditions only."—Jno. J. Toomey, San Francisco.

Every farmer in the State should have a copy of this book in his library. The feeding tables contained in it are invaluable at this time.

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Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

The butter and egg markets are both strong, as indicated by reduced storage holdings at the opening of this month. And this in the face of large imports.

Imperial county now ranks as one of the largest producers of butterfat in the State. It has shipped so far this year 9,000,000 pounds of butterfat.

A. W. Morris & Sons recently announced they expected Miss Valley Mead De Kol Walker would finish with an 1100-pound record as a three-year-old.

The Tagus Ranch recently sold a fine bull calf, Tagus Colantha King, for $225. The young herd sire has a fine lot of Holstein blood and individual records behind him.

George A. Smith of Corcoran bought a bull calf, Finderne Soldene Pontiac Valdessa, out of a 35-pound cow, for $1,150. The bull was consigned by the Palo Alto Stock Farm.

The steamer Sierra brought both eggs and butter from Sydney, Australia, the product arriving yesterday. There were 2,357 cases of butter and 372 cases of eggs in the shipment.

W. J. Higdon of Tulare bought at the Holstein Guaranty Sale a cow whose six nearest dams average four A. R. O. daughters. She cost him $900. She was still giving milk over a year after freshening with twin calves.

Every daughter of King Mead of Riverside except one has tested an average of 4 per cent fat. The exception tested 3.9. He has 19 A. R. O. daughters, of which one is the world's record Aaggie Acme of Riverside 2nd, which made over 1331 pounds butter in a year. Six others averaged 670 pounds as two-year-olds.

Butter receipts at New York for the first eleven months of 1917 were 1,782,584 tubs, against 2,098,158 tubs in the same period of 1916. The top price for wholesale, as of December 7, is 50c, and it is hard to secure at that price. The top storage price is 44½c and the butter is coming out of the freezer faster than at this season in any recent year.

Beef Cattle.

Judging by reports from hotels and large restaurants, there can be little doubt that the request of the Food Commission to restrict meat eating is being complied with to the extent of seriously disturbing market values.

A. C. Cranor, Fresno stockman, has been appointed by the California State Cattlemen's Association to canvass the stockmen of the San Joaquin Valley, with a view to ascertaining feed conditions, number of stock, and prices prevailing.

The interior press says many cattle are dying in San Benito and San Luis Obispo counties on account of having eaten too many acorns. Feed is scarce and the stock pick up the acorns, causing constipation, which eventually kills them. Epsom salts placed in water troughs is suggested as a remedy.

Reports that there are many herds of fat cattle in California for which there is scant market by reason of inadequate slaughter houses and refrigerator facilities will be a proposition for the investigation by the Federal Livestock Committee recently appointed by the National Food Administration.

On December 5 a proclamation was signed by the President eliminating approximately 431,000 acres from the Sequoia National Forest, Cal. At the present time this land is utilized chiefly for grazing. Another large area, designated as the Walker Basin and Caliente Area, comprises 145,000 acres, of which grazing is the principal industry.

A call has been issued to members and livestock associations and stockmen announcing the twenty-first annual convention of the American National Livestock Association, to be held at the convention hall in the Utah Hotel, Salt Lake City, Utah, January 14, 15 and 16, 1918, opening at 2 p. m. on Monday, January 14. Some live subjects will be up for discussion. There will be special reduced railroad fares to the convention.

At a meeting in Los Angeles last week of cattle owners and packing house representatives with Ralph P. Merritt of the Food Administration, he denied the cattlemen's request to suspend meatless Tuesday for thirty days. D. O. Brant of Owensmouth, representing the cattlemen, said that large numbers of cattle were dying on the ranges because the lack of feed and shortage of cars for the shipments of cattle to Eastern markets, hence the asked-for relief.

Swine and Swinemen.

Dr. Belknap of San Jose, who recently visited Rancho Rubius to inspect the herd of Duroc-Jerseys, selected three choice ones—two gilts and a boar—paying $400 for them.

Farm Adviser C. M. Connor of Tulare county urges the raising of more hogs. There never was a time when a farmer could go into the purebred hog business with more assurance of success, he says, than now.

Members of the Imperial County Farm Bureau have protested to California Food Administrator Merritt against the present price of $15 per cwt. for hogs in the Valley. They are said to be too low. They want Mr. Hoover to fix the price of hogs on the basis of eight pounds of barley to one pound of pork.

The Riverina Farms at Modesto report the sale of four Berkshire sows to F. P. Roberts of Madera. They recently bought eight Poland-China sows from the University Farm and two from J. A. Clark of Lodi, and now have a herd of twenty purebred Poland-China sows headed by a fine boar selected for them in the East by Prof. J. I. Thompson.

R. H. Whitten of Los Angeles, owner of the Whitten Ranch at Terra Bella, has just purchased from E. D. Frazier of Drexel, Mo., his famous herd boar, Jumbo Bob. This boar was sired by the 1106-pound Long Jumbo, and his dam was a 900-pound sow by the 1100-pound Big Bob. Jumbo Bob weighed 900 pounds as a two-year-old, has 11½-inch bone, and is as smooth as a peeled onion. He has sired several gilts that have sold for over $500 each, and at Frazier's last two sales open gilts sired by him brought up to $250 and five sows bred to him averaged $252. He is probably the greatest breeding boar that ever left the Corn Belt. He already has several sons and daughters in California, one of his best sons being a sire in the herd of W. Bernstein at Hanford.

Sheep.

The large sheep-growing interests of the country are making strenuous efforts to secure a Federal tax on dogs.

Six thousand head of sheep are feeding at the San Joaquin Valley Sugar Company's feed yard for the Western Meat Company. Some 30,000 head of sheep are to be fattened there on beet pulp and other feed preparatory to shipment to market.

Livestock Miscellaneous.

Montana stock growers are disposing of a large part of their livestock on account of a lack of feed and water.

Kings County Livestock Inspector Frank Griffith reported ten ranches infested with blackleg for the month of November and advised vaccination in order to prevent spread of the disease. He states that although many cases of anthrax had been reported he had not found one.

Dr. F. N. Sawyer, the Kern county veterinarian, reports that he sent to the State Board of Health specimens of the horses and cattle south of Bakersfield that were thought to have died of anthrax. The State Board reported that examination revealed that the animals had been poisoned with cyanide. All the deaths were among animals that drank out of the old slough.

T. T. Miller, Los Angeles shorthorn breeder, is back from the shows. This was his first season in the ring and he has a right to be proud of his success. He had some very meritorious cattle and they were handled with skill. For a young man, just starting in the breeding business, Mr. Miller has shown excellent judgment. He first entered his cattle in the State Fair at Sacramento and there met with sharp competition, but won first on senior yearling bull, Greendale Sulton, and first on senior heifer calf, White Mayflower, first on aged bull, Diamond Choice, and on junior champion cow, and grand champion bull. At other livestock exhibitions he has been equally successful.

THE LOS ANGELES LIVESTOCK SHOW FOR 1918.

The Los Angeles Livestock Show is to be a reality. The Sixth District Fair Association, under whose auspices it is to be held, has agreed to go ahead with plans for holding the show next year. Its date has been fixed for October 20-26. A livestock show circuit is to be formed for the Pacific Coast. The first show will be held in Los Angeles, October 20-26; the second in San Francisco, November 3-9; and the third and final one in Portland, Oregon, November 17-23. In furtherance of this project Secretary C. R. Thomas was sent to the International Livestock Show in Chicago, which was held December 1-8. He met there representative breeders from all parts of the country. He is back and says he was warmly received by the breeders he met and was given every encouragement to go ahead with the show. The war, he says, has in nowise retarded the purebred livestock business. A more enthusiastic set of men, he says, he never met than those in attendance upon the International Livestock Show in Chicago. The leading breeders he talked with were not only favorably inclined towards the Los Angeles show, but many promised to exhibit. A number of the livestock associations also promised to contribute cash and special prizes for their various breeds to be competed for. This manifest of interest in purebred stock on the Pacific Coast was warmly received in the older breeding States, as it promised to broaden their field of operations and tends to create an interest in purebred stock that in that section in the past has been more or less neglected. With this co-operation promised, Secretary Thomas feels that he will be able to work up a show such as has never before been held on the Pacific Coast, and from this forward will be laying his plans and be doing missionary work for the show that is to come off here next October.

A GREAT HOLSTEIN SIRE.

The first daughters of Prince Alcartra Korndyke, son of Tilly Alcartra and at the head of the J. S. Gibson Co. herd of Holsteins, have just finished their yearly test with very satisfactory results, the average being 675 pounds butter from 15,333 pounds of milk as junior two-year-olds. Each one has completed a record as follows:

	Milk.	Butter.
Kate Korndyke Alcartra, 2½ yrs.	17,388.0	754.78
Princess Ruth Alcartra, 2 yrs.	16,180.1	729.59
Roma Princess Alcartra, 2 yrs.	14,789.4	647.33
Princess Hazel Alcartra, 2 yrs.	14,392.0	636.52
Princess Noordstar Alcartra, 2½ yrs.	13,915.7	611.40

Princess Hazel Alcartra has already freshened again soon after finishing her yearly test and without any rest has come back with a record of over 25 pounds of butter in seven days.

The others are also due to freshen again soon as three-year-olds and will undoubtedly make some creditable seven-day records.

Princess Roma Alcartra, another daughter of Prince Alcartra Korndyke, has just completed a record of 22.54 pounds of butter in seven days with her first calf.

An interesting fact about the daughters of Prince Alcartra Korndyke is that they have all beaten the records held by their dams at the same age and some of them have beaten their dam's full-age record. Mr. Gibson's herdsman states that they expect to make him the first bull in the world out of a 30,000-pound dam to have a 30,000-pound daughter.

TWO REGISTER OF MERIT TESTS.

Guy H. Miller reports the latest Register of Merit tests of the two Jersey cows, Pearl of Venadera and Wanda of Venadera, finished a few weeks ago. Pearl of Venadera began this last test at the age of ten years seven months. For the year she gave 9,687 pounds of milk, testing 5.82 per cent, making 563 pounds of butterfat, equal to 663 pounds of butter, 85 per cent fat. She was fed and milked but twice daily throughout the test and dropped a nice bull calf fifty days after finishing her test. Wanda of Venadera began her test at the age of ten years three months. For the year she gave 8,980 pounds of milk, testing 5.92 per cent fat, making 531 pounds of butterfat, equal to 624 pounds of butter, 85 per cent fat. As is the rule with all cows in test in Venadera herd, she was fed and milked but twice daily. And she dropped a fine bull calf fifty-five days after completing her test. Wanda has a previous test of 609 pounds of butter made as a seven-year-old cow.

HORSE AND MULE EXPORTS IMMENSE.

This has been one of the most active years in the livestock export business this country has known. Thirty million dollars' worth of horses and close to half that value in mule stock have been shipped to the allies and other foreign nations. This does not include value of army stock taken by the United States troops to France.

BIG MONEY IN TRAPPING

There is a STRONG DEMAND for California Furs

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Tells HOW, WHEN and WHERE to Trap. Shows how to make Sets. Tells you proper method in Skinning, Scraping and Curing Pelts, and the right BAIT to use.

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1121 Front St. Sacramento, Cal.

STOCK COMMISSION NAMED TO HELP STABILIZE MEAT PRICES.

A livestock commission consisting of L. B. Nares of Fresno, president of the California Livestock Protective Association; C. B. Cunningham, Sacramento, president of the California Swine Breeders' Association, and Prof. Gordon H. True, head of the Animal Husbandry Department at the State Farm, Davis, has been appointed by the Federal Food Commissioner of California. This commission met at San Francisco on Tuesday and Wednesday of this week and will have sessions weekly to investigate stock and market conditions.

At this time the swine and beef producers are not getting for their products prices sufficient to allow them to break even, much less a profit that they may expand their herds. The swinemen contend that the minimum price of $15.50 set upon hogs will not pay for grain-fed pork when fattened on barley at present prices.

No Government action has as yet been taken on beef, and the prices being paid at this time on the Coast are below those of the large centers of the East and below the cost of production. At this time of the year there is usually a surplus of beef cattle, which does not exist later in the season. The surplus is aggravated this year owing to the shortage of hay last spring; then, too, the rains stopped early last season, causing a shortage of pasture which has continued this fall owing to lack of rains. The stockmen have no recourse other than to sell their stock on an overloaded market or to pay the high prices for hay and grain grown in the valleys.

Two ways are suggested to ameliorate the conditions. One is to do away for the present with "meatless" days on the Coast, and the other is for the Government to buy the cattle or all the butchered beef the packers on the Coast can kill and ship.

As a result of the investigation the California Food Commission has already made one recommendation to Washington, which, if accepted, may help conditions immediately.

WINNERS AT THE INTERNATIONAL.

At the International Livestock Show, held in Chicago, December 1 to 8, the showing of purebred cattle was greater than ever before and the attendance larger and more enthusiastic. The Shorthorn steer shown by Purdue University captured the grand championship and was sold at the record price of $2.10 per pound to Armour & Co. The $3,300 paid for him was given to the Red Cross. Among the various beef breeds the hottest competition was in the Hereford aged bull class, in which fifteen were lined up before the judge, who finally awarded the Yost bull, Ardmore, champion, and this animal was later made grand champion of the show. Horses, sheep, and hogs were also shown in numbers and each had swarms of people to admire them.

At the several public sales held during the week good prices were received, notably at the Hereford sale, when 56 head averaged $1,773. The grand champion bull, Ardmore, was sold for $31,000 to W. L. Pickering of Kansas City. Chas. Rule of California bought one bull for $2,200. The Shorthorn sale included 52 head, which averaged $1,090. The top price was $9,000, for Mount Victoria Stamp. Nineteen head of Galloways were sold at an average price of $393. Thirty-four head of Angus averaged $1,005 per head. At the Red Polled sale 34 head averaged $440.

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John Rapp, head of the Rainier beer agency, has purchased a 2800 acre dairy ranch which extends from Inverness into the point of land commanding the entrance to Tomales Bay. The price was $96,000. The land lies just across Tomales Bay from the Marconi wireless station.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

SWINE.

Poland-Chinas.

HIGH DOLLARS ASSURED for the hog-raiser. The scarcity is bound to make pork high for years to come. Improve your herd with a good Poland-China boar. 20 of the finest you ever saw, from six months to 18 months of age. Price from $40 to $100. Sows sell in the Kings County Poland-China Breeders' Sale, February 20th. Bernstein's Ranch, Hanford, Cal.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

MY POLAND-CHINAS are prolific and profitable. Write for description and prices. Dr. J. A. Crawshaw, Hanford, Kings County, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd, and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

EFFICIENCY FIRST BERKSHIRES — Ten firsts, all championships Nevada State Fair, 1916. Laurel Champion and Grand Leader breeding; any age. Joseph Wilson, Jr., Mason, Nevada.

FOR SALE—Two Thoroughbred Berkshire Boars. One is 2 years old, the other 3 years old. A. F. Roach, Montebello, Calif. Phone Boyle 3164.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRES—Fine, growthy, May pigs, both sexes, sired by Star Leader, reserve Grand Champion P.-P. I. E. Prices reasonable. Anchorage Farms, Orland, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

BERKSHIRES—Sired by Star Leader, the $1,500 boar, ready for service. Kounias Registered Stock Farm, Modesto.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

FOR WELL-BRED BERKSHIRES, write Glenwood Acres Stock Farm, Paso Robles, Cal.

Duroc-Jerseys.

REGISTERED DUROCS—We offer for sale a choice service boar out of a daughter of Modesto King and by a grandson of Burk's Good E Nuff; young sows and boars out of Model Queen of U. F. and by a son of Golden Wonder; young sows and boars out of a granddaughter of John Orion and sired by a son of Model Col.; three young boars out of a great sow of Crimson Wonder breeding and sired by a son of King's Col. Every one cholera immune by the simultaneous method. Registered, crated free of charge. If you cannot visit us, write for prices. Derryfield Farm, I. O. O. F. Building, Sacramento, Cal.

RANCHO RUBIO DUROCS—Some corking good spring gilts, sired by Orion Model and California Keen 5th, and out of my best sows; open or bred; also weaned pigs, both sexes. Write for breeding and prices. Elmer Lamb, Ceres, Cal.

DUROC-JERSEY PIGS FOR SALE from prize-winning stock. Price $10 to $25 each. They are all in good condition. For further particulars write to W. C. Chisholm, Route 4, Santa Rosa, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

EUREKA FARM DUROCS—Herd headed by Mandy 13s Taxpayer. A few weaned sow pigs for sale. F. M. Barney, Hanford, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

DUROCS OF GUARANTEED BREEDING—Pigs $15 up, sired by State Fair prize winner. H. E. Boudier, Napa.

RANCHO DEL SUR DUROC-JERSEYS — Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

DOS HERMANOS DUROCS—Young boars and gilts. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

RANCHO RUBIO DUROCS sold out except some choice fall boar pigs. Write for prices. Elmer Lamb, Ceres, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND of Chester Whites. Am entirely sold out of bred sows and gilts. Have a very few open gilts of March and April farrows, also 6 boars, same age; have 9 young tested sows to offer for late December shipment; these have each farrowed once and will be bred to farrow again in late March or early April. Fall pigs, both sexes, are now being weaned; will be ready for shipment during December. Good breeding stock is getting very scarce and is rapidly increasing in price. If you want some of this easy feeding, mellow type, get busy with your orders. C. B. Cunningham, Mills, California.

HIGHLAND STOCK FARM CHESTER WHITES—We are making special prices on some young boars and gilts for immediate delivery; shipped on approval; satisfaction guaranteed; cholera immune; registered and crated free; write for booklet and prices. Robinson & Ward, Fair Oaks, Cal.

Hampshires.

BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

REGISTERED HOLSTEINS—Out of A. R. O. dams; grandsons of King Korndyke Hengerveld Ormsby, who has 20 A. R. O. daughters with records over 29 pounds. Kounias Registered Stock Farm, Modesto.

BUENA ALTA HERD registered Holsteins, blue ribbon winners at State and county fairs; heifers and bull calves for sale. F. A. Heroux, 829 Fifty-sixth street, Oakland, Cal.

REGISTERED HOLSTEINS—Sires in service, Prince Butter Boy, King Mead of Riverside, and Toyon Valdessa Hengerveld. J. H. Harlan Co., Woodland, Cal.

TOYON FARM HOLSTEINS—Sons of Finderne Soldene Valdessa for sale. Toyon Farm Association, First National Bank Building, San Jose.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

TULARE HOLSTEIN FARM—Young bulls for sale, sired by Prince Riverside Walker from A. R. O. dams. W. J. Higdon, Tulare.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED HOLSTEINS—A. W. Morris & Sons, Corp., Importers and Breeders, Woodland, Cal.

YOUNG REGISTERED HOLSTEIN BULLS ready for service. W. H. Ginn & Son, Corcoran, Cal.

CREAMCUP HERD — Registered Holsteins; Pontiac bull calves. M. Holdridge, Modesto, Calif.

REGISTERED HOLSTEIN BULLS, $50 to $150. Glorietta Stock Farm, Woodland, Cal.

GOTSHALL & MAGRUDER — Breeders of registered Holstein Friesians. Ripon, Cal.

BREEDERS OF REGISTERED HOLSTEIN Cattle—McAlister & Sons, Chino, Cal.

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HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

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EL DORADO HERD OF HOLSTEINS. Alex Whaley, Tulare, Cal.

Jerseys.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

PEDIGREED BULL CALVES, with or without registration, and service bulls from cows with yearly records and our herd bulls; cows with records; all tuberculin tested; priced right; horses. N. H. Locke Co., Lockeford, Cal.

VENADERA HERD OF JERSEYS offers calves from Register of Merit cows with official yearly records. Write for list of bulls. Guy H. Miller, Route 1, Modesto, Cal.

SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

JERSEY BULLS from Register of Merit cows. C. D. Hayworth, Modesto, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma, Cal.

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PACIFIC GUERNSEY HERD — Cattle selected from the best imported and Advanced Register Stock. Now offering choice bulls. C. S. Rasmussen, Loleta, Cal.

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BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

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BEEF CATTLE.

D. O. LIVELY STOCK FARM, INC., 216 Hobart Bldg., San Francisco, breeders of Hereford cattle. A few choice heifers for sale. We buy and sell livestock on commission. Farm at Mayfield, Cal.

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REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalog free. Harrison London Ranch, Glen Ellen, Cal.

REGISTERED AND UNREGISTERED — Shorthorn bulls for sale. Palmes Ranch Co., 320 Sharon Bldg., San Francisco.

SPRINGDALE STOCK FARM — Choice Shorthorns, bred for size and quality. W. C. Short, Reno, Nevada.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Cal.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, Cal.

SIMON NEWMAN CO., Breeders of Registered Herefords, Newman, Cal.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, Cal.

SHORTHORNS—Carruthers Farms, Mayfield, Cal.

SHORTHORNS — Fair Oaks Ranch, Willits, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and Importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS and ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena.

KAUPKE BROS., WOODLAND, CAL.—Breeders and Importers of Hampshire sheep.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

CALLA GROVE FARM, MANTECA, CAL.—Breeders, Importers of Hampshire sheep.

HORSES AND MULES.

FOR SALE—Percheron horses and mares, age 4 to 10 years; weight, 1200 to 1600. Price, $200 to $300 per span. S. L. Skaggs, Madera, Cal.

REGISTERED PERCHERONS — Herd stud, first prize, Reserve Champion, P. P. I. E. 1915. John Matley, Reno, Nevada.

MISCELLANEOUS.

WE ARE BUYING HOGS of all sizes, weights and breeds; any number from one to several thousands considered; we pay spot cash on delivery. What have you? Durbin & Forbes, 722 San Fernando building, Bdw. 4170, Los Angeles.

BUTTE CITY RANCH—Shorthorns, Shropshires, cholera immune Berkshires and Ponies. Special offering of sows, pigs and bulls. Butte City Ranch, Box P, Butte City, Glenn Co., Cal.

FOR SALE OR TRADE—Purebred Percheron stallion, steel grey, 8 years old, sound, gentle and good breeder. For further particulars address Thos. Hushbeck, Route 1, Box 3, Watsonville, Cal., Santa Cruz County.

CROLEY'S BALANCED DAIRY FEED, the cheap milk producer; and Croley's Calf Meal, the best California calf raiser. Geo. H. Croley Co., Inc., Eighth and Townsend Sts., San Francisco.

LARGE TYPE POLAND CHINAS. For sale two young boars, ten months old, thoroughbred, well built, gentle disposition. Price $50 apiece. Harry L. Huston, Winters, Yolo Co., Cal.

FOR SALE—Seven-year-old registered Jersey Bull, raised at University Farm, Davis. Very fine individual. R. C. Hogg, Morgan Hill, Cal.

Sheep on Mixed Farms

[Written for Pacific Rural Press.]

Sheep raising as a farm practice in San Diego county is receiving a little more interest and attention lately due to the increased prices of wool and mutton, and, in the opinion of Farm Adviser Weinland, is worthy of and will probably grow to be one of the important farm industries of the county.

During the early spring grass season, land which is in brush and not available for general farming will take care of the flock. In the early summer hay and grain fields, together with odds and ends of weeds and grass in fence corners, will maintain the flock. In the fall they are allowed to pasture over corn fields, bean fields, vineyards, and so on, picking up much fodder and forage which usually is wasted. In the winter months, before the grass season commences, it sometimes is necessary to feed some hay or better corn silage, with sometimes a little concentrate, housing the ewes through the bad weather, and especially through the lambing period.

BREEDS TO USE.

In the flocks of the early days the Merino was the most common breed, and while it was found to be very hardy, for the farm sheep, a somewhat larger animal with a better wool clip is desired. A combination of wool and mutton breeds proves quite satisfactory, the Shropshire-Merino cross being one of the best. Under Southern California conditions, two wool clips a year may be made, which allows sheep to forage in rather rough brush without serious damage, which might occur with only one shearing.

FENCING AND CARE.

The principal item of expense in preparing for handling sheep is that of fencing. Good hog wire is desirable; with two or three barbed wires above to keep stock in, it will prove one of the best and most satisfactory types of fencing, though plain barbed wire, if sufficiently close at the bottom, and at least six wires, will do.

With a farm flock of twenty-five head, no herding will be necessary, for if trained a little they will form the habit of coming into the barnyard or corral every night. [Suitable shelter of this kind will largely prevent losses by dogs.—Ed.]

Damage from coyotes may largely be prevented by attaching a turkey bell to each lamb. An example of what has been done with sheep in this manner is obtained from Amos Grigsby at Campo, as follows: December 1, 1916, his flock consisted of twenty-five ewes.

April 20 he sold 235 pounds of wool at 28c	$65.80
September 30 sold 9 head of wethers, 9 to 10 months old, 810 pounds, at 13c	105.30
November 20 sold 175 pounds of wool at 38c	66.88
Total sales	$237.98

Besides this, he has on hand ten young ewes which values at $10 each, total $100. Fourteen lambs, values at $5, $70. Total sales, plus value of increase, would be $407.98. This was made on a total investment of twenty-five ewes, which, valued at $10, would be $250.

The expense incurred was very small, being principally nothing but docking the lambs and shearing the sheep. The feed was fifty acres of brush land over which they ranged, in addition to feeding on approximately fifty acres of general pasture land along with cattle and hogs.

Percheron Society Holds Annual Meeting

[Written for Pacific Rural Press.]

The annual meeting of the Percheron Society of America was held December 3rd, at the Congress Hotel, Chicago, and was well attended. President White said that it is time for optimism, not pessimism, in the horse business; that the breeding of horses has been curtailed materially in the last few years, while the demands on our horse stocks have been greater than ever. He urged all breeders to hold fast to their good stock, and exert themselves to produce more good Percherons, which will be urgently needed in the future as seed stock from which to build up our ordinary farm horses.

Secretary Wayne Dinsmore directed attention to the great growth of the society in the past seven years. Seven years ago the society had about 2,850 members and reserve funds around $34,000.00. In seven years the membership has increased to approximately 9,000 breeders, and the reserve funds, in securities, are now in excess of $106,000.00. More animals have been recorded in the past seven years than in the entire 34 years preceding, eloquent evidence of the steadily increasing popularity of Percherons. He reported that in spite of the pessimism prevalent in some quarters, the society has enjoyed the banner year of its history, having handled more registrations and transfers than in any past year. The secretary referred to the enormous exports of horses for war. During the 36 months ending August 31, 1917, 939,540 horses, valued at $199,903,036, and 323,785 mules, valued at $64,202,454, were exported—a total of 1,263,325 animals. Exports are continuing at a rapid rate.

In the election of officers, E. B. White was re-elected president; W. S. Dunham was elected vice-president, and Wayne Dinsmore continues as secretary. Mr. W. S. Corsa was elected to represent the Percheron Society on the National Society of Record Associations.

The meeting thereupon adjourned.

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The electric automatic block signal system is operated with such a degree of accuracy and watchfulness as to seem almost superhuman. Out of an average of 300,000 indications each month, not a single false movement was registered.

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POULTRY WITH DAIRY MAKES OPTIMISTS.

(Continued from first page.)

ing and poultry has made a home for Mr. and Mrs. Nelson from the results of their own work on forty acres without depending on outside labor; and they are of the class of present optimists in their specialties.

A large shipment of sheep has been received in Corcoran from Texas, to be fed on the beet pulp from the sugar mill.

A Pennsylvania Farmer Says Concerning Electric Motors on His Farm

"A one-horse power motor is located in the spring house for separating milk, churning butter, turning a grinding stone, etc.

"In the house, my wife has a ⅙-horse power motor for running a washing machine. This motor can be attached to any lamp socket.

"In the barn a 15-horse power motor mounted on a little truck may be moved to any part of the barn or barnyard for grinding feed, baling hay and threshing grain. By extending the cable we have used this motor 400 feet from the barn."

This letter suggests equally profitable installations around your house and barns. The General Electric Company manufactures all sizes of electric motors for farm use. Information will be gladly furnished by your lighting company or our nearest motor agency.

General Electric Company

Los Angeles Office: Corporation Bldg.

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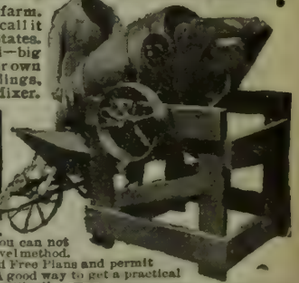
The Farmer's Concrete Mixer

SHELDON Batch Mixer Price $11.50 Up

The Sheldon was designed especially for the farm. Highly praised by users. Farmers everywhere call it the ideal mixer. Used today all over the United States. A big success. Small enough to be easily moved—big enough to keep 6 men busy. Low in price. Build your own silo, tanks, troughs, floors, foundations, buildings, etc., out of concrete with a Sheldon Batch Mixer.



Read What These Sheldon Owners Say

I and my hired man laid a feeding floor for my hogs, 24x24, in one day; also put floor in my cow barn. My neighbor liked it so well I am not able to keep it at home.—ANDREW CHRISTENSEN, Hancock, Minn., Rt. 1.

We have used the mixer during past year for putting in cement foundations for a complete set of farm buildings, including silo, and like it very much.—DANA WRIGHT, Jamestown, N. D.

Last year I bought a cement mixer from you with which I am well satisfied. It did not take long for it to pay for itself and I surely can recommend it to anyone needing a *big mixer at a small price*.—WM. PARKS, Marion, Ill.

I am more than busy with my Sheldon Concrete Mixer. Have more work than I can do. *I get $10 a day when I work out*.—JESSE L. WITTER, Wellsville, N. Y.

The machine works fine. Have already *got the job* of mixing concrete for the bridges in this township.—JOHN ROSS, Spartansburg, Pennsylvania.

Last spring we purchased of you a set of castings to make a concrete mixer. It was constructed per the plans furnished and it *surely worked great*.—D. M. BAUBAKER, Freeport, Ill.

FREE PLANS

Make your own concrete mixer. You can do it at a cost so low you can not afford to mix concrete by the shovel method. Along with our iron parts we send Free Plans and permit for making your own machine. A good way to get a practical mixer at a small expense. Or, we will sell you the complete machine, ready built.

Make Big Money at Concreting

If you buy a Sheldon Mixer for your own use, you can make many times its cost in a season by renting it to your neighbors. Or, if you want to go out with the mixer on contracts, you can easily earn $8 to $20 a day. Our customers are doing it right now. The jobs go to the man with a Sheldon Mixer every time.

Write For Our New FREE Catalog

Shows our full line of mixers which are sold direct to you on strong guarantee. *Thirty-days trial* privilege. No other like it. Patented. Two styles, hand and power. Mixes 2 1-2 cubic feet a minute. One man can operate it, but it will keep 2, 3, 4, 5 or 6 men busy. Continuous chain drive. Tilting dump. Easily and quickly moved. All parts guaranteed. Does work equal to $400 mixers. Be sure to get the catalog. Write today.

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We Ship Direct from San Francisco

We have just warehoused a carload of Sheldon Mixers in San Francisco to save you freight and time—can deliver your Mixer in three days if necessary.

No Long Wait—Lowest Freight

The Sheldon will pay for itself on first small job. Takes the backache out of concrete. Makes possible those many small improvements that add so much to the value of your land.

VETERINARY QUERIES

[Answered by Dr. H. B. Wintringham.]

[Subscribers wishing an immediate reply should send money order for $1.00. No charge for questions answered through this department. Name and address of subscriber must accompany each query.]

Very Likely Contagious Abortion.

To the Editor: I have a dairy of 13 cows. One cow had a calf about three weeks too soon. The cow did not do well for some time and did not breed, but after a time bred all right and is now fat and sleek. Another cow had twins a month too soon — one dead and the other healthy. The cow did not clean for some time and I have been unable to get her with calf so far. I have several other cows that I have not been able to get with calf since I got them. Is there danger that this is contagious abortion?—T. C. H., Madera.

This is very probably contagious abortion, and you would do well to call in your local veterinarian and have these animals treated.

Miscellaneous Troubles.

To the Editor: Is there anything better than camphorated oil and turpentine for muscular swelling of two weeks' duration on horse's rear leg, caused by long trip? What tonic can you recommend for a 17-year-old otherwise good horse? Please give me a sure remedy to rid a horse of worms.—M. J. P., Morgan Hill, Cal.

It would be better to paint the swelling with tincture of iodine daily. A good tonic is composed of fluid extract nux vomica, 12 drams, and Fowler's solution, enough to make 12 ounces, one ounce twice a day. For worms give two ounces of turpentine diluted in one quart of skim milk.

Horse Passes Small White Worms.

To the Editor: Some time ago I used powdered areca nut for dogs with worms, as your paper recommended, with gratifying results. Now, what I'd like to know is, what is good for a horse with small white worms that are sometimes expelled in the manure. I have one horse, a mare with a two-months old colt. Would it hurt her to give her the areca nut also, or would you advise something else?—J. M. H., Fort Seward.

Areca nut is not indicated in equine practice. For this trouble use ten minims beechwood creosote twice a day over a period of one week.

Mare Has Bronchial Cough.

To the Editor: My mare, ten or twelve years old, has had a bad cough for a year or more, the last few days quite severe. The spells last ten or fifteen minutes. It is a dry cough; no running at the nose. Lately there has been a rattling in the throat and heavy breathing after the coughing spells. The mare is in good condition—fat; eats and drinks well; is fed mostly on alfalfa hay. If the cough continues, will it hurt her to be worked lightly or driven a few miles a day? What shall I do for her?—F. J. H., Escalon.

Give this mare 5 grains potassium bichromate, diluted in water, three times a day.

Acorns May Produce Abortion.

To the Editor: During the past thirty days I have had three heifers lose their calves on the range and have penned them up pending investigation. According to my books this looks like a case of contagious abortion, though I am informed by Mr. Bruce Walker, of this place, that he had seven out of nine cows slink their calves while feeding in a small field in which acorns were very thick.—L. B. W., Potter Valley.

Acorns produce abortion if fed in large quantities. This is probably your trouble.

Collies Troubled with Worms.

To the Editor: I have been troubled with my sheep dogs (Scotch collies) for the past ten years. They get a little excited, eyes begin to look nervous and sharp, look back and all about them, give a sharp yelp, then run to the house or barn. After an hour or less they seem all right again. Hope for an early reply.—L. C., Ukiah.

These dogs are troubled with worms. Give 30 grains extract of malefern and follow in six hours with one ounce of Epsom salts.

A Sick Dog.

To the Editor: I have a large collie dog that is very sick. His stomach is hard, and he has no movement of the bowels. He is in great pain and walks with his back humped up. He lies down most of the time, sometimes on his back. His eyes have a dull color. This is the second or third attack he has had.—G. C. W., Danville.

Give this dog two ounces of castor oil.

Mane Falling Out.

To the Editor: I have a mare eight years old and about six months ago part of her mane commenced to fall off and for about three inches on the middle of the neck there is no more hair. Would you kindly advise me what to do to make the mane grow again?—F. M., Kingsburg.

Give this animal one ounce of Fowler's solution of arsenic twice a day.

Fresh Cow Gives One Quart Only at a Milking.

To the Editor: I have a cow with second calf two weeks old that is giving only one quart at a milking. She is in good condition, eats well, etc. Is there anything I can do for her? I gave her ginger followed by salts. A veterinarian gave her tansy tea. She was dry about 25 days.—G. M. P., Turlock, Cal.

Give this cow one dram fluid extract nux vomica three times a day.

Heifer in Bad Shape.

To the Editor: We have a heifer 18 months old. Her head and eyes are all swelled up. The latter are red and run water. She is swollen under the breast, in front of the udder. What is the matter and what can we do?—J. B. L., Browns Valley.

Give this cow one ounce of fluid extract of echinacea three times a day.

Blood in Goat's Milk.

To the Editor: In your answer to query regarding blood particles in cows' milk in issue of October 6th, you give hexamethylamine in dram doses twice a day. Would this medicine cure the same trouble in milch goat, and what would be the dose?—H. F. B., San Jose.

You can use this medicine in 30 grain doses for this trouble in a goat.

Cow Has Caked Teat.

To the Editor: I have recently bought a cow that has a caked teat. She will be fresh the first week in January. Is there anything I can do to bring the teat out at freshening? I am milking her yet—get about six quarts a day. When shall I dry her up?—R. C. P., Ripon.

Dry this cow up and she will probably come in all right.

Raw Sore on Udder.

To the Editor: I have a young cow that has a raw sore on her udder in front, near her belly. It is right at start of udder. I bathed it off with a solution of lisol and water. Can you tell me what it could be?—C. E. H., Escalon.

Paint this sore with equal parts compound tincture of benzoin and tincture of iodine once a day.

Mares Lose Flesh.

To the Editor: I have two young mares that have been losing flesh, although they have been on good feed and eat well. The urine from both is very thick and oily looking. One has a desire to urinate too often. Any advice will be appreciated.—A. J. G., San Andreas.

Give these mares two drams hexamethylamine three times a day for a period of four or five days.

Mr. Farmer:

You can't get along without a Pull, so buy a good pair of mules from

Burrell and Corey

Breeders and Importers

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JACKS and JENNETS

Hanford, Cal.

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For the Prevention of Blackleg in calves and young cattle

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Year in and Year Out they give better satisfaction than any other vaccine made, and the cost of a few cents per dose is cheap insurance against a disease that always takes the fattest and best.

Single Pills may be used for ordinary and range stock.

Double Pills should be used for pure bred and high grade stock.

Use any Injector, but Cutter's simplest and strongest.

Prices:
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Cutter's Pill Injector.... 1.50

Insist on Cutter's. If unobtainable, order direct.

Write for new booklet, "The Control of Blackleg." It tells about Anti-Blackleg Serum which cures Blackleg and may be used simultaneously with vaccine to combat outbreaks and safely protect valuable stock.

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Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone and horse can be used. $2 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse Book 2 M Free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Strained, Torn Ligaments, Swollen Glands, Veins or Muscles; Heals Cuts, Sores, Ulcers. Allays pain. Price $1.00 a bottle at dealers or delivered. Book "Evidence" free.
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35 years in this business. I sell direct to the consumer. You get as your own agent and save 20 per cent. Tanks from 300 gallons to 10,000 gallons in stock. A stock tank 6x2 ft., $10. For hot climates get my patent tank. Reference: Farmers & Merchants Bank of Stockton. Phone 3957.
E. F. WILSON Stockton, Cal.

Have You Learned that KOW-KURE Can Make a Difference?

It is common knowledge in thousands of the best dairies from coast to coast that Kow-Kure has no equal as a medicine-tonic for cows that are "off color." Such common ailments as Abortion, Barrenness, Retained Afterbirth, Scouring, Lost Appetite and Bunches are promptly eliminated by the active medicinal qualities of Kow-Kure, working on the digestive and genital organs.

As a preventive of disease, the occasional use of Kow-Kure will pay big returns in increased vitality and improved milk yield. Used before and after calving, Kow-Kure will prevent Milk Fever and Retained Afterbirth, and enable the system to resist the other diseases which frequently start at this period.

If you have a cow that is not yielding as she should, something is wrong with her organs of production. Try Kow-Kure and note the prompt improvement in appearance and yield.

Sold by druggists and feed dealers; 55c and $1.10 packages.
Send for free treatise, "The Home Cow Doctor."

DAIRY ASSOCIATION CO.,
Lyndonville, Vt.

Poultry for Profit

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

A SUCCESSFUL RABBITRY.

Yesterday I went on a hike to a rabbitry that I had been hearing about, and, of course, I have to tell "tales out of school," because that is my business. The proprietor knew that and he said: "Anything you see or hear you are welcome to."

HUTCHES.

These are made up from a plan of his own, and he says that after seeing dozens of all kinds of hutches he decided that all of them had the one defect of allowing the liquid refuse to stand on them and form a white deposit that was unhealthful for the stock. The Government idea of having single hutches is, of course, the best, but that requires much room and a lot of high-priced roofing. So he decided on a three-tier hutch made in square form. I failed to ask measurements, but the rabbits have ample room to move about in. The hutches are built continuous, with board partitions; wire doors front and back. One row of hutches faces the other, with a good alleyway between. Over every hutch is a card tacked on, telling when the doe was bred, what to, and date expected to have young. A day or few days before the expected time a box about 18 inches long and 12 inches wide is put in the compartment along with nesting material, and each box is cut down to about 6 inches at one place so that the doe can get in and out easily, balance of box is 12 or 14 inches high. Each pen or hutch is supplied with a small hay rack with a cover of two-inch poultry wire for the rabbits to feed from, a piece of rock salt and a quart nappy or crock, such as we give to small lots of poultry, filled with clean water.

AN INGENIOUS ARRANGEMENT.

Now the great feature of these hutches is that on the outside—by this I mean the side of the building farthest from the alleyway—the rows of hutches run north and south, so there is a west and an east side. Along these east and west sides there is a one-inch wire mesh floor that runs through all hutches, lower and upper, and the rabbits are trained to go on this wire floor to do all their dirt. His board floors are always dry and clean, because all excreta go down to the ground, where he keeps an absorbent and cleans out with a hoe every day. I found everything as sweet smelling as a clover field—no foul odor, nothing at all. What I would call the outer walls of the building are simply the backs of the hutches and are one-inch mesh wire the same as the front, but they are covered with sugar sack material to keep out the cold.

DOUBLE ROOF.

The hutches are covered with a shake roof, then over the top is a roof that is raised about six inches higher than the hutches. This acts in the capacity of a roof and a ventilator, so that in hot weather there will be a breeze through. Double doors at each end of the buildings can also be opened to the breeze when it is necessary. At present there are only forty does, but all of them are coming in fast and it won't be long until this man will have a large flock of healthy rabbits, and he expects to make it his full work.

GOUT AND RHEUMATISM.

This is the time of year when turkeys especially are liable to these distressing complaints. Springtime and fall months seem to be hard on turkeys in this way, and from my experience the cause is damp floors and ground, on the top of high feed. Turkeys require a warm, dry floor, at all times, but especially so when they are being fed grain and mashes. Now if they are given plenty of straw, and the floor of the house is fairly dry, you can prevent them getting down with this trouble by giving a teaspoonful of iodide of potassium in a quart of water about once or twice a month. If they already have it in their limbs they will need the medicine every day until they are able to walk, when it may be dropped.

Sometimes ducks and geese are attacked with this trouble if they sleep on damp floors or on bare sand, and the same treatment will cure them, as it will any other kind of poultry, but in all cases the victims should be kept dry and warm when iodide is used.

KEEPS WATER CLEAN FOR HENS.

To keep hens from scratching dirt into their pan of water and to keep it out of the sun and protect it largely from wind-blown dust, a simple stand is shown by the University of California. It is a four-legged table about a foot square and 15 inches tall. Four inch pieces connect the legs about three inches under the top, being nailed level and inside the legs. The water pan is about three inches deep and a foot in diameter. Its rim rests on these level braces.

HIGH QUALITY AT MODESTO POULTRY SHOW.

Chas. H. Vodden, with six entrees in Barred Rocks at the Modesto Poultry Show, won three firsts, three seconds, and a special. Classes in all the leading breeds were well filled and the quality was high. Sweepstakes prize for best male bird in the show went to a Rhode Island Red owned by J. M. Hacock, best female to a Black Orpington hen owned by W. J. Stewart of Alhambra.

SCRATCHING PREVENTS DISEASE.

"The best cure for poultry disease is prevention," said Mrs. M. B. Nixon of San Diego county last winter. "We cultivate the ground in the yards every two weeks and throw in some seed, which keeps the chickens scratching. Heavy litter in the house serves the same purpose in rainy weather."

FANCY VERSUS UTILITY.

[Written for the Pacific Rural Press by Harry Mortenson, Sulaun.]

What is a fancy bird, and then again, what is a utility fowl? The term "fancy" has come to mean show stock, and utility anything else. This is a mistake. All breeders should strive to produce standard-bred stock. There should be but one standard. If the present one does not represent the laying hen it should be changed. Beauty and practicability can be combined, and we must do it. All our best layers, according to trapnest records, are show birds. The writer places vitality first, then standard qualities in choosing a male bird to head the flock; and the result has been a gradual building up of the entire flock. We have been asked upon several occasions why we have never entered the show game. Simply because it takes time to build up the flock of show birds. Any exhibitor who buys his birds on the outside and then shows them under his own name should be barred from showing. It is absolutely no credit to an exhibitor to win on bought stock.

Some breeders who are breeding fowls do not consider the laying qualities at all. One of the faults of the Hogan System is he does not consider the standard qualities at all, which is a mistake. There should not be two standards, and the sooner the breeders of utility and fancy birds get together and adopt a common standard, the better it will be for the industry, as we cannot afford to keep a bird that will not pay for its keep in eggs.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

MISSION HATCHERY CHICKS, January, February—R. I. Reds, Barred and White Rocks, Black Minorcas, Anconas, White, Brown, Buff Leghorns; first-class utility stock, well mated; hatched right in our large modern plant. 12,000 chicks weekly. Price and quality talk; see our free circular about them. Mission Hatchery, Box 107, Campbell, Cal.

ORDER NOW — Purebred White Leghorn chicks, 15 cents until March 15th; then 12 cents. Eggs $1.00 per 15, $3.00 per 30, $6.00 per 100. Big plant, best strains, foundation stock, thousands of breeders, 20,000 feet under roof, green feed and fresh cut bone fed daily. Remember, the chick or egg cost is small compared to the feed cost, so get the best. Catalogue free. Newton Poultry Farm, Dept. 1, Los Gatos, Calif.

MODEL POULTRY FARM—White Leghorn specialists. Now booking orders for hatching eggs and baby chicks for 1918 delivery. A few choice breeding cockerels for sale. We have been established 14 years. W. C. Smith, Corning, Cal.

SPRING CHICKS—We are booking orders now; we start our run in January; Rhode Island Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. Remember, order early. Campbell Poultry Ranch, Campbell, Cal.

SPRING CHICKS—We are booking orders now. S. C. White Leghorn, only selected and fully matured stock that is bred to lay used in the breeding pens, which assures strong and vigorous chicks. $12 per 100, $100 per 1000. H. A. Schlottauer, Route A, Exeter, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

THOROUGHBRED BOURBON RED TURKEYS for sale: young Toms, sons of First old Tom, State Fair, 1917, $7.50 to $10 each; hens, $4 to $6; also Eastern stock; all choice. Emma V. Miller, Farmington, Cal.

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SINGLE AND ROSE COMB Prize Rhode Island Reds. Hatching eggs, breeding pens, cockerels. Send for circular. Wm. Larm, 3915 39th ave., Fruitvale, Cal.

WHITE ORPINGTONS, heavy egg type; Buttercups, fall and winter layers; eggs, chicks; Hoganized stock of all kinds for sale. M. S. Woodhams, R. F. D. 1, San Mateo, Cal.

BABY CHICKS — From select free-range White Leghorn stock; place orders early; prices on application. Western Hatchery, Petaluma, Cal. W. S. Waldorf, Prop.

PLACE YOUR ORDERS NOW with the Madera Hatchery, Madera, Cal., for Barred Rock, R. I. Red and White Leghorn chicks. Spring delivery.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.; large yearling hens; young birds of both sexes; egg orders now being booked.

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SIXTY R. I. RED PULLETS—Ready to lay; $1.50 each. Ten Bronze gobblers, $8 each. Wm. A. French, Stockton, Cal.

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EASTMAN'S BRED-TO-LAY Barred Plymouth Rocks; choice cockerels. Fairmead Poultry Farm, Fairmead, Cal.

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Besgrade Milk Mash

is a recognized standard among successful poultry raisers.

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Future success is too important for you to take chances with improper feeding.

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GREAT WESTERN MILLS
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Mrs. Best's Letter.

KNITTED GOODS — SOME LATE FASHIONS.

My Dear Friends: If any of you are not adept at knitting and still have some boy you want to provide with knitted garments, you will be glad to know that these articles can be purchased ready made — sometimes for not much more than the cost of the yarn. Sweaters, helmets, scarfs, wristlets and socks can be purchased at many of the stores, and they are very shapely and well made. The sweaters sell from $3.50 to $4.00 and other articles in proportion.

Children's sets of sweater, toque and leggings can be purchased at about $5.00, and they are certainly cunning garments and keep a small child snug and warm. Scarf and cap sets are popular for girls, and they come in white brushed wool, trimmed in rose, blue and green shades; also in khaki colored wool, trimmed in various colors and in plaid wool in pretty combinations. These range in price from $3.50 to $8.00.

The scarfs for women, of plush or fur, continue to be popular; black or taupe seem the favorite colors. While they are very expensive to buy, they can be made at home for very much less and very satisfactorily. In the large stores the plush is cut in strips so that you buy the length you need, and there is no waste in the width. They need an interlining of soft flannel and then the regular silk lining. If the plush is soft and pliable, they are pretty worn wrapped around the neck and the two ends snapped together under the left arm, but for large women they are best worn as a scarf.

PETTICOATS, READY-MADE AND HOME-MADE.

One of the stores is showing a very pretty line of silk petticoats made of a plain messaline with an accordion-pleated flounce of contrasting colors in squares. The combinations were rose and gray, black and white, green and gold, and blue and gold. If making a petticoat at home, it is an economical plan to make the skirt of sateen and the flounce alone of silk. This makes a much more durable skirt than one of silk. The new suit waists have the roll satin collar and have clusters of fine tucks or soutache embroidery. Sailor collars have rather been supplanted by the roll collar, and if the color is not becoming, a roll collar of white satin is worn over it.

WHITE COLLARS AND CUFFS IN VOGUE.

If you are freshening up an old dress, white satin collar and cuffs are the thing to use, but white flannel stitched with the chain stitch or darned with yarn of different colors is good style. Pinking or picoting finishes the edge correctly. These should be basted or fastened with snappers in position so as to be easily removed for cleaning.

Perhaps the very newest thing in collars is the roll Japanese collar of white satin worn with the roll in front and the points extending down the back with the extreme point caught up under. This is more suitable for dressy dresses and should be worn with a waist fastening in the back.

COATS FOR EVENING WEAR.

Dressy coats for evening wear are shown of black satin with the peasant sleeve and shirring at the neck, both front and back. These have a high fur-trimmed collar and belt. There never has been a time when general utility coats filled every purpose as they do now. Dark in color as they usually are and loose fitting, they answer the purpose of an evening wrap admirably.

ROSABELLA BEST.

SIMPLE SUGARLESS DESSERTS.

Hot rice or hasty pudding (cornmeal mush) served with a sweet sauce makes a simple, wholesome dessert. Chopped raisins or dates may be added to either, but no sugar is needed. Here are a few easily-made sauces:

Honey Sauce.—1 cup honey, ¼ cup water, 1 tablespoon butter substitute, ¼ teaspoon salt, ¼ teaspoon cinnamon, a dash of nutmeg, juice of 1 lemon or 2 tablespoons vinegar. Boil together 15 minutes. The juice of one orange and grated peel may be used instead of lemon and seasoning in this recipe.

Molasses Sauce.—1 cup molasses or syrup, 1 tablespoon cornstarch (stirred smooth with water), 1 tablespoon butter substitute; ¼ teaspoon cinnamon, a pinch of salt, lemon juice or vinegar to taste. Boil all ingredients together 20 minutes. Hot molasses flavored with ground ginger makes an excellent sauce.

Maple Sauce.—To one cup of maple syrup add one-fourth cup of nut meats chopped fine. Heat and serve with hot rice.

Chocolate Sauce.—Add one square of melted chocolate to one cup of hot corn syrup. Season with vanilla.

Fruit Sauce.—To one cup of corn syrup add one-half cup chopped raisins or dates. Heat before serving.

Honey-Grape Sauce.—Boil together until thick one cup of honey and one cup of grape juice. Apple sauce, prune juice, or the juice from canned fruit can be used in this recipe. Another variation can be made by using a cup of cooked apricots that have been run through the food chopper.

A JACK HORNER PIE.

In response to the query of Mrs. C. D. H. of Santa Cruz on how to make a Jack Horner pie, the following directions are given:

Take a large pan, a dishpan will do, and cover the outside with crepe paper either in one piece or with strips glued on. Provide as many small gifts as you will have guests and wrap each article separately, tying it with a ribbon that is long enough to extend from the center of the table to the plates. These gifts are placed in the pan and if there is any plan as to how the gifts are to be drawn, they should be placed in that order with one marked, so that as the pan is placed upon the table the ribbons will extend in the direction of the selected guest. If the gifts are only jokes and would be suitable for anyone, this arrangement is unnecessary. The top of the pan should be covered with crepe paper and the ribbons pulled through. Some families have the same type of pie called a bran pie, because the pan is filled with bran in which the gifts are buried. They are then dipped out with a big spoon.

THE CHRISTMAS TABLE.

The Christmas table may be made very festive by the use of red crepe paper and a little Christmas tree in the center. A very attractive standard can be made out of the sawed-off section of a small redwood tree.

Nut baskets made of oiled paper cups covered with red crepe paper with a bit of holly tied to the handle with red baby ribbon help make the table attractive.

Sprays of holly, mistletoe or cedar are pretty on the cloth and place cards that can be copied from pictures add to the general attractiveness.

NOVEL IDEAS FOR A DANCE.

The now very familiar war expressions were used very cleverly in the decoration of a dancing hall recently, and they could easily be copied for a dance in other localities.

As you entered the door, on the staircase pointing upward was "To the Struggle"; over the men's dressing room door, "Y. M. C. A.," and over the ladies' dressing room door two signs were displayed, "Powder Magazine" and "No Man's Land."

"Hoover's Dugout" hung where refreshments were served and the significant word "Tank" over the punch bowl.

Around the dancing hall the sign "Staff Officers" was over the chaperones' chairs; one side of the room was "The first line trench" and the other "The war zone." The musicians were designated as "Battery 63" and the decorations in front of them as "Camouflage." The door to the balcony was designated as "Lookout" and "To the Traverse" was the exit.

HOLLY WREATH CAKE.

One cup shortening, 2 cups brown sugar, 1 cup molasses, 1 teaspoon each of cinnamon and allspice, 1 cup strong coffee, 2 eggs, 2 heaping teaspoons baking powder, 4½ cups of flour, 1 cup each of raisins, currants, citron and chopped walnuts. Sprinkle fruit with flour before mixing with other ingredients. Bake in slow oven 1 hour. Ice with white boiled icing, place on top of cake while icing is still warm, a holly wreath that can be eaten with the cake. Cut the leaves from strips of citron and use small red candies for clusters of berries.

WAR PRICES AND BABIES' MILK.

Dr. Grace L. Meigs, the director of the Bureau's Child Hygiene Division, U. S. Department of Labor, in commenting on the danger of a decrease of milk to the health of children today, said: "Milk is the one food that all young children must have if they are to be strong and healthy. Whole milk is rich in the elements without which the child's growth ceases and his health is impaired; indeed, there is no food which can supply as well the needs of the growing child.

"There is no substitute for milk in the diet of babies and young children. Yet the increase in its price is so startling that, as the reports the Bureau receives show, many mothers are economizing on milk. Young children cannot get the nourishment they require from the would-be milk substitutes given them. Patent foods which do not themselves contain milk and are not intended to be mixed with milk are so lacking in the essentials of healthy development that we must expect children fed on them instead of on milk to be weakly and ailing. Plainly, very great harm is done young children by giving them tea and coffee to take the place of milk, which is really a complete food; it is giving them mere stimulants to replace their best food."

Tea napkins and fine pieces of linen look better if they are not dried after washing, but rolled in clean cloths for a while and then ironed while still quite damp.

Christmas Carol

[By Phillips Brooks.]

Everywhere, everywhere, Christmas tonight!
Christmas in lands of the fir tree and pine,
Christmas in lands of the palm tree and vine;
Christmas where snow-peaks stand solemn and white,
Christmas where corn-fields lie sunny and bright;
Everywhere, everywhere, Christmas tonight!

Everywhere, everywhere, Christmas tonight!
Christmas where children are hopeful and gay,
Christmas where old men are patient and gray;
Christmas where peace, like a dove in its flight,
Broods o'er brave men in the thick of the fight;
Everywhere, everywhere, Christmas tonight!

California
GARDEN-FLOWERS
SHRUBS, TREES AND VINES

Being Mainly Suggestions for Working Amateurs

By Edward J. Wickson
Hon. President California State Floral Society

First Edition—1915

202 pages, 5½x7½ inches; illustrated; cloth bound; 12 full-page photo-plates and numerous text illustrations.

This book aims to tell the beginner in California, whether he be a scholar struggling with his school-garden, or a suburbanite gazing vacantly on his residence lot, or the farm-home maker, who is puzzled to translate his experience with teams, plows and pasture fields into trowels, pruning shears and lawns, just what to do to make garden soils, grow plants and surround his abode with beauty under the peculiar climatic conditions of California.

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EUREKA, CALIFORNIA

A FARMER'S PHILOSOPHY.

With beans, pertaters, corn, an' squash,
What care I fer meat, b'gosh?
Peaches and melons satisfy.
What's the odds if food is high?
When winter starves both beast an' man
I keep fat 'cause I al'lus "can."
—Selected.

WILMA'S CHRISTMAS TREE.

"Tomorrow is Christmas Day!"

Wilma stood dejectedly at the uncurtained half window of the little claim-shack, looking out upon the wastes of brown grass stretching away, for miles and miles, almost without a break. "Almost," for a mile away, the earth-covered roof of a dugout showed, but it was vacant. The family, Wilma's only neighbors, had moved into the nearest town for the winter's school.

Last year it had all been so different!

Wilma could picture the reunion at Grandma's, with her away. There would be the bundling up in the sleighs for a ride over the snow, the mysterious gifts, the whispering in corners of happy secrets, the big Christmas tree, the coasting and skating parties, and the great dinner, in the big dining room.

This year she had sent her little gifts by mail. Not very much, it seemed to her. She had sent Grandma her copy of "Snowbound," and for Grandpa she had made a spectacle wiper, of chamois skin. And away out here she could not have a sleigh ride, for there was no snow! No snow, and not a hill to coast on, and not even a little pool, even if it might freeze, to skate on! And not a bush or a shrub big enough for a Christmas tree! Wilma's head, with its neat flaxen braids, suddenly went down on the rough sill, to let the tears, kept rebelliously in check so long, have free flow. A sudden thought caused her to lift her face in a few minutes, hastily wiping her eyes, and the upturned tip of a fast-reddening nose.

"Suppose Mother were homesick, too!"

She remembered now that Mother had not sung, as usual, that day as she went about her work. She had not worked with her customary briskness, but had gone about so quietly and listlessly! But that might be because Father had gone to town. Mother was always very quiet when Father was away.

Just then a flock of little brown-and-gray birds settled on the ripe weeds below the window, and Wilma cried out in delight, her loneliness for the moment forgotten.

"Oh, Mother! I never saw so many birdies at one time in my life! Do come and see! There must be a thousand!" with the exaggeration of excited childhood.

The mother looked up from the beans which she was putting in an earthen pot to bake. "Yes, it is going to storm, I fear," she answered. "If your father does not come home tonight, he will not be able to get home, I think."

Wilma looked at the sky and noticed for the first time the ugly clouds that were scurrying up in all directions. In this land, where the sun almost always shone, especially in winter, it was strange that she had not noticed them before. Suppose that Father did not come home that night? He would not be able to spend Christmas with them at all. And suppose he started and was not able to be there before dark, and the storm overtook him? Wilma knew what it meant, for a man and team to be lost in the "breaks." There would be the wandering for hours, where all paths looked alike, the cold and the storm, and then—a swift plunge over some cliff wall, and she shuddered and turned so white that her mother noticed it, and called her to help with some little household task, to keep her occupied. And so the time passed, until the early darkness came.

The mother put a light in the little window, and they both saw that there was plenty of coal and kindling, and a bucket of water, but both hoped that Father had not started home that night, for the thick mist was chilly and raw and fast turning to sleet, with a sharp wind coming up from the northwest, blowing "straight from the pole," Wilma said with a shiver, as they closed the door.

There was no use to try to sleep, so the folding bed was not taken down, but mother and daughter tried to forget the night and the storm by reading aloud from "Rab and His Friends," a favorite of the little girl's. The storm grew worse and worse.

About ten o'clock a shout right at the corner of the house brought them both to their feet, and how they ran to open the door and stir up the fire and help put up the horses!

"Why, Father!" cried Wilma, "how did you dare!"

He laughed.

"Well, you see, I found a box from Grandma, waiting for us at the freight office, so I did not wait for that train. Then I got part way home, and the storm was coming on so bad I had a mind to stop at that place the other side of the breaks, where those German people live, for I was almost afraid to try the breaks in the storm. Just as I was about to turn in, I saw a light ahead of me, and I knew it was a camping party in the breaks, so I knew which road to take, and soon I saw your light, and the horses came right on, without any trouble."

When morning dawned, it was a strange world that met their eyes. Every weed was weighted with ice, bending low in sheeted mail. The ground crackled as they stepped upon it, and the roof sported icicle stalactites. The big box had received due attention, the oatmeal and canned milk had been disposed of, and Wilma started to feed her pet chickens, which did not usually need any food, where there was so much to pick all around them. She noticed the little birds, now sorrowful little drooping balls, sitting disconsolately under the eaves, and the icy corners of the corral. A happy thought sent her racing back over the crackling way, and for a minute her words tumbled over one another in the effort to be first out of her mouth.

But Father and Mother understood, and a big soap weed was cut for a "tree trunk" to which big "tumble weed" branches were tied on. This was stuck firmly in the ground by the window, and Wilma made baskets of paper, as she had learned in the kindergarten, "way back East." Filled with choice bits

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That's Hanes Winter Weight Underwear. Look at the big features in the illustration, then balance up with this:

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A new union suit for boys—too strong and elastic to knock out at the knees and warm and cozy enough for the coldest days. Washing can't faze it. Its value can't be duplicated. Look these two big values over at your dealer's. Ask him for

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of the things birds liked best, they were fastened all over the "made-up" Christmas tree, and it was not long until a bird found it and told the rest, and what a Christmas dinner they had! Wilma could hardly eat her own dinner for watching them. And, somehow, she forgot her loneliness, and had so good a time that she decided to keep her Christmas tree all winter, hung with the tiny baskets. But much of the time the birds paid it scant attention, for the ground was bare through most of the winter season. Only when a storm came was Wilma's Christmas tree patronized, but then the little brown-and-gray birds came in flocks and feasted.

And, with the paints and the books, and the pretty bright silks and the beads to string, that came in the big box, Wilma had so much to do that she had no time to be homesick again that winter. And before another winter, neighbors came, so that a little sod schoolhouse was built, and Wilma went to it, all the sunny days, so of course you know she wasn't ever homesick any more!

But she kept the Christmas tree set for the birds that winter, too.

She says she means to keep one every winter until she's an old, old woman! And, as she is only eight years old, that will be a very long time indeed, and I think before then some other little girl or boy will decide to do the same thing—don't you?

Good Health.

[By H. E. Pastor, M. D.]

Gastronomic Temptations.

Be temperate in your celebration of Christmas day—at least so far as the festive and gastronomic features of the celebration is concerned. We don't intend to sermonize against a good dinner or the presence of some of your favorite dishes at any of the Christmas day meals. This paragraph is merely intended as a word of warning against over-indulgence in turkey, mince pie and the bewildering array of palatable accessories customary on this occasion. The anniversary of the birth of our Lord and Savior can be fittingly and even joyously commemorated without making a—well, without overdoing it. Gormandizing and guzzling is no necessary part of a religious ceremony—or any other. Remember, there's a night after the day before, as well as a day after the night before. Don't store away an overload of sugar-coated regrets. Many a case of chronic illness is laid by indiscretion on these too hilarious occasions. Eat happily, but in such fashion that happy eating may be indefinitely continued. Merry Christmas and Happy New Year! And may the days immediately following lose none of their merriment and happiness for the overdoing of it.

Swallowing Hot Foods.

It is the belief of many members of the medical profession that some cases of confirmed dyspepsia are caused by the habit of carelessly or hurriedly swallowing hot foods and drinks. Fluids, as tea, coffee, chocolate, soups, etc., especially when the stomach is empty or nearly so, are very liable to irritate the mucous lining of the stomach enough to cause temporary or chronic congestion of the parts injured. Hot vegetables, such as baked potatoes, which are retentive of heat, may also do the damage. The action of the digestive secretions act less efficiently at high than at normal temperatures. Ginger and red pepper (capsicum) for introducing heat into the stomach should be used sparingly and guardedly. Where practicable it is better to apply the heat externally—hot plates, hot cloths, or mustard applications to the abdomen. If you have acquired the reprehensible habit of swallowing foods too hot, with the consequences here pointed out, reform the habit and note the result.

The Fresh Milk Problem Again.

According to the daily press, the "savants" of Berkeley have just evolved a chunk of scintillating wisdom on the superior nutritiveness of milk as an article of human diet and its alluring cheapness as compared with other forms of food at present market prices. This scholastic elaboration is entirely true, but not at all new, and hardly to the point. What the milk-consuming and the would-be milk-consuming public hereabouts want to know is how this highly desirable article of diet can be gotten to the householder in a fresh and sanitary way. We have fairly efficient inspection of dairy farms, milk-distributing establishments, milk and milk products, by State and in some cases independent inspection authorities; and these things are all good as far as they go. What we do not have, but should have, is prompt delivery of this very perishable food product to the consumer. Much of the milk delivered in San Francisco is unfit for consumption at the time of delivery, and much more of it becomes so too soon afterward. Before the era of night delivery was abandoned, householders in the metropolis were reasonably sure of a supply of nearly fresh milk for their morning coffee and cereal. Since the practice of "day" delivery has come into vogue, the milk so used is twenty-four hours staler than formerly for the morning meal, and in most cases putrefaction has advanced so far as to make its use dangerous. Where is the "savant" who will devise a scheme for delivering a really "fresh" milk to the milk hungry?

The Federal Milk Commission, in session here this week to investigate the cost and selling price of milk in San Francisco, will doubtless recommend an advance in price over the present rate. This would willingly be paid by thousands if a really fresh article could be secured.

food
1-buy it with thought
2-cook it with care
3-serve just enough
4-save what will keep
5-eat what would spoil
6-home-grown is best
don't waste it.

Somewhere in America

Laying submarine cable, hundreds of miles of it, to scores of isolated lighthouses is one of the telephone tasks made necessary by the war. The Bell System has also built lines connecting some two hundred coast guard stations.

It has built complete telephone systems for fifteen National Guard cantonments and fifteen National Guard camps, each a city in size, and also at many naval, officer's reserve, mobilization and embarkation camps and at army and navy stations.

It has provided an enormous increase in long distance facilities throughout the country, that satisfactory service may be maintained between cantonments, training camps, guard outposts, military supply stations, war industries, the National Capital and other centers of Government activity.

The Government facilities at the National Capital have already been increased three-fold and there has been a tremendous increase in local and toll facilities.

Fifteen thousand miles of telephone wire have been taken from other uses for the exclusive service of the Government and some 20,000 miles of telegraph facilities also provided.

Meanwhile the Bell System has given generously of its man power, until over seven thousand men are in service or recruited for military duty.

Members of the Bell System whether they have already gone to France or whether they have stayed at their posts to help mobilize the country for victory, are equally in the service of the Nation.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

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"HEADQUARTERS"
FOR WOOD PIPE AND TANKS

TANKS
WINE TANKS
FERMENTING TANKS
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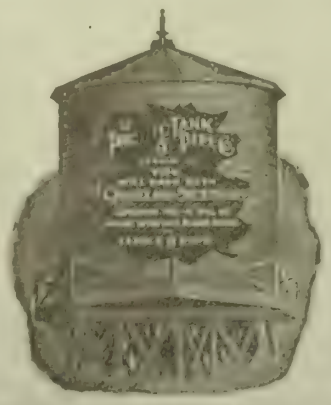

PIPE
WOOD STAVE PIPE
IRRIGATION PIPE
MACHINE BANDED PIPE
SEWER PIPE
WATER PIPE

WRITE FOR ILLUSTRATED CATALOG

Pacific

PACIFIC TANK and PIPE CO.
Factories and Offices:
15 Pine Street, SAN FRANCISCO, CAL.
19 Trust and Savings Bldg., LOS ANGELES, CAL.

THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, December 19, 1917.

WHEAT.

Three harvests of Australian wheat will be shipped to San Francisco and milled into flour in this country, according to N. Lefrey and R. A. Love, members of the British Department of Commerce and Agriculture, who are in this city for the purpose of arranging for the milling. This, of course, will have no effect on the prices of wheat, as they are fixed by the Government.

(Federal Grain Corporation quotations for bulk grain. Sacked grain 7c per hundred more.)

Sonora wheat	$3.43
Northern Club	3.43
California Club	3.43
Northern Bluestem	3.50
Northern Red	None offering
Russian Red	None offering

BARLEY.

It was announced yesterday that the grain trade had ordered trading on barley for delivery after May 31, 1918, suspended. The barley market for the past week has been active and an advance in price is recorded. In Woodland, Yolo county, it reached $2.85 per ctl., the top figure for the season. Seventy-five thousand sacks are reported to have been sold at near that price.

Shipping, per ctl.	$2.75@2.80
Brewing	None offering
Choice feed, per ctl.	$2.80@2.82½

OATS.

The market for oats is steady to strong, reflecting the activity in barley. The dry season and consequent shortage of feed, are factors in the market.

White Feed, per ctl.	$2.75@2.80
Red Feed, per ctl.	2.65@2.70
Red Seed, per ctl.	3.15@3.25
Black Oats	3.10@3.45

BEANS.

The bean market was dull with little movement. This is the usual condition at this time of the year, accentuated by the difficulty of making Eastern shipments. A favorable feature of the market is that the Food Administration has authorized the California canners of baked beans to resume operations, and to can 25 per cent of their average pack. This order is calculated to meet the widespread complaints of the California growers, who have been unable to dispose of their immense crop owing to lack of market. It is understood that the shortage in tin has somewhat abated, and that later more beans may be canned.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl.	$ 9.00@ 9.25
Blackeyes	8.00@ 8.25
Cranberry beans	11.75@11.90
Horse beans	5.75@ 6.00
Small whites (south)	11.75@12.00
Large whites	11.40@11.60
Limas (south, recleaned)	12.25@12.40
Pinks	7.50@ 7.60
Red kidneys	12.75@13.00
Mexican reds	8.50@ 8.75
Tepary beans	8.75@ 9.00
Garbanzos	7.50@ 7.75

CORN.

California sacked corn was somewhat lower this week, but otherwise the market was not materially changed.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	None offering
California sacked	$3.70@3.85
Milo maize	3.10@3.25
Egyptian	3.15@3.30

HAY.

The receipts of hay during the week were 1645 tons, or about double that of last week. The market in this city has remained unchanged to firmer, while in the interior the feeling seems stronger. However, there is a variation in the interior markets on account of local situations and the demand at certain places. There has been a movement of some stuff which at these points has attracted some attention and caused a firmness in the situation locally, while at other locations there has been no change whatsoever. The railroad situation remains unchanged as far as obtaining cars for hay shipments is concerned. The Government has this matter under consideration and it is hoped that some solution will materialize from its study. The dry weather has continued, making the situation acute, especially in some localities.

Wheat, No. 1	$26.00@28.00
No. 2	23.00@25.00
Tame oats	27.00@27.50
Wild oats	22.00@25.00
Barley	24.00@26.00
Alfalfa	24.00@27.00
Stock hay	20.00@22.00
Straw, per bale	60@90c

FEEDSTUFFS.

The market for feedstuffs remains steady with prices somewhat lower. Stiffer prices are expected if the drought is not soon broken.

(Per ton, San Francisco.)

Beet pulp, per ton	None offering
Alfalfa meal, per ton	$30.00@32.00
Bran, per ton	38.00@ 40.00
Oilcake	None offering
Coconut cake or meal	$45.00@46.00
Cracked corn	$83.00@84.00
Middlings	52.00@55.00
Rolled barley	55.00@56.00
Tankage	60.00@45.00
Rolled oats	59.00@60.00
Rice middlings	None offered
Rice bran	None offering
Shorts	$45.00@47.00

POTATOES, ONIONS, ETC.

The market for potatoes and onions is settling down to a steady basis, and it is not expected that prices will vary much for several weeks. The supply is ample for the local demand. Sweet potatoes are coming in freely again after a period of scarcity. The general list of vegetables shows little change in prices.

Peas, large	Nominal
String beans, per lb.	10@12c
Wax beans, per lb.	10@12c
Hubbard squash, per sack	$1.00@1.25
Cucumbers (hothouse), per box	$2.00@2.25
Celery, per crate	$2.00@2.25
Lettuce, Sacramento, per crate	2.25@2.50
do, Los Angeles, per crate	2.50@2.75
Tomatoes, per lug box	1.25@1.75
Potatoes, Salinas	3.00@3.15
Idahos	2.00@2.25
Oregon	2.00@2.25
Rivers, per ctl.	2.00@2.15
Sweets, per lb.	2½@2½c
Onions, yellow, per sack	$2.00@2.25
Reds	None offering
Garlic, per lb.	5½@6c
Turnips, per sack	$1.00@1.25

POULTRY.

The poultry market is firm. Earlier in the week turkeys were moving slowly, and the price was somewhat lower, but later it stiffened up. Geese are very scarce and as high as 25c is being offered by the commission men, who want stock for Christmas. There is some cold storage geese in sight, but little fresh stock.

(Quotations are for stock sold on commission. Net returns to shippers are about 4c under quotations.)

Turkeys, live, per lb., young	26@28c
do, dressed	32@34c
Broilers, 1½ to 2 lbs.	32@35c
do, 1¼ lbs.	40@43c
do, under 1¼ lbs.	40@43c
Fryers	29@30c
Hens, extra, per lb., colored	26@28c
Small Leghorn	26@28c
Smooth young roosters, per lb. (3 lbs and over)	26@28c
Old roosters, per lb.	18@20c
Geese, per lb.	25c
Squabs, per dz.	43@45c
Ducks	24@25c
Goose	20@22c
Belgian hares (live)	20@21c

BUTTER.

Butter was very strong during the week and closes at the highest quotation. Decreased receipts and shipments East are given as the reasons of the advance. Another shipment of butter arrived from Australia on Monday, and some of it is expected to find its way to this market on account of the prevailing high prices. The produce exchange is preparing to make a complete change of its basis of doing business after the first of the year. By this new plan the quotation will mean the figure which the retailer pays for his butter and the producer will receive a commission on this sale. One advantage of this will be that the quotations of the exchange will be intelligible to the average consumer and he will know how much his retailer is charging for his profit. This plan will be adopted for all dairy products.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	45	45	46	46	46½	47½

EGGS.

The egg market was active and somewhat erratic during the week. Extra pullets were especially strong and showed an advance of 7c, while the net gain in extras was only 1c. The same steamer which brought butter from Australia brought 372 cases of eggs, but these receipts were not sufficient to influence the market.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	52½	52	55	53½	54½	53½
Extra pullets	45	46	49	50	53	52

CHEESE.

The cheese market continues steady and somewhat dull. The supply of cheese on hand is large, but the producers' dealers say it will improve with age, and they are not forcing it on the market.

Y. A.'s	25c
Fancy California Flats, per lb.	22½c
Monterey cheese	18@24c

FRESH FRUITS.

There was little change in the prices of fresh fruits. Apples still dominate the market. The street has ceased to designate the different kinds of grapes.

Casabas, per crate	50@75c
Pomegranates	$1.25@2.00
Persimmons	1.00@1.50
Grapes, Malaga, crate	1.00@2.00
do, Muscats, crate	1.00@2.00
do, Verdell	1.00@2.00

CITRUS FRUITS.

Navels were in demand and showed considerable strength at higher prices. Fancy Valencias were somewhat weaker, but the choice were about steady. Best grades of lemonettes were unchanged, but a considerable stock of rather inferior quality changed hands at a lower figure.

Oranges:	
Navels	$3.50@4.25
Valencias, fancy	3.00@3.50
Valencias, choice	2.50@3.00
Lemons.	
Fancy, per box	6.00@7.00
Choice	5.00@6.00
Standard	3.50@4.50
Lemonettes	2.00@3.00
Grapefruit, fancy, new	3.00@3.50
Tangerines	1.25@2.50

DRIED FRUITS.

The market for dried fruits was stagnant. The local demand is only fair, but shipments East are being made whenever cars can be obtained. Apples showed a slight advance in price, but other fruits were unchanged.

(Net to growers, bulk basis, f. o. b. San Francisco.)

Apples, new crop	14@15c
Apricots, per lb.	Nominal
Figs, black, 1917	Nominal
do, white, 1917	8½@11½c
Calimyrna, 1917	15½@16½c
Prunes, 4-size basis, 1917	6¾@8¼c
Pears	9½@11½c
Peaches, 1917	9½@10¾c

BERRIES.

The berry season has lasted longer than usual this year on account of the continued dry weather. Raspberries are about off the market now, and little effort is made to designate special brands of strawberries.

Strawberries	$8.00@9.00
Raspberries	Nominal

HONEY.

The search for honey still goes on with the dealers, and now efforts are being made to import some from outside the State. The quotations given below are regarded as nominal, and a good deal more would be willingly paid for any quantity of California honey.

Comb—	
Water white	Nominal
Light amber	13@15c
Amber	12@13c
Extracted—	
Water white	Nominal
Light amber	14@16c
Amber	12@14c

RICE.

The market for California rice is quiet and quotations have a downward tendency. Large quantities of rice imported from China are arriving here every day and are having some effect on the home grown rice.

Paddy	$3.40@3.50
Clean Run No. 1 California	$6.45

WOOL.

The wool situation at this writing is in a somewhat muddled condition. Wool values have doubled and trebled since the present sensational rise in prices began and it is rumored, though the rumor is unconfirmed, that the Government may take some action toward stabilizing wool prices at somewhere arouud present quotations. Meanwhile brokers are not inclined to load up too heavily and trading is quiet. Quotations nominal.

Fall Wools:	
Humboldt and Mendocino	45@50c
Sacramento Valley	35@40c
San Joaquin Valley	30@35c
Nevada	50@55c

Special Citrus Market Report

Los Angeles, December 18, 1917.

Shipments of citrus fruits from Southern California from November 1 to December 16: Oranges, 1998 cars, and lemons, 433 cars. Same time last year: Oranges, 2097 cars, and lemons, 618 cars. From Central California from November 1 to December 14: Oranges, 1430 cars, and lemons, 50 cars. Same time last year: Oranges, 2969 cars, and lemons, 94 cars. From Northern California from November 1 to December 14: Oranges, 150 cars, and lemons, none. Same time last year: Oranges, 721 cars, and lemons, none.

The Valencia shipments are pretty much over and navels from Tulare county are growing lighter. The Tulare crop is estimated at 1800 cars, of which 1278 cars have gone forward. With this showing in spite of the bad weather East, which was against the market there, the market has held up very well and medium sizes of highly colored fruit have sold very well. Navels as well as Valencias met with a little stronger markets in the East. The delays in shipments and trouble in getting cars, however, is working against the market. New crop of Porton Rico oranges is also being offered on the New York market, which is working against high prices. Locally the market showed more life in oranges, but grapefruit and lemons were dull the past week. A further advance in apples and a light supply of other fruits encouraged a better demand for oranges, which moved fairly well. Prices, however, show no improvement. Local packers still bidding 2¼@2½c per pound delivered. Grapefruit dull at 2½@3c per pound from growers, delivered. Lemons, too, were slow sale at last week's prices, 3c per pound from growers for the best. Others have to be sold for much less.

AUCTION SALES.

New York, December 17.—Market is higher in spots on good colored navels, but sharply lower on balance. Market strong and higher on good quality Valencias and strong and higher on lemons. Nineteen cars sold. Valencias averaged $2.65 to $4.75. Navels averaged $1.80 to $3.50. Lemons averaged $3.00 to $5.60.

Boston, December 17.—Eleven cars sold. Market strong and higher. Valencias averaged $1.60 to $4.40. Navels averaged $3.55 to $5.25. Lemons averaged $3.50 to $5.20.

Philadelphia, December 17.—Six cars sold. Market is unchanged. Demand good at prevailing prices. Valencias averaged $2.00 to $3.20.

LOS ANGELES.

Los Angeles, December 18, 1917.

BUTTER.

There was a firmer tone to this market the past week. The dry weather and light production for this time of year favoring a firm market. An advance of 1c in San Francisco during the week and 1c in Chicago also encouraged buyers. Extras were in good demand, but low grades hard to move, they having to compete with oleomargarine. Receipts for the week, 268,900 pounds, against 263,200 pounds same week last year. Withdrawn from cold storage during the week, 10,220 pounds, against 17,944 pounds same week last year. Holdings now in cold storage, 152,942 pounds, against 112,951 pounds this time last year. Up to Monday values on 'change advanced 1c and demand very good at this improvement. Tuesday the receipts were fair, but buyers showed little interest in the market. Prices were made the same as the day before. We quote:

California fresh, extra	47c
do, prime first	46c
do, first	45c

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	45	45	46	46	47	47
1916—						
Extra	34	34	34	35	35	35

EGGS.

The market the past week took an upward turn again in anticipation of the Christmas demand. The Eastern markets, too, are higher 2c to 3c, which encouraged buyers. Receipts continue light by rail, only 545 cases for the week, against 828 cases same week last year. Truck receipts are also running lighter than a year ago. Withdrawals from cold storage during the week, 3,429 cases, against 2,761 cases same week last year. Holdings now in cold storage, 10,301 cases, against 9,994 cases this time last year. Prices advanced on extras up to Monday 5c and on pullets the same, while case count gained 4c. The market is now 13c higher than this time last year. Tuesday, under very light receipts, the market ruled firm and there was a very good demand both for extras and pullets at full old quotations.

Daily quotations:

1917—	Wed.	Th.	Fri.	Sat.	Mon.	Tues.
Extra	50	50	50	55	55	55
Case count	47	47	47	51	51	51
Pullets	45	45	45	50	50	51
1916—						
Case count	38	38	38	38	38	38

POULTRY.

A steady and firm market was had the past week. Local receipts continue light, but there were several cars of poultry in during the week from the Central West and quality very good. The approach of Christmas has encouraged buying and a very good demand is being had for most everything at quotations.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs.	33@34c
Fryers, 2½ to 3 lbs.	27c
Hens over 4 lbs.	25@26c
Hens under 4 lbs.	21@22c
Ducks	22@23c
Geese	18c
Roosters, 3 lbs. up (soft bone)	25@26c
Turkeys, heavy, 12 lbs. and up	28@29c
Turkeys, light	26@27c
Squabs, live, per lb.	35c
Dressed, per lb.	45c

VEGETABLES.

There was a firm tone to the market the past week and all good stuff in fair demand. Bell peppers are again higher and in very good demand. Chiles slow sale and unchanged. Potatoes continue slow sale and the market weak. The receipts were not so good, but there were a good many held over on sale. Onions, too, were weak and demand only fair. Tomatoes firm and in fair demand. Not many coming in. Cabbage hardly so firm and sales slow. Cauliflower in good demand and firm. Celery slow sale and lower. Lima beans and string beans higher but slow sale. Sweet potatoes higher and in good demand. Hubbard squash and pumpkins steady and in fair demand.

We quote from growers:

Potatoes, Northern, per cwt.	$1.50@2.00
do, local, per cwt.	1.50@2.00
do, Idaho, per cwt.	1.50@1.75
Onions, yellow, per cwt.	1.50@2.00
do, White, per cwt.	1.50@2.00
Garlic, per lb.	3@4c
Tomatoes, per lug	40@80c
Cabbage, per 100 lbs.	$1.25
Lima beans, per lb.	8½@9c
Bell peppers, per lb.	8@8½c
Chile peppers, per lb.	3½@4c
Celery, per crate	$1.75@2.00
Eggplant, per lb.	3@4c
Sweet potatoes, per cwt.	$2.75@3.00
Cauliflower, per crate	1.50@1.75
Hubbard squash, per 100 lbs.	1.00
Pumpkins, per 100 lbs.	75c
String beans, per lb.	7@9c

FRUITS.

The fruit market has narrowed further the past week. Pears are out, leaving only apples, Japanese persimmons and a few Christmas melons now coming in from the country. Apples are in good demand and a little higher. Japanese persimmons are also a little higher and selling fairly.

We quote from growers:

Apples—	
Bellefleur, 4-tier	$1.40@1.45
Jonathan, 4-tier	$1.75@1.90
Local apples, per box	$1.10@1.20
Christmas melons, per lb	1½c
Japanese persimmons, per lb.	4@8c

WALNUTS.

No nuts now coming in from the country save culls, all good merchantable nuts having been marketed. Culls in very good demand for cracking purposes at quotations.

Association prices:

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.90c
Jumbo	24c	17.50c
Culls	5@12c	.....

BEANS.

It is still dull in this market. The approach of the end of the year is causing the trade to hold back and buy very sparingly. Prices, however, are holding steady at quotations.

We quote from growers:

Limas, per cwt.	$11.50
Large white, per cwt.	11.50
Small white, per cwt.	11.50
Pinks, per cwt.	8.00
Blackeyes, per cwt.	7.50
Tepary	7.50

HAY.

Under the influence of dry weather, which is making country holders more indifferent about selling and the scarcity of cars, causing light receipts and influencing a higher market the past week, and demand fair at the advance. Grain hay is up $1 per ton and alfalfa $1 to $2 per ton.

We quote f. o. b. Los Angeles:

Barley hay, per ton	$26.00@27.00
Oat hay, per ton	27.00@28.00
Alfalfa, northern, per ton	25.00@26.00
Alfalfa, local, per ton	27.00@28.00
Straw, per ton	10.00@12.00

COLD FIGURES TELL AN ELOQUENT STORY.

We present below, in tabular form, a comparative statement of the deciduous shipments from California for the seasons 1916 and 1917. It will be remembered that early in the present year much pessimistic prognostication was indulged in on account of seemingly adverse weather conditions. California, true to her reputation of knowing how to do things, belied these dire forebodings and poured into the lap of a hungering world a bountiful harvest of luscious fruits and nuts of all kinds. The figures tell their own story. The statement emanates from the California Fruit Distributors and is dated December 18:

1916		1917
164	Cherries	330
289½	Apricots	103
1,909½	Peaches	2,131¼
1,998½	Plums	2,641¼
3,701	Pears	4,802
9,721	Grapes	13,943¼
106½	Misc	66¼
17,891		24,628

Special Livestock Market Report

San Francisco, December 19, 1817.

CATTLE—Locally beef cattle are somewhat slow of sale. This is due partly to the self-imposed meatless days, but mainly to the fact that the continued rainless weather makes range feed scarce and bodes high prices for winter feedstuffs. Meat is said to be picking up in the refrigerators and much fresh meat sent out for sale is returned and sent to the coolers. Last week's quotations hold, however.

Steers—
- No. 1, weighing 900@1200 lbs. 9¼@9½c
- No. 1, weighing 1200@1400 lbs. 9¼@9½c
- Second quality 8¾@9 c
- Thin undesirable 6 @8 c

Cows and Heifers—
- No. 1 7¼@7½c
- Second quality 6¾@7 c
- Common to thin 4 @6 c

Bulls and Stags—
- Good 5¾@6¼c
- Fair 5 @5½c
- Thin 4 @4½c

Calves—
- Lightweight 9 @9¼c
- Medium 8¼@8½c
- Heavy 7½@7¾c

SHEEP—Sheep are also moving slowly, and retail requirements are readily met. Consumers back away from the high prices asked at the butcher shops for mutton and lamb—high, that is, as compared with prices a year or two ago. Reasons for high prices don't much concern the average householder. Quotations nominal.

Lambs—
- Milk 15 @16 c

Sheep—
- Unshorn wethers 12 @12½c
- Unshorn ewes 9½@10 c
- Shorn sheep 1½@2c less

HOGS—Hogs are coming in very freely, though arrivals are slow. A large proportion of the receipts are well finished—of good weight and good quality. It is not believed that prices will fall below the present level unless the Food Administration disturbs further the supply and demand equation.

100 to 150	14¼c
150 to 300	15¼@15½c
300 to 400	14¾@15c

DRESSED MEATS.

Steers, No. 1	14c
do, second quality	13½c
Cows and heifers	12½@13c
Calves, as to size, etc.	15@17c
Lambs—	
Suckling	23c
Yearling	21c
Sheep—	
Wethers	20c
Ewes	17c
Hogs	23c

HIDES.

There has been a decline in country hide values in the past week or two, heavy weight selections being most favored.

Cattle:

Wet salted hides, per lb.—
- Steers and cows, all weights 19@20c
- Bulls and stags 16@17c
- Kip 22@23c
- Veal and calf 25@26c
- Damaged 6@12c.

Horses:

Wet salted, skinned to hoof:
- Extra large prime $4.00@5.00
- do, medium 3.00@4.00
- Small 2.00@3.00
- Colts .50@1.00

HORSES.

Notwithstanding the enormous exports of horses and mules from the United States for war purposes, an increase in value of the ordinary draft animal has not resulted. Good, heavy, sound horses, of the type for army use, are in good demand at good prices, and the active demand is limited to this class of horse stock. Prices are nominal.

Heavy drafters, up to 1700 lbs. and up	$250@275
Light drafters, 1550 to 1650 lbs.	150@175
Chunks, 1350 to 1500 lbs.	150@175
Wagon horses, 1250 to 1350 lbs.	110@125
Delivery wagon horses, 1050 to 1250 lbs.	90@100
Green Mountain range horses, from 950 to 1200 lbs.	50@ 85
Desirable farm mares	75@ 90
Farm workers	60@ 75

Los Angeles, December 18, 1917.

CATTLE—The offerings of cattle the past week were very good, but many of them poor in quality. Such were dull and weak. Prime steers were in only moderate supply, very good demand and rather firm at quotations. Calves dull and weak.

Per cwt., f. o. b. Los Angeles:

Beef steers, 1000 to 1100 lbs.	$8.50@9.00
Prime cows and heifers	7.00@7.50
Good cows and heifers	6.50@7.00
Calves, per cwt.	8.00@9.00

HOGS—The run the past week was very good and quality very good. But with lower markets East and a continued dull pork market, killers were more independent and bearish in their views. Fair trading was done, however, at about 25c per cwt. decline.

Per cwt., f. o. b. Los Angeles:

Heavy, averaging 250@300 lbs.	$12.75@13.75
Mixed, 200@250 lbs.	14.25@15.25
Light, 175@200 lbs.	14.25@15.25

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—Offerings continue very light, and under scarcity prices remain steady and firm. Killers, however, are taking but few sheep at the high prices.

Per cwt., f. o. b. Los Angeles:

Prime wethers	$9.50@11.00
Prime ewes	10.50@11.00
Yearlings	10.50@11.50
Lambs	14.00@15.00

Portland, December 18, 1917.

CATTLE—Steady. Receipts 131. Medium to choice steers, $9.35 to $10.00; good to medium steers, $8.50 to $9.40; common to good steers, $7.00 to $8.15; choice cows and heifers, $6.75 to $7.60; common to good cows and heifers, $5.50 to $8.00; canners, $3.00 to $5.50; bulls, $4.50 to $6.75; calves, $7.00 to $9.50; stocker and feeder steers, $6.00 to $7.85.

HOGS—Steady. Receipts 673. Prime light, $15.65 to $15.80; prime heavy, $15.70 to $16.00; pigs, $13.75 to $15.00; bulk, $15.75.

SHEEP—Steady. Receipts 16. Western lambs, $13.00 to $13.50; valley lambs, $12.50 to $13.00; yearlings, $12.00 to $12.50; wethers, $11.75 to $12.25; ewes, $8.00 to $10.00.

Note—Portland market on shorn sheep, 2½c to 3c under quotations.

THE EASTERN MARKET.

Chicago, December 18. Hogs—Receipts, 45,000; unsettled. Bulk, $15.65@16.20; light, $15.60@16.00; mixed, $15.45@16.30; heavy, $15.50@16.30; rough, $15.50@15.75; pigs, $10.55@13.75.

Cattle—Receipts, 23,000; weak. Native steers, 17.20@14.35; Western steers, $6.50@$12.75; stockers and feeders, 16.25@10.20; cows and heifers, $5.00@11.00; calves, $9.00@16.25.

Sheep—Receipts, 30,000; weak. Wethers, $9.00@13.10; ewes, $8.00@11.60; lambs, $12.50@16.75.

A FURTHER ADVANCE IN MILK PRICES PROBABLE.

As we go to press, testimony is being taken by the Federal Milk Commission, in session in this city, as to the cost and selling price of milk in San Francisco. Producers, shippers, dealers, and consumers are all submitting statements. The producers have had the first hearing and they claim that it costs about 33c a gallon to produce milk at the dairy under present conditions. They now receive 25c a gallon for their product. Naturally, each party in interest will make the strongest case possible for itself. But, after all is said pro and con, there is scarcely a doubt that the representative of the Federal Food Administration will, in view of the abnormally high cost of feed, labor, equipment, and care required by the State Board of Health, decree a substantial advance over the rate now prevailing. This rate, whatever it may be, goes into effect January 1, 1918.

COTTON.

The New York market opened our review week slow and weak. There was a disposition on the part of many longs to liquidate and the market worked lower both Friday and Saturday, and the mills were holding back and buying sparingly. But with the opening of the market Monday it showed a stronger tone. There was some bullish talk of private ginning figures, which were given at 10,140,000 bales as the crop. This started some buying and the market showed more strength than for some days. January closed in New York at 29.17c. In New Orleans spot middling was quoted at 28.88c, which is lower than a week ago.

HIDES AND PELTS.

A dull and weak market continues for all class of hides. Pelts still firm and in good demand.

HIDES—Green Salted:

Heavy steers, per lb.	17c
Light steers, per lb.	16c
Kips and calf skins, per lb.	23c
Bulls and stags, per lb.	14c

PELTS:

California full wooled, per lb.	25c
California medium wooled, per lb.	18c
California short wooled, per lb.	15c

HEAVY RICE IMPORTATIONS.

Rice cargoes to this port are coming to dock almost daily. The latest arrival is the Standard Oil tanker Astral, direct from Hongkong, with the enormous load of 3,500 tons of the Chinese cereal.

Publisher's Department.

The publisher returned a week ago from the trip to Chicago and the Middle West very glad that he lives in a climate where the roses bloom through the whole year. While East he encountered 8 degrees below zero temperature, the snow crunched beneath his feet and the frost bit his ears. A good man at this time is needed to make California a paradise compared to the frozen East.

That car of paper arrived and the result was a splendid issue of the Rural Press on December 8th and another 32 page edition this week. This week's paper has much good reading in it and we believe our readers will enjoy it.

Percy Douglass of Contra Costa county, when remitting for the coming year, says: "Have taken your paper for about thirty years and always enjoy reading it. It is the best agricultural paper I have ever seen that covers farm practice as worked out in California."

This week we are taking from our list the last of the subscribers over a year in arrears. The numbers are gratifyingly few, but we are sorry to have to remove any for non-payment. Remember, if you do not get a paper next week, that we will be glad to reinstate you on our lists if you still but send us a check to cover. A Merry Christmas to every one of the readers of the Rural Press.

SHORT WHEAT CROP PREDICTED.

The United States Department of Agriculture, under date of December 19, says that winter wheat this year, planted on the largest acreage ever sown in the history of the country, showed on December 1 the lowest condition on record. A forecast of a crop of only 540,000,000 bushels was made today by the Department of Agriculture.

Winter wheat aggregated 42,170,000 acres, and its condition on December 1 was 79.3 per cent of a normal. The acreage is 4 per cent more than the revised estimated area sown in the fall of 1916. The area sown to rye is 6,119,000 acres, which is 36.6 per cent more than sown a year ago, and the condition of the crop on December 1 was 84.1 per cent of a normal.

SPLENDID RETURNS ON ORANGE SHIPMENTS.

Now that returns are arriving from the first shipments of navels out of the State, it is learned that quite unusual prices have been obtained. The fruit has averaged around $3 per box on average grades, and as high as $3.75 and $4.00 has been paid in some instances.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	26.65	34.91	28.16	36.00
" 16	27.83	35.83	28.10	37.00
" 23	28.85	36.91	28.50	35.00
" 30	36.33	38.48	36.66	38.87
Feb. 6	30.25	40.00	32.33	41.19
" 13	31.40	39.70	33.25	39.00
" 20	32.00	36.00	32.00	37.00
" 27	30.00	37.00	35.25	36.00
March 6	24.08	35.50	24.16	34.50
" 13	29.91	33.50	28.83	33.00
" 20	28.33	33.25	27.16	33.00
" 27	28.50	36.00	28.08	33.00
April 3	28.50	37.91	28.83	36.33
" 10	29.31	39.33	28.00	37.00
" 17	27.33	39.58	27.50	38.00
" 24	25.25	35.66	25.00	36.50
May 1	24.33	33.08	25.33	33.00
" 8	24.10	34.05	25.00	33.20
" 15	24.58	35.50	25.66	34.16
" 22	25.00	36.30	25.00	35.16
" 29	26.50	36.60	26.50	37.33
June 5	25.50	36.30	27.00	37.66
" 12	25.83	36.50	27.00	38.00
" 19	24.50	36.00	25.91	36.33
" 26	24.50	36.16	25.91	37.50
July 3	24.60	35.08	26.00	37.00
" 10	26.40	36.41	26.60	37.16
" 17	25.83	37.83	26.00	38.66
" 24	26.00	40.25	26.00	40.61
" 31	26.00	42.82	25.91	42.58
August 7	27.00	43.00	29.16	44.00
" 14	26.50	41.66	26.00	43.00
" 21	26.50	41.50	27.95	42.00
" 28	27.25	41.91	28.50	42.00
Sept. 4	30.00	42.10	30.50	41.33
" 11	30.20	42.00	32.00	41.00
" 18	30.41	45.00	31.09	43.00
" 25	30.41	45.00	30.50	45.50
October 2	31.66	44.90	32.16	45.91
" 9	32.91	44.90	32.83	46.33
" 16	33.50	46.25	33.50	47.00
" 23	32.75	45.41	33.00	46.50
" 30	32.50	43.50	33.00	44.83
Nov. 6	32.66	41.41	33.00	42.00
" 13	32.80	40.83	33.00	41.33
" 20	35.25	40.83	35.66	42.22
" 27	36.00	42.70	....	....
Dec. 4	35.60	41.70	36.80	42.00
" 11	34.83	44.50	35.16	44.66
" 18	33.75	46.00	34.50	46.00

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	31.41	37.91	32.00	38.16
" 16	30.33	41.83	30.75	40.83
" 23	34.83	32.50	34.33	33.12
" 30	36.33	32.08	36.66	33.01
Feb. 6	35.66	34.99	35.50	34.70
" 13	28.00	33.30	28.00	31.66
" 20	23.66	33.01	26.33	30.75
" 27	20.30	29.00	18.50	27.66
March 6	18.33	24.75	18.00	24.91
" 13	19.50	25.06	18.41	26.08
" 20	20.00	25.66	19.08	25.91
" 27	21.41	27.16	20.83	28.00
April 3	21.75	28.58	21.00	29.25
" 10	22.00	29.66	21.00	30.41
" 17	21.16	32.33	20.91	32.08
" 24	21.83	32.91	22.58	32.83
May 1	21.00	32.00	22.58	31.83
" 8	21.20	32.75	21.41	32.00
" 15	24.58	34.20	26.83	32.50
" 22	25.16	33.40	22.50	34.00
" 29	25.00	33.80	22.50	33.50
June 5	25.00	33.20	24.51	34.00
" 12	25.00	31.16	24.16	33.00
" 19	24.83	31.41	23.75	33.10
" 26	24.66	30.16	24.58	32.16
July 3	24.60	31.90	24.00	34.25
" 10	26.10	33.50	24.00	36.00
" 17	27.16	33.66	27.00	34.41
" 24	28.50	35.25	28.00	35.33
" 31	28.50	38.00	28.00	36.91
August 7	29.16	42.58	26.00	40.33
" 14	33.08	41.41	34.00	37.08
" 21	33.00	43.33	31.83	42.25
" 28	33.50	43.50	32.00	43.50
Sept. 4	36.13	43.80	32.00	43.58
" 11	37.00	45.08	36.00	44.91
" 18	38.83	47.83	37.00	47.83
" 25	39.75	47.58	38.66	49.50
October 2	39.75	47.00	40.50	50.83
" 9	42.25	47.10	43.16	51.50
" 16	48.50	52.50	49.32	54.50
" 23	47.01	54.83	46.50	56.16
" 30	47.00	56.66	42.33	58.00
Nov. 6	47.66	57.41	45.50	57.80
" 13	49.50	56.25	48.00	57.16
" 20	50.50	56.75	49.50	54.75
" 27	47.50	55.50	....	....
Dec. 4	45.10	52.50	45.40	52.16
" 11	40.25	50.00	39.50	49.66
" 18	39.66	54.40	....	49.50

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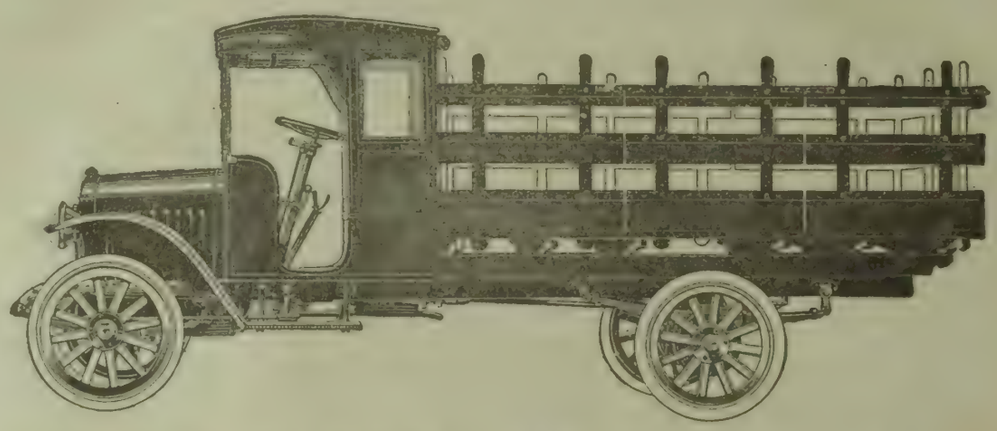

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So last spring he bought a Maxwell one-ton truck.

In that truck he hauled to market EVERYTHING his farm produced. Said Mr. Faber:

"I made seven trips into Wayne and back each day with my Maxwell truck—just five more than I could possibly have made with horses."

Among the crops truck-marketed by Mr. Faber were corn, oats, wheat, hay, potatoes, etc.

He hauled 10,000 bushels of shelled corn—55 bushels, that is, 3080 pounds, to the load.

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Vol. XCIV—No. 26 THE PACIFIC RURAL PRESS Forty-seventh Year

SAN FRANCISCO DECEMBER 29, 1917 LOS ANGELES

California Farm Products Approximate $700,000,000

Written for Pacific Rural Press by W. H. Schrader

THE VALUE of the farm products of California for this season will total nearly seven hundred million dollars, or between 50 and 60 per cent greater than any previous crop. While part of this increase is due to advance in prices, there has been a large increase in production in nearly all lines. Thousands of acres more have been newly reclaimed, inter-cropping and double cropping have been practised to a greater extent than ever before, and an exceptionally favorable season has permitted the harvesting of practically every pound produced.

Hay and Grain.

These crops, threatened by a dry spring, were saved by cool weather and made good normal yields. Generally increased acreage brought most varieties ahead of 1916 crops. Here are the U. S. Government figures for 1916-17:

	1917	1916
Corn	2,550,000 bushels	2,048,000 bushels
Wheat	6,550,000 bushels	5,600,000 bushels
Oats	6,930,000 bushels	6,500,000 bushels
Barley	37,600,000 bushels	33,320,000 bushels
Rice	5,130,000 bushels	3,263,000 bushels
Hay	4,680,000 tons	4,370,000 tons

Other Field Crops.

Beans made the most remarkable gains, the crop being more than twice as large as that of last year, and comprising over half of all the beans grown in the United States. Beans are second only to hay as California's most valuable single field crop. Potatoes and onions also yielded very large increases over 1916, the latter nearly double and the former a third more. The sugar beet crop was 25 per cent greater. Hops is the only crop that shows a decrease, the shortage being nearly 40 per cent. The price, however, was nearly double that of last year.

Anticipating a shortage of cars, the melon growers in the Turlock district reduced their acreage to about one-half, planting corn and beans instead. The Imperial Valley, however, increased its production, shipping 5,022 cars, as against 4,614 cars last year.

The following table is a comparative exhibit of the 1916 and 1917 field crops. Figures are mostly Government estimates:

	1917	1916
Beans	9,280,000 bushels	4,175,000 bushels
Potatoes	13,900,000 bushels	10,575,000 bushels
Sweet potatoes	928,000 bushels	960,000 bushels
Onions	5,100,000 bushels	2,750,000 bushels
Sugar beets	1,700,000 tons	1,439,000 tons
Hops	70,000 bales	115,000 bales
Cotton	56,000 bales	43,620 bales

Orchard and Vineyard.

California's deciduous orchards and vineyards contributed nearly $200,000,000 worth of food to the world's supply. Fresh fruits shipped East exceeded last year's shipments by 6,737 cars, or nearly 40 per cent. Owing to the late season and the car shortage, values for cherries, peaches and grapes were somewhat lower than last year; but pears, plums and apricots brought better prices. Apples were about a normal crop, with prices a third higher than last year.

Comparative Statement of Fresh Fruit Shipments.

[Compiled by California Fruit Distributors.]

1916 Cars		1917 Cars
164	Cherries	[illegible]
289½	Apricots	[illegible]
1,909½	Peaches	[illegible]
1,998½	Plums	[illegible]
3,701	Pears	[illegible]
9,721	Grapes	[illegible]
106½	Misc.	[illegible]
17,891		24,628

Canned Fruits.

The American Can Company estimates this year's canned fruit pack to be 20 per cent larger than last year's. The packing companies place the value 20 per cent higher.

Dried Fruits.

With the exception of figs, all dried fruits show an increased tonnage varying from 25 to 80 per cent. Increased prices help swell the values to at least 50 per cent over 1916.

The raisin crop is variously estimated by the California Association Raisin Company and independent packers at from 150,000 to 160,000 tons, and the average price to growers will be about $120 per ton. Of these, the Associated Raisin Company will handle 130,000 tons. They report over 75 per cent already sold.

The California Prune and Apricot Growers' estimate for prunes is 95,000 tons, and for apricots over 10,000 tons. Various packers estimate prunes at 100,000 tons, and apricots from 15,000 to 16,000 tons. The prune crop is the largest ever produced, with the possible exception of that of 1912.

The base price of 6¾c per pound will give the growers an average of $160 per ton. It is reported that all but about 25,000 tons have been sold. On account of car shortage, however, 25,000 tons of that already contracted remains unshipped. The delivery of apricots has also been greatly interfered with by transportation conditions.

The dried peach tonnage for 1917 is estimated at 35,000, as against 28,000 for 1916. The California Peach Growers' prices, announced August 30, were 7¼c to 9⅛c for unpeeled and 11⅝c for peeled. Some varieties and grades have already been sold out completely.

Dried apples are estimated at 8,000 tons, as against 4,500 tons last year, with prices ranging from 9c and 10c the beginning of the season to 15c and 16c on December 1, as against 5c and 6c all through the season of 1916. The driers paid $20 for culls and $21 for orchard run, as against $12 to $14 last year.

The Roeding Fig and Olive Company estimates this season's fig crop at 6,500 tons, including 600 tons Calimyrnas and 400 tons Black.

(Continued on page 676.)

Hay is California's largest single product for 1917. It amounted to 4,680,000 tons, valued at $93,600,000.

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EDITORIALS

CALIFORNIA'S GREATEST FARMING YEAR.

AS THIS is the last issue of our journal for 1917, California's greatest farming year, the chief statistician of our staff has blown himself into figures which we trust will be found large enough to do full justice to the occasion. He surely has made a very careful and commendable effort to secure estimates from those who are situated to take the broadest view of quantities and values in the lines of production in which they are most interested and they certainly represent conceptions reached from much straining of the eyes and lifting of the brows in efforts to see as clearly and as far as possible into the vistas of this very densely shadowed year. It must be remembered, of course, that the estimates are largely from the commercial point of view and that the materials produced are sketched as they appear to the eye of big business in produce trading—emerging from transportation avenues to central markets and clothed in the padded jackets which packers, handlers and movers have adorned them with. The values, therefore, with which the various products are credited are not those which they have yielded to the farmers who grew them, but they include also the contribution which the grower makes to the support of the whole element of the community which lives by outfitting products with commercial forms and moving them to places where they have commercial values. It is necessary to hold these facts in mind, for though it is quite right to credit the farmers with the creation of so much value, because it could not exist without his initiative and action, it is quite wrong to charge the farmers with receiving such an amount of money as the reward for his effort and investment. The figures are not, therefore, comparable with the "farm value" of products which the United States census makes careful effort to ascertain once in each decade. It may be fair perhaps to look upon them more as the value of the products to the community, because they are intended to present the money which the public pays for them in wholesale quantities—after a good fraction of the community has added the cost of its livelihood and to which another fraction of the community will also add some more, which experience has shown to be greater in amount than the farmer receives and often greater than what he receives plus the livelihood of the stratum of pensioners which lies nearest to his fundamental achievement.

GREAT VALUE FROM LITTLE WATER.

BUT, brushing aside the proper apportionment of the money which the consumer pays, which is too tedious a subject for Christmas week, it is interesting to note that this greatest of all California's annual values of food products which our statistician announces was achieved in a year of quite small rainfall. The rainfall for 1916-17 was 15.78 inches in San Francisco. The normal annual rainfall in San Francisco (or the average for 68 years) is 22.27 inches: therefore the rainfall for the last crop year was but two-thirds of what we have reason to expect to receive. How, then, did we succed in making a crop output of such astonishing value as three-quarters of a billion dollars in a year which had only two-thirds of the usual water—a shortage of water which has occurred only nine times in sixty-eight years? There were two leading factors in it: first, the Lord, who made the early summer cool and foggy and the autumn warm and dry; second, the Kaiser, who made war prices—and this is the only instance in which the "Me und Gott" conspiracy of the Kaiser has been beneficent: otherwise it has literally worked like the devil. The third factor in making the immense value of California's 1917 output was the California farmer, who gave the land better and more timely tillage because he knows better how to do it now than formerly, and because high prices made it good business to stand the extra cost of it.

But we are not now interested in going farther into this theory of first causes, though it is a glad Christmas thought that the Lord will always abide with us, and the second thought is like unto it, viz.: that Kaiserism will quickly vanish from the earth. There is, however, in the experience of the closing year a concrete suggestion of the relation of our improved farming policy to crop-getting with a low rainfall which no tiller of California soil should overlook, for it is the best form of crop insurance which has thus far been devised.

WE CAN GET CROPS WITH LITTLE RAIN.

WE LOST our spring rains in 1916-17 and yet the crops came through. We have lost our fall rains for 1917-18, and yet, if values are inviting next spring and if some fairer arrangements for selling crops are devised, we have a prospect of repeating the production value which our chief statistician sketches in this week's issue. We may not get all the wheat which we wished to produce because conditions were not right for early sowing—and yet even that is not yet a foregone conclusion. The rains which are widely falling as we write on Christmas day are likely to reclaim some forlorn hopes even in that line. But wheat, even with the increased acreage planned for, is not a large item in California production. Other winter-growing field crops of vastly greater value still have ample time to make a start, and they will keep the land busy. Besides, the greatest crops, and in fact the crops which almost exclusively made the immense values of 1917, were summer grown from spring and summer planting. This is, of course, in marked contrast with the condition of a generation ago, when we had at least a hundred millions of value in winter-grown grains and pasturage and still entertained the notion of the pioneers that the California summer, like the Eastern winter, was designed by the Creator for a period of dormancy and idleness—a time to mend the fences and to talk politics. The more one thinks about it the more sure he becomes that the pioneer conception of seasonal activity and idleness was a great mistake and was, in fact, blundering blindness in inappreciation of the producing ability of the State. Let the reader help himself toward a better understanding by figuring the summer crops in the tabulation which our chief statistician gives us in this issue. Then let him try to figure how small a relation the loss of a couple of inches of rain before January first actually has to the production of these summer crops. Some chance of early soil working and cover-crop starting was lost, of course, but much of even that was either done dry or can still be caught up. If you still feel like wagging your head mournfully over the loss of that two inches from the record, try to realize that it was chiefly in the record and not in the soil that it did any good. And if that does not comfort you, remember the old California proverb, "it is the spring rain that makes the crop," and remember also that in 1917 no spring rains came at all but crops did—to a value beyond anything in our history!

HOW TO GET CROPS WITH LITTLE RAIN.

WE ARE NOT going over the theory of dry-farming, now fast becoming old in our thought as it actually is in history—for it is no "discovery" of Mr. Campbell of Nebraska nor even of the California pioneers who were so conceited in their "discovery" that they were disposed to scout irrigation as an invention of the devil to promote impiety in mankind. No one really knows out of what darkness of antiquity dry-farming revealed itself. Possibly it came from Carthagenian Dido, for it is likely she was as good a farmer as she was a real estate operator and could hold productive moisture in as much soil as she could stretch her oxhide around. Fortunately everybody who is at all intelligent about land knows now that adequate and repeated surface tillage holds moisture in soils which are deep and fine enough not to lose it all by drainage. It was practice based upon that knowledge and supplemented by irrigation when necessary which, with a favoring sky, gave us that whale of a crop in 1917 without spring rains and with the total seasonal rainfall only two-thirds of the normal! And we need not preach farther from that text, for we did that in our issue of December 15, when we enforced the exhortation that when rainfall is scant one must get more busy with the land! Remember that from this on through the winter, and full summer crops in field, orchard and vineyard will be the reward to him who does what he knows to be right with the land.

But this is not all of it. Next to the assurance through good tillage comes the more recent and wide demonstration that plowing-in green stuff is the secret of soil restoration and by its action is also the key to good and efficient tillage. This is also a "discovery" made in antiquity, for the agricultural editors of ancient Rome, like Cato and Vergil, put it in paragraphs and poems such as agricultural editors of the present day cannot rise to. Still we comfort ourselves by knowing the reasons for it better than they did and we have made demonstrations of its efficiency on a larger scale than ever before in one line of action at least, and that is the relation of it to moisture retention, both directly by humus formation and indirectly by rendering tillage more easy and perfect. And there is probably nowhere else in the world clearer demonstration of these things than in California and nowhere else a more prevalent disposition to secure the practical benefits thereof.

HOW WE GOT STALLED ON TILLAGE.

FOR THE REASONS aforesaid we do not discourse upon the principles of moisture conservation through humus formation: the way of it has been plenteously expounded in these columns. We will attempt a concrete illustration of the results of such operation. Last week we had the good fortune to visit the large lemon orchard of the James Mills Orchard Company, about five miles west of Maxwell, in Colusa county, and to be entertained and chaperoned by Mr. Macoun, than whom California has perhaps no better expert in soil handling. Mr. Macoun is the operating superintendent of the property, having laid out and planted it in 1912 and brought it to its present excellent condition. Now a lemon orchard of over 500 acres, being some appreciable fraction of the earth's surface and somewhat wearing to tramp over, Mr. Macoun undertook to give us a lift once in awhile in his auto—which worked delightfully until he planned to make a cross-cut from one roadway to another over the orchard ground. In pursuit of this design we ran off the roadway into the tillage-mulch which cultivation had spread between the tree rows, and pointed up a 15 per cent grade. The machine did not like it all from the start, soon took to throwing up dirt like a hungry razor-back and finally stopped dead—the hind wheels answering the gears only by pawing out dirt backwards until the rear wheels had half buried themselves and we got out of the muss by invoking gravity to help us pull backward to the roadway. We have never been more effectually stalled in a sand hole.

To understand this, which may seem on the face of it perhaps to be a very common fact on a light valley loam deeply worked, one must remember that in 1912 the land was a hillside grain field which had been grained and sheeped since pioneer days and had become as hard as upland clay-loam can be after a few decades of such handling. It must also be remembered that the land had been

but scantly irrigated last summer because of water troubles, had had no irrigation for five months and not a drop of rain large enough to measure for about nine months, and yet the lemon trees were in excellent condition, volunteer cover crop of wild growths was several inches deep on the north slopes and the whole aspect of trees and soil a striking demonstration of the effect of moisture conservation. Mr. Macoun did not plan such a demonstration, though he was well pleased to get it. He expected that soon after the light August irrigation he would get rain to start the cover crop everywhere and give the trees whatever autumn moisture they needed. He was, of course, tripped up on the fall rains just as everyone else was and he got instead the demonstration which we have indicated.

WHAT DOES IT MEAN?

WELL, in the first place, it meant to us that we tramped over that loose soil until we got the toothache in both legs from the tramping and from trying to kick holes to bottom of the looseness of it. It meant to the trees that they were getting all the moisture they need to keep their winter foliage large and broadly spread and it meant to the wild plants that except in the face of the southering sun they found moisture enough in the loose layer to start and hold growth for the rains which we hope they are getting this week. But the broader significance of it is that when one has a deep and fairly retentive soil, well supplied with seeds of winter-growing grasses, clovers and weeds, he can, by continually growing these plants with the rainfall, plowing them in early enough in the spring and maintaining a deep and clean cultivation of summer crops, get more growth on trees or other summer crop with less water than has ever been thought possible and can hold over moisture enough to keep citrus trees from injury if fall rains fail to arrive. Of course, Mr. Macoun has no idea of dry farming citrus trees nor does he advocate such a thing, but he surely has demonstrated that on such foothill lands as he has on the west side of the Sacramento Valley it is possible to get five-year-old lemon trees of good size for their age without a pound of fertilizer, neither at planting nor afterwards, by the simple process of plowing in the green stuff of winter growth and with deep cultivation afterwards with such summer irrigation as he has been able to get, though not always as much as he desires. And the lesson of it is, of course, that if it can be done with such a thirsty plant as a citrus tree the same work for tillage and humus formation will translate even a moderate rainfall into an amount of corn or milo or beans or other summer crop of food or forage which it would be otherwise impossible to get.

And why is it possible in Mr. Macoun's way? It is because tillage conserves moisture to start early growth of cover crop to make tillage easier to grow more cover crop to make the soil more retentive of moisture to grow more cover crop to make the soil moister and richer to grow the crop you grow to sell. Very simple, is it not? Well, then, go to it!

By the Editor — QUERIES AND REPLIES — Inquirer Must Give Full Name and Address

Protecting the Fig Insect.

To the Editor: What protection, from freezing, would you recommend for Capri figs? Most of our orchards are still very young, but there are a few trees that have attained considerable proportions. Last winter millions of wasps were lost at the Government orchard at Loomis, which suggests the necessity of giving proper attention at this time to the few trees that carry the insect over winter.—G. C. A., San Francisco.

Fortunately it is not a question of losing many millions of fig insects but of saving a few millions, and this is not so hard as it might seem, for a single Capri fig which Mr. Rixford watched yielded 600 females by actual count. Therefore, it does not require that many Capris be protected to caprify quite a crop of Calimyrnas. Mr. Roeding has done this by building a palm leaf shelter over a few Capri trees. Mr. Markarian has done it more easily by picking Capris before freezing and keeping them sandwiched with layers of sand in boxes and putting them out a few in a tree in April. They kept all right and the insects came out in swarms just as they were needed. But it is all right, as our correspondent suggests, to keep working at the problem to find the best way of all to carry over the insects. The subject will come up again at the Fig Institute which will be held in Fresno on January 4, as fully stated in our issue of December 15.

What About Resistant Roots?

To the Editor: Will you kindly state your views in the matter of commercial vineyards on resistant and non-resistant root? I have seen vineyards completely wiped out because they were not on resistant root, and I cannot reconcile myself to the chance of planting non-resistant roots. Your usual good and candid answer will be appreciated.—F. D. T., Berkeley.

The theory of safeguarding the life of a vineyard by grafting on resistant roots is just as sound as ever and the practice of doing is safer than ever because the continued experimental work of the California Experiment Station, and of the U. S. Department of Agriculture in this State has shown that many roots formerly commended either do not resist or do not grow a good vine under our conditions. But it has also been shown that the spread of the insect and its destruction of vineyards is much slower than expected, except with soil conditions and possibly other conditions, which particularly favor it. Therefore, the conclusion of the whole matter, as it appears to us, is this: If you wish to plant on phylloxerated land or in the path of the insect which is rapidly advancing, plant only on resistant roots. If you are in a section to which it has not attained or in a section where its progress is very slow or at a standstill, save your money by planting cuttings or rooted vines of the kind you wish fruit from.

Beans and Frost.

To the Editor: I wish to grow beans in the thermal belt of Placer county and to plant as early as possible, while it is warm enough to benefit by what moisture there is in the soil, as I will have to irrigate soon after. I expect to intercrop an orchard planted last year. The soil is retentive and was well plowed twice before planting the trees, and I expect to plow twice again for the beans. How soon can tepary beans be planted in comparison with golden wax?—D. B., Lincoln.

You will have to ascertain by local inquiry whether your thermal situation is frostless enough to grow beans as a winter crop. We cannot assure you to expect that. As between tepary and golden wax we have an impression that the latter would be a better risk for going through a light frost. Besides, why do you wish to have anything to do with teparies? There is no use taking winter chances on beans unless you have a chance to market string beans out of season and the tepary has no record known to us for such a use. The only bean we know which would be sure to go through frost is the so-called "Portugese horse bean," but that is not recognized as a string bean and would not get the price of early string beans.

Peas Which Are Green When Ripe.

To the Editor: Is there not a pea which is grown for drying which is being picked when not altogether dry to keep its green color, and which I suppose can be harvested earlier and on which irrigation can better be kept up, so that the soil may be easier to plow before the soil gets dry, as might be the case where irrigation has to be stopped for maturing the seed?—Reader, Martinez.

Many of our commonly grown garden peas have the habit of carrying more or less of their green color to their ripe product and our observation is that they will go on and ripen even though the soil be quite moist. The pea has not such a disposition to become perennial as the bean has and will ripen with soil moisture which would keep a bean plant growing and deferring the maturity of its seed. Our notion is that you do not need to hunt far for what you want. Any garden pea will do unless it is knocked out by lice or mildew, which are summer pests of the pea when continued surface moisture favors them.

What Is Proso?

To the Editor: Where can seed of "proso" be gotten? An article appeared in the Rural Press or in a local newspaper about the results of that new cereal from the Experiment Station of South Dakota, I believe, said to be a wonderfully useful drouth resisting grain of which bread can be made mixed with wheat, etc.—A. B., Martinez.

Proso is the type name of a bunch of panic millets which are called hog-millets. They have a hard-shell seed like that of broom corn. The group comes from Russia and Siberia and the station which you cite says their origin indicates that they are well adapted to South Dakota conditions. The same facts also may indicate less need of them for California, where the soft-seeded sorghums behave so well and have such a long frostless autumn to mature in. Possibly also we have less interest in grinding up hog-millet for debasing bread when it can be so much better done with non-saccharine sorghum flour—if we should ever come to that. It seems doubtful if we have anything to gain from proso either for hogs or men.

Why to Spray and When?

To the Editor: I intend to use the lime-sulphur spray on five to twelve-year-old grafted walnut trees, also on young almond trees three to eight years old and on three to five-year-old Bartlett pear trees also. I understand this spray to be a bark stimulant and to clean off scale, etc. Now, the question is: Will I get enough good out of this operation—i. e., will it pay me to do it? In your opinion, will this spray help the trees much? Would you do this spraying any time from now on or would you wait until after the heavy rains are over? The trouble is, toward spring we have not much time for spraying, so should like to do it now if possible.—T. C. G., Concord.

As we have said before, we would not spray unless we knew what we were spraying for. We would not spray for "bark stimulation" unless we could reach it through killing moss or scales or aphis eggs or red spider eggs or some other pest which is reducing the thrift of the tree. If the tree is clean and thrifty, it will "stimulate" its own bark and you can help it by water and fertilizer—not by medicine. If you really have a good reason to spray the trees you mention, do it now and avoid the trouble you describe.

Silage from Cured Sorghum.

To the Editor: Can you tell me whether or not it would be possible, by adding an abundance of water, to make palatable silage from milo maize that has been cut and practically cured in the shock? The grain was not quite ripe at the time of cutting.—Reader, Campbell.

Cured corn and sorghum have been siloed from the shock and rendered more palatable thereby, but it is necessary to shred or cut very short and to be sure to use water enough. The amount of water must equal the weight of the fodder, ton for ton, and such amount cannot be blown in from the cutter, but must be sprayed on the silage in the silo continually. It will not do to pour it in over the top when full, as that does not wet all the stuff. Extra effort must be made to pack well. Such silage is better than dry stalks, but not as good as silage cut in the right condition. There is far more danger of using too little than too much water.

California Weather Record

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m., December 24, 1917:

Stations—	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	7.59	15.13	64	44	
Red Bluff	2.12	9.03	68	36	
Sacramento	.80	6.32	58	38	
San Francisco	.88	7.25	62	44	
San Jose	.95	5.45	62	36	
Fresno	.39	3.69	64	34	
San Luis Obispo	.57	5.09	84	38	
Los Angeles	.42	4.39	86	50	
San Diego	.25	2.64	78	46	

Scientific Handling of Great Beef Herds

Written for Pacific Rural Press by W. M. Carruthers

The beef production of the world is today at stake. How can it be taken care of? The terrors of the war are making it harder every day. The great European nations are sacrificing millions of their best beef animals to feed the armies at the front, depleting many of the great herds which has taken centuries to build up. Only recently Holland announced to the world that they were about to sacrifice half of their great Holstein herds to supply the armies of Germany with meat and take coal and other commodities which that country could give them in exchange. Great Britain, only a week ago, closed her ports against the export of any more of her purebred herds to any nation in the world. The British Ministers of War have notified all the great breeders of Great Britain, Canada, Australia, and her other colonies to preserve all their she stock to the very limit and to make great sacrifices to do this. It looks as if it is up to the United States to conserve her great Western livestock interests on smaller farms, where beef can be produced at a greater cost but at a larger remuneration.

COMMUNITY METHODS IN UTAH.

The labor problem in the livestock world stands out in front of the breeders as a really great obstacle. Recent reports in the different magazines from the great sheep breeders of this country state that good labor is getting so difficult to secure that the flocks will have to be handled in some other manner which must be devised by their owners. This problem is now being discussed pro and con at most all of the prominent livestock conventions in America. Whether the great co-operative plan, practiced in the State of Utah, if put on a larger and broader plan, can help this matter, remains to be seen. There the smaller farmers of the different nationalities have banded themselves together and operate the small ranches in a co-operative manner, placing no hardship on any of them to take care of what livestock they have on hand during the summer and winter months. These small farms of from ten to fifty acres are handled in a most extremely diversified manner, as to the production of crops, and it is claimed that they are producing more per acre than any other of the States in the Union. The rotation system used by these small farmers has been threshed out and discussed by them in so many ways and so many times that it enables a system of crops, keeping up the productiveness of the land and also insuring them of feed of the different varieties to maintain the livestock that the little farms will feed during the three winter months. The other nine months of the year the flocks and herds are banded together and taken up on the forest reserve in one herd, assuring them good grazing. These flocks and herds are brought home at the early part of winter, segregated by the different owners who have raised enough feed to care for them during the winter. The crops raised have all been harvested and the by-products of most of these crops are used for feeding purposes. These by-products are from refuse from the sugar beet, the straw from the wheat, and bean crop, and the corn stalks, which otherwise could not be taken care of if this co-operative plan was not in existence.

It is a well-known fact that one hundred thousand hogs have been killed in the city of Ogden, many days in succession, and much of this meat has been shipped into San Francisco and many other California cities. It has often been a wonder to the California people how the little city of Ogden should be able to carry so good a packing plant with no really great farming section behind it. This great co-operative system of the little valleys amongst the hills of Utah and Idaho solve this problem.

HOW WOULD IT WORK IN CALIFORNIA?

Naturally the question arises: How much of this work could be done in California? None, under the present method of our beef production on the range. Handling the range as it has been for the last fifty years must be changed. No range can maintain the three systems of carrying a breeding herd, a steer herd, and a calf herd. The problem of care in the building up of these three great divisions of the range business is too large for any one outfit to handle in the manner by which the best results are obtained. No man is big enough to look after the details of these three great divisions. No range is large enough for the feeding and grazing of these three parts of the beef animal industry. The cow herd alone requires men who have spent almost a lifetime in this work, to pick up all the loose ends and carry it through to a high success. The cow herd is specially mentioned in these three great divisions, as it may be termed the "wheel horse," for without it the other two could not exist.

THE COW HERD.

How few of our ranchmen understand the breeding problem, how few ever give it a thought, how few try to find out the percentage of calves every year, and how few of the present-day ranchmen try to remedy these conditions when they have been informed that they exist? How many men have ever tested out this breeding problem, whether four or six bulls are needed to one hundred cows on the different meadows, benches and high ranches in this State? Has it ever occurred to them that more bulls are required on the high ranges than on the low meadows, or has it ever crossed their minds that the thick-fleshed, early-maturing, high-priced bulls cannot traverse these high ranges and do justice to their cost to their owner? Why breed cows on the high

(Continued on page 685.)

Calves dropped on the range may be disposed of to small farmers, whose surplus feed and roughage will bring small herds to profitable maturity.

YOUR RESOLUTION FOR 1918

BIGGER BETTER CROPS

Don't be satisfied with "doing your bit" but do your best, make every acre produce to its utmost.

Proper fertilization will greatly increase the production of your soil.

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PURE ANIMAL MATTER AMMONIATES

GOLD BEAR FERTILIZERS

FOR CALIFORNIA SOILS

Fruit Shipping and Market Prospects Fine

[Written for Pacific Rural Press from an interview with Manager J. L. Nagle of the California Fruit Exchange.]

[Mr. Nagle owns 280 acres of bearing fruit, leases 50, and personally controls 120 acres more. He ships all of this fruit East and expects to do so next year.]

Fresh fruit will be allowed all cars needed for shipment East next year, according to a recent letter from the Food Administration to Manager J. L. Nagle of the California Fruit Exchange. The Food Administration desires to encourage increased production and consumption of perishables, to replace exportable products in the American diet. This will make fruit growers feel easier regarding the disposal of their next crop.

OVERLOADING CARS TO AVOID CAR SHORTAGE.

Mr. Nagle was asked to name a safe minimum carload for fruit, to relieve the car shortage by overloading cars. A great deal of the grape crop brought low returns this year because they had to be held in storage awaiting cars and were often too nearly gone to reach the East in good shape.

The shortage is partly due to the long list of commodities classed as non-essential, but whose previous shipment to California had been bringing cars here which could carry our products Eastward. Due to the shortage, Mr. Nagle estimates that 25 per cent of the cars of fruit shipped last year were overloaded. He expects a much larger per cent of overloaded cars next year. Cars are being loaded about 28,000 to 30,000 pounds, whereas the minimum was 26,000.

His answer to the Food Administration mentioned an overload which might be endured to help the war; but should not be used as a basis for any new tariff, nor be made permanent. Overloads are more permissible when fruit is green early in its season, when the whole carload is of the same kind; though the upper layers of crates and boxes being in warmer air than the lower layers ripen faster. Late in the season for each fruit much of it gets overripe on the journey if stacked too high in the car. Where different varieties or kinds are shipped in the same car, as a large proportion are, the damage may be great. Shook must be better also to stand up under the heavier weights. A relief of the car shortage pressure may come, due to the small citrus crops of Florida and California; the unsettled status of the cantaloupe industry may greatly reduce planting of that crop and release more cars.

FRESH FRUIT SHIPMENTS NET GOOD PROFITS.

This year's fresh fruit shipments from California are 6,737 carloads more than the record shipments of last year. This year's crop was marketed at probably the best total net profit of any. The rapid and wonderful expansion of the industry has been made profitable largely by encouraging small markets to take full carloads, after many years of taking less than car lots and costing greater freight. Many of these markets have been asking for smaller carloads rather than larger ones; but the greater interest of the industry and of the nation in saving cars justifies bigger loads during the war. Incidentally railroads haul the bigger loads with very little more power; but they charge freight by the hundredweight.

GOOD YEAR AHEAD.

An exceptionally good year is anticipated for growers of irrigated fruit in 1918 by Mr. Nagle, so far as can be told now. Placer county trees are in good shape, though the late dry fall may have injured fruit buds in irrigated districts. A disquieting feature is the forwardness of fruit buds due to the warm weather. Mr. Nagle has observed a fig tree with buds ready to burst; and the writer has seen almond buds swelled with their envelopes bursted. Cold weather is needed to retard this, for freezes after too much development might easily knock the crop.

SHOOK SITUATION PRECARIOUS.

"We just got through by the skin of our teeth last season on the shook proposition," says Mr. Nagle, "but while we may have to pay more next season there is no reason to believe we cannot get the shook. The mills have asked the Government to establish a price."

LEMONS GREW SLOW ON ADOBE.

Lemon fruits eight months old on adobe averaged smaller than those five months old on sandy loam in experiments carried out two years by C. C. Harris of Los Angeles county, when he was buying fruit. He wanted to know when it would be ready to ship, so he tied strings on twigs where lemons had just set in two or more orchards. The sandy loam orchard was treated to eight pounds nitrate of soda per tree and a good bit of horse manure. After five months' growth it made 280 boxes of 300's (the size required for 300 per box) per carload of 312 boxes. After eight months' growth on the adobe, with commercial fertilizer, one-third of the car was 300's while two-thirds were 360's.

Plant an Orchard

OUR 1918 Catalog is now ready for distribution. It is somewhat different from any other catalog which has ever been published in the United States, as it not only gives a description of the various varieties of fruit and ornamentals which we carry in our nursery, but in addition contains very valuable information with reference to the planting, management and the care of an orchard.

In many instances the owner of an orchard or vineyard fails to secure the results that he anticipates when planting his property because he did not have the necessary information to make his venture a success.

In the preparation of this catalog it has been our endeavor to present something more than the actual cataloging of various fruits and ornamentals, by incorporating suggestions of one whose years of experiments will be of profitable assistance to the planter in overcoming many of the difficulties experienced by beginners.

The recommendations are the result of careful observations and practical application. No instructions are given unless we have fully demonstrated to our own satisfaction that they are worthy of being followed by others who wish to derive both pleasure and profit from their undertaking.

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

FIG TREES SPEED UP.

From a crop of 28 tons previous to four years ago, the Adriatic fig orchard now belonging to F. L. House of Fresno county picked up to 45 tons dried last year. There are 17 acres of trees 25 years old and six acres ten years old, all set on 30-foot squares. Big limbs had been crossing and resting on each other, and there was a lot of dead wood. Mr. House took out eleven big loads of big wood and about fifteen of brush. The aim was not to open the centers to the sunlight, because a dense top is preferred. Figs matured in the shady inside of a tree make the best grades, according to Mr. House. As figs come in axils of leaves on new growth, the object is to get as many new leaves as possible. After the first severe pruning, several shoots came from near each cut and grew as Mr. House remembers, about nine inches long on the average. Other shoots a few inches longer grew throughout the trees. A heavy coating of stable manure last year and the year before helped in the recent production.

BLACKBERRIES ON DITCH BANKS.

Are you wasting your irrigation ditch banks? Grow berries on some of them as does A. F. Blumenberg of Merced county. He was unable to supply the demand last summer locally and from Yosemite for Loganberries, Himalayas, Mammoths, and Navlett Seedless blackberries. They were originally planted four feet apart, two or three feet from the edge of water when the ditches were running full; but they are now a regular thicket on each side of the irrigation ditch. As they need lots of water when fruiting, a ditch 25 or 30 inches wide has been made along the outside of each row so water runs in it six inches deep. These are filled, and enough water is then allowed to trickle in to replace the seepage for 24 hours at a time.

FEEDS THE TREES THAT FEED HIM.

Lime, manure, and cover crops have been the principal factors in increasing J. L. Nagle's fruit crop in Placer county from 18,000 boxes last year to 32,000 this year. He expects 40,000 next year if weather is good, and 50,000 three years from now, when the young trees are all in bearing. The orchard has been well fertilized and is getting more. The cover crops are melilotus and bur clover. A carload of lime has been distributed since the last crop was taken off. One hundred tons of manure have been bought from the Western Meat Co. of San Francisco. Five hundred tons are being hauled to one ranch by motor trucks from the railway stock cars at Roseville. The trees are paying their board bill and Mr. Nagle's too.

FIG CUTTINGS.

Smooth, hard fig cuttings about 9 inches long and hardly as big as your finger from this or last year's growth are good for planting. Tip cuttings are good but not necessary, if others are convenient with a bud close to the small end. Soft, fat late growth is not satisfactory, especially if it has been frosted. After letting them callus in cool, moist but not wet dirt or sawdust, they are to be planted in spring with not more than an inch of the upper or small end projecting.

The Golden Orange Groves Association of Baldwin Park Co. held its annual election last week. Manager J. M. Stanton's report showed a normal crop of Valencias for 1918, but a very light crop of navels.

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MORGAN HILL, CAL.

Hay has been selling for $30 a ton at points in Central California.

OLIVE TREES NOT PRUNED, BUT THINNED.

[Written for Pacific Rural Press.]

Many people clip back their new olive growth and leave the trees too thick with brush, says Chas. Ahart, for five years orchard manager on the 112-acre Mission olive orchard belonging to Meek & Perry in Yuba county. Clipping back tends to force a surplus setting on last year's lateral twigs, and this makes an overload of fruit which is then small and much later in ripening, thus standing in danger of freezing and carrying it into wet weather for picking. The extra heavy crop is then followed by a light crop.

The way to prune, in Mr. Ahart's opinion, and as he is doing it now on the orchard, is to thin out plentifully. Every lateral, if cut at all, is cut off entirely at its base. When a branch is to be shortened, it is cut off just above a good lateral. The best young wood is left, and when it sets the fruit is more likely to be of good size and a good but not overheavy crop. If there is not much young wood, heavier thinning will bring out more of it next season. This is necessary, as the olive bears on last year's lateral twigs. It is not hard to choose which branches to take out in heavy thinning, as the tendency is for new growth to come from the upper side of limbs, project outward, and hang downward much like an orange tree.

An advantage in having the tree well thinned out, according to Mr. Ahart, is that the wind does not whip it so hard as the thick, brushy trees. The difference was easy to see last year when it is estimated that 150 tons were whipped off onto the ground. The Meek & Perry orchard has not been thinned out systematically, due to efforts along other lines to make these 26-year trees bear at all. The crop have been alternately heavy with small-sized fruit, and light with good sizes, but some blocks are now in shape to bear regularly.

Pruning can proceed until mid-February; and since it has already been started, there is good chance for a large acreage to be pruned this winter.

To get big Mission olives, says Mr. Ahart, thin out the brush and give the trees plenty of manure and water. Thining fruit by hand to get larger sizes has been tried in comparison with thinning brush, but not fruit. The difference lay almost entirely in the greater amount of labor required every year in thinning fruit; while thinning brush is necessary only every two years.

Armstrong Nurseries
ESTABLISHED 1889

ONTARIO, CAL. 1918 Catalogue Ready

Brim full of valuable information—printed in easy-reading type; profusely illustrated. The book you will want to read before buying, whether for commercial or home garden planting. Fully describes Tropical and Citrus Fruits—Avocados, Loquats, Guavas, Sapotas, etc.—Olives, Deciduous Fruit Trees, small Fruits, Nut Bearing Trees, Roses, Deciduous and Ornamental Shade Trees and Shrubs, Evergreen Trees and Shrubs, Palms and Plants.

Miller's Late Peach

PEACHES

Bring your land into the profit class quickly by planting Tuscan or Phillips Cling Canning Peaches. Easy to plant—grow rapidly—bear early—big demand at canneries. Also we have the best of the extra early, medium, and late varieties for shipping, canning and drying. Inter-crop with some good crop for which your land is suitable. By so doing your orchard will more than double the value of your land in four or five years at practically no cost.

OLIVES

In all of the olive sections of the State, Armstrong Olive Trees are known as thrifty, vigorous trees, with an abundance of fibrous roots—so essential, particularly in an olive tree, for the development of a uniform grove. In planting such trees you take no chance of finding it necessary to replant from 25 to 60 per cent of your trees.

"Your olive trees, planted here last year, have made a splendid growth, and have given perfect satisfaction."—A. W. Munn, Sacramento Co., Calif.

Ascolano

WALNUTS

Eureka Walnut

When you plant a Walnut tree, plant a GOOD, DEPENDABLE TREE. Armstrong Walnut trees are grafted on the native California Walnut by men who know how to make the grafts—how to take care of the tree—how to harden the wood—how to dig the tree and preserve all the root necessary to insure a strong, vigorous growth. This is INSURANCE to the planter. Our Nurseries are free from Walnut blight. Varieties — Placentia, Eureka, Neff, Meyette, Franquette.

ALMONDS

The California nut crop that brings money into the pocket of every owner of a well-located orchard. Demand growing larger—California produces all of the Almonds grown in the U. S. If you have a favorable location, you cannot do better than plant Almonds. Write us for any information wanted concerning varieties, situation, prices, etc.

Nonpareil Almond

we'll gladly send it -

ARMSTRONG NURSERIES
406 Euclid Ave., Ontario, Calif.

Please send me a copy of your 1918 catalogue. I am planning to plant

Peaches ☐ Apricots ☐ Plums ☐
Pears ☐ Apples ☐ Cherries ☐
Walnuts ☐ Almonds ☐ Ornamentals ☐

What else?..... .....How much?.....

Name .....

City ..... State .....

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A MESSAGE TO FRUIT AND VEGETABLE GROWERS

THE A. A. A. EVAPORATOR MANUFACTURING COMPANY, 2371-73 MARKET STREET, SAN FRANCISCO, CAL., desires to get in touch with Fruit and Vegetable Growers in order to build one Modern Evaporating Plant on a Co-operative Basis in every district on the Coast. We are willing to invest a part of the capital necessary ourselves. If you have Fruit and Vegetables you cannot sell in the fresh state, come in with us and we will make money out of it for you as well as for ourselves. Your neighbors might be in the same boat; let us come together and talk the matter over. If you are in business to make money, write us for particulars, or, still better, come to our Office and Factory and we will show you our proposition.

VAN NUYS NURSERY CO. ROYAL APRICOTS 4-6 ft., 25c. 3-4 ft., 20c
TELEPHONE 12 VAN NUYS, CALIFORNIA

Farm Products Approximate $700,000,000

(Continued from first page.)

ALMONDS.

The California Almond Growers' Association figures the almond crop 3,800 tons. Prices set were as follows: Nonpareils, 20½c; Ne Plus, 17½c; I. X. L., 18½c; Drakes, 15c. The 1917 crop is reported sold out and 1918 crop—based on normal conditions—sold firm at 1918 opening prices.

WALNUTS.

Estimated crop, 13,000 tons. Price set by California Walnut Exchange, 21c base.

DRIED FRUITS AND NUTS.

Products	Tons	Value
Raisins	160,000	$19,200,000
Prunes	100,000	16,000,000
Peaches	35,000	6,300,000
Apricots	15,000	4,500,000
Apples	8,000	2,000,000
Figs	6,500	1,750,000
Miscellaneous	4,000	750,000
Walnuts	13,000	5,200,000
Almonds	3,800	1,375,000

CITRUS FRUITS.

The total crop of California citrus fruits for the year ending August 31 reached 53,830 carloads, exceeding that of any previous year by over 5,000 carloads. This returned the growers $47,675,000. California supplied 71 per cent of all the lemons consumed in the United States and Canada. Over 5,100 tons of lemons unsuitable for shipping were converted into citric acid. There was also manufactured and sold 1,000 gallons of lemon and orange tincture.

OLIVES.

The olive crop this year, as compared with last, is estimated by California association olive growers at about 50 per cent in Northern California and 20 per cent south of the Tehachapi. However, ideal weather conditions to date have permitted the harvesting of practically all the crop, so the pack will be about 60 per cent of last year. Higher prices are expected to bring the value up to equal that of last year.

VEGETABLE AND GARDEN PRODUCTS.

The acreage of garden truck in California has greatly increased. The Department of Agriculture estimates the lettuce acreage this year at 6,770 acres, against 3,590 last year; celery, 5,480 acres, against 4,450 acres; cauliflower, 3,500 acres, against 2,400 acres. The canned vegetable pack this year is estimated at 30 per cent greater than last. The tomato pack was especially large, due to large acreage and favorable harvesting weather.

LIVESTOCK.

Livestock production this year, as estimated by the leading packers, shows no increase excepting in beef. Higher prices, however, bring up values materially. The increase in price over 1916, according to Pacific Rural Press market reports, is as follows: Hogs, 60 per cent; sheep, 45 per cent; lambs, 55 per cent; steers, 21 per cent; cows, 18 per cent; wool, 100 per cent; and hides, 25 per cent. The cattle supply on the farms is estimated to be about normal. Hogs are variously esti-

Summary of Values (Estimated)

GRAIN AND FIELD CROPS.		
Barley	$52,800,000	
Wheat	13,713,000	
Oats	11,970,000	
Corn	5,750,000	
Rice	12,250,000	
Rye	125,000	
Hay	93,600,000	
Sugar beets	12,835,000	
Cotton	7,500,000	
Hops	2,500,000	
Beans	57,523,600	
Potatoes	22,950,000	
Sweet potatoes	1,392,000	
Onions	3,825,000	
Melons	5,000,000	
Sundries	3,000,000	
		$306,733,600
ORCHARD AND VINEYARD.		
Deciduous Fruits, Fresh	$53,600,000	
" " Dried	50,140,000	
" " Canned (8,400,000 cases)	18,250,000	
Olives	3,500,000	
Citrus—Including citric acid, etc.	48,000,000	
Nuts	6,575,000	
Wine and Brandy (same as estimated by California Development Board for last year)	14,500,000	
		194,565,000
VEGETABLES AND GARDEN PRODUCTS.		
Canned (5,500,000 cases)	$11,750,000	
Fresh	16,000,000	
		27,750,000
LIVESTOCK AND DAIRY.		
Meats, Hides, Wool and increase	$55,000,000	
Butter, cheese, milk, cream, etc.	50,790,000	
		105,790,000
POULTRY		32,500,000
BEE PRODUCTS		2,000,000
MISCELLANEOUS.		
Seeds	$1,000,000	
Nursery, florist	5,000,000	
Cider, vinegar, etc.	2,000,000	
		8,000,000
		$677,338,600

FROST DAMAGE PREVENTED

BOLTON PATENTED ORCHARD HEATER

Send for Booklet. On account of the scarcity of sheet iron, we will have only a limited number of heaters for delivery this season.

The Frost Prevention Co.
Merchants Nat. Bank Bldg.
SAN FRANCISCO, CAL.

Wallace Nurseries
CITRUS SPECIALISTS FOR 47 YEARS
We have a fine lot of select 1, 2 and 3 year old
LEMON—ORANGE—GRAPE FRUIT TREES
You want dependable trees. Place your order early.
SALES OFFICE: 501 I. W. HELLMAN BLDG., LOS ANGELES

TREES
If you want the best trees in the West, buy stock grown in Placer County
If you want the best trees grown in Placer County, write for price list to
UNITED FRUIT COMPANY, Newcastle, California

SPRAYING IS TOO IMPORTANT
Don't Buy the Wrong Machine

Spraying is too important to permit experiments with sprayers. A sprayer is ineffective not only when it sprays poorly, but when it is time-wasting and troublesome.

Bean Power Sprayers have cut spraying costs to the minimum and eliminated troubles. Bean Spraying Machines—the leading kind for 33 years—are the most effective ever built. The famous Bean Power Sprayer is the choice of leading fruit growers the world over. This machine holds top place in its line simply because it gives an incomparable service.

Bean POWER SPRAYER
The 10-point sprayer

Write for the catalog today. Learn about Bean patented features—advantages that have kept it in the lead; the Bean Pressure Regulator; the elimination of stuffing boxes; and other time-and-trouble-saving short cuts to cheaper and better work. There are ten points wherein the Bean excels. You want to know them all. Spraying is too important not to get the best sprayer. Send us the coupon today.

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211 W. Julian Street
SAN JOSE, CAL.

Address office nearest you.
Bean Spray Pump Co.
211 W. Julian St., San Jose, Cal.
131 N. Los Angeles St., Los Angeles, Cal.
Please send me your sprayer book with full information about Bean Sprayers.
I have..... acres of..... and am interested in..... Power Sprayers..... Hand Pumps..... Accessories.
Name.....
Address.....

Kirkman Nurseries

Established 1888

Wholesale Growers of

High-Grade Nursery Stock

DECIDUOUS AND CITRUS FRUITS

OLIVES AND GRAPE VINES

SHADE AND ORNAMENTAL TREES

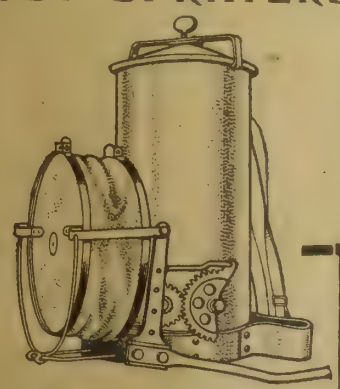
Twenty-nine years of continuous and consistent service to the Western fruit growers.

There is a shortage of trees this year. To make sure of getting just what you want, place your order now.

Address Main Office

2522 Tulare Street
Fresno, Cal.

AMERICAN BEAUTY DUST SPRAYERS



AT YOUR DEALER'S
or we will send it to you for
Standard size $16.00
Junior size 13.50

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CORY'S

Thornless

BLACKBERRY

Free from thorns as a grape vine. Fruit of enormous size, delicious flavor, few seeds; very productive earliest berry to ripen. Our descriptive price list tells you all about it. Send for it.

EKSTEIN NURSERIES
MODESTO, CAL.

Dealers in PAPER

Blake, Moffitt & Towne
37-45 First St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

mated from 10 to 40 per cent short. Sheep are slightly increasing. A very large percentage of ewe lambs has been kept for breeding purposes this year.

DAIRY PRODUCTS.

The State Dairy Bureau gives the butter production for the fiscal year ending September 30, 1917, as 68,348,021 pounds, and cheese 9,236,663 pounds. This shows a decrease of 1,682,163 pounds of butter and an increase of 1,491,539 pounds of cheese over 1916. The average price of butter on the San Francisco market was 39.4c per pound, against 28.53c last year. Cheese prices averaged 21c, against 15¾c last year. Two new condensaries and a sugar of milk factory started operation during the year.

POULTRY.

Egg production for 1917, as indicated by San Francisco receipts, increased over 1916 by 25 per cent. The receipts for 1916 were 572,500 cases for 1917; there were 690,139 cases up to December 6. The average price for 1917 was 41.03c per dozen, against 31.45c for 1916.

Other poultry products also show large increases. The State imported practically no poultry this year. The total value of poultry products for the State is estimated from thirty to thirty-five million dollars, as against twenty million last year.

BEE PRODUCTS.

The 1917 production of honey and wax is estimated as about normal. Prices for strained honey, which forms the bulk of the crop, have been fully 100 per cent higher than last year; comb honey and beeswax, 25 per cent higher.

BRITISH GARDEN PRACTICE.

To the Editor: It may possibly interest the two inquirers for information to know about methods employed to prevent the ravages of the strawberry crown borer, the onion maggot, and similar pests that destroy cabbages, etc., in other countries. For the onion maggot the English gardeners give a heavy top dressing of soot. For the strawberry crown borer a top dressing of wood ashes. About fifteen years ago I went up to British Columbia and while there (some six years) I was induced to invest in a fruit cannery, consequently came in contact with the fruit and berry growers, and the subject of the strawberry crown borer and preventive measures came up. I suggested that wood ashes be given a trial. One of the berry growers who claimed exemption from the pest told me that he had top-dressed his strawberries every spring with wood ashes, obtained from burning the roots, stumps and brush in clearing off the timber on his claim, not knowing that ashes would prevent or kill the borers. He said that all he knew was that wood ashes were a good fertilizer for potatoes and strawberries, but could now readily understand why the borers had not attacked his plants. Hardwood ashes are most effective.

San Jose. SAMUEL HAIGH.

[Soot is good for nitrogen and wood ashes are good for potash, and if the crown borers object to either in quantities which the plants can comfortably endure we have never observed it.—Editor.]

CONCLUSIONS ON CACTUS.

To the Editor: In answer to your request for experience with spineless cactus, I would say that it is not the nourishing food that it is represented to be. It is a watery substance with small food value. I am raising cactus at a 1700-foot elevation on a side hill and it will not do well without irrigation. I have been irrigating mine several times during the seasons. I would advise no one to plant cactus where the temperature drops below 20 degrees. In good soil, where it is taken care of, a year-old plant will raise easily 100 pounds and it will take about 1700 plants to the acre. When milk cows are fed on dry feed, cactus will increase the milk flow wonderfully.

In a year like this, when there is no pasture nor hay, I expect to carry my stock through on cactus and a little barley. Cactus does not need to be harvested. What you do not need this year keeps on growing for next year. You cut it and haul it to your stock as you need it. The fruit grows very abundantly and makes delicious preserves. Hogs and cattle are very fond of the fruit.

Calaveras County. A. G. BORBE.

WATER PREVENTED ORANGES FREEZING.

A. T. Flint of Tulare county lost the fruit from five-year Valencias, where he had cover crops last year, and lost none from the rest of the orchard; but that was not due to the cover crop. The cold trees were in a filled-in "hog wallow" and are slightly lower than the rest of the forty-acre orchard, which was not cover-cropped. They did not receive any irrigation all winter, though the rest were watered during all but one of the twenty nights during which temperatures of 27 degrees or lower were reached.

"THE BOSS" TREE PROTECTOR

Made of Yucca Palm.

Is cheap, durable and quickly put on the tree. It prevents rabbits from destroying your trees. A sure protection against frosts, sunburn, grasshoppers, or dry winds. Can be easily removed, will last for years. Send for samples.

Prices

	Per 1000
10 in. long, 7 in. wide	$10.00
12 in. long, 7 in. wide	11.00
14 in. long, 7 in. wide	12.00
16 in. long, 7 in. wide	13.50
18 in. long, 7 in. wide	15.00
24 in. long, 7 in. wide	18.00
30 in. long, 7 in. wide	21.00

YUCCA MANUFACTURING CO.,
380 Willow St., Los Angeles, Cal.

Founded in 1889

TEAGUE QUALITY

CITRUS TREES

LEMON, ORANGE POMELO AND LIME

Properly grown and cared for to produce good crops of quality fruit. Immediate delivery; write for prices.

R. M. Teague Citrus Nurseries
San Dimas, California

Santa Clara Valley Nursery Stock Is the Best You can Buy. Growing conditions here are ideal.

Fruit Trees That Produce

Trees grown on new soil—thrifty, strongly rooted, free from disease—budded from orchards that have a known record for results. That's the kind of trees you get from this nursery—and there are no better trees grown anywhere.

Write for prices on any stock in which you are interested.

ELMER BROS. NURSERY
The Nursery That Helped To Make Santa Clara Valley Famous
76 S. Market St. SAN JOSE, CAL.

Write for Catalog and Prices

We Are Headquarters For Fruit Bearing Trees

We have an exceptionally fine stock this year—trees are thrifty and well-rooted—grown under ideal conditions. Demand this season promises to be heavy. Get your orders in early.

Fresno Nursery Co.
Address Dept. B FRESNO, CAL.

BUD SELECTION Safety First THRIFTY TREES

Buds from our Citrus Stock—selected—Pollards 25 year orchard. As prolific, true to type as found. All trees guaranteed true to name—absolutely free from frost. 40,000 Sour Orange Seedlings, one year old, 8 to 20 inches. Nothing better.

POLLARD & MARTIN
NORTH WHITTIER HEIGHTS CITRUS NURSERIES
PUENTE, CALIFORNIA

LIME FOR LAND

HYDRATED LIME OR GROUND LIME ROCK

One ton Hydrate equals two tons Ground Lime Rock. Send for Free Booklet and Prices.

PACIFIC LIME and PLASTER CO.
HOLBROOK BLDG., Manufacturers, SAN FRANCISCO

LIME

Apply two to five tons of our ground limestone per acre and get better crops. $2.00 per ton in carload lots.

RIVERSIDE-PORTLAND CEMENT CO.
640 Title Insurance Bldg.
LOS ANGELES, CAL.
"Fertilizer Dept."

General Agricultural Review

Field Crops.

A large potato crop was realized in the Pajaro Valley this season.

The sweet potato yield for the present year is bringing large returns to Merced growers.

Southern millers have purchased 500,000 sacks of California rice in the Sacramento Valley at a 4c rate.

It has been stated by experts of the University of California that tules are as valuable for fertilizer as barnyard manure.

Imperial county raised last year 159,531 tons of milo maize and its home value put at $52 per ton, making the crop worth $8,295,612.

Riverside county reports a barley crop this year of 1,221,289 bushels and grain sorghums, including milo maize, and kaffir corn 2,800 tons.

The barley crop of Imperial county is reported by Horticultural Commissioner Waite at 60,658 tons and its market value $50 per ton and of the crop $3,032,900.

Grain bags are quoted at 20c. If the stuff in them is like many bags of last season, they will waste 20c worth of grain by bursting, especially if sunburned.

California canners of baked beans were authorized by the Food Administration to resume operations, recently suspended, and to can 25 per cent of their average pack.

One thousand acres will be planted to grain on the Kearney estate near Fresno, now the property of the State University. Plantings will be made of oats, barley and wheat.

The Government plans for a billion-bushel wheat crop this coming year have received a setback on account of dry weather and lack of farm labor. The forecast at present is 540,000,000 bushels.

Butte county peach growers are dissatisfied with grading done at the canneries. They claim that most of the fruit is graded in seconds, and that for this fruit only half the price acreed upon is paid.

Olive picking will not be finished until after New Year's in the Meek & Perry orchard of 112 acres of Missions at Ostrom, Yuba county. They are yielding about a ton per acre of well colored, good sized fruit, after a crop of about 340 tons last year.

The Department of Agriculture at Washington announces an increase of 4 per cent in the present winter wheat acreage and a 36 per cent increase in rye.

Twenty-five men, representing over $3,000,000 in beans harvested this year, recently met and formed the Central California Bean Growers' Association for the purpose of promoting the business of growing beans and to aid in marketing and distributing the crop in California.

Eradication of mustard by spraying rather than by cultivation is advocated by O. W. Newman of the State Horticultural Commission, who with Yolo County Horticultural Commissioner A. R. Gould has already carried out a season's experiments and hopes to continue them in 1918.

Three hundred acres of the E. Clemens Horst ranch at Horstville has been rented to gardeners, who will grow vegetables of various kinds tributary to Mr. Horst's plan of drying vegetables. He will use the hop drying kilns on his various ranches. He believes it will pay better than growing hops.

The Governor of Lower California announces a reduction of the export duty on cotton shipped from the northern district of Lower California into California to about one-third of the duty which has been in effect the past few months. Cotton men of Lower California are now sending more than 30,000 bales to the gins on this side to be shipped.

Reports from Brawley say that growers of cantaloupes secured a good advance in prices from the distributors for this season's crop at a meeting held last week between representatives of the Japanese farmers and Eastern commission firms. The growers will get 60c per crate more for their fruit the coming year.

Deciduous Fruits and Nuts.

There are about 17,000 acres of bearing pear orchards in California and nearly 24,000 acres of non-bearing orchards.

The Escondido Canning Company plans the installation of canning plants at Escondido, Fallbrook, Imperial Valley and other places.

A 60 per cent increase in the total shipments of deciduous fruits from Tulare county during the year 1917 as compared with 1916 is reported.

The California Peach Growers, Inc., it is said, will begin on the construction of a packing house at Hanford early in January to cost $23,000.

Ministerial order of December 4, published December 5, abrogates the permission granted November 22, 1915, for the exportation of walnuts to the usual allied and American countries.

The Vacaville Fruit Growers' Association reports the past season was

SEND FOR PRICE LIST — CLAY PRODUCTS
GLADDING, McBEAN & Co.
PERMANENT PIPE FOR IRRIGATION DRAINAGE CULVERTS SEWERAGE
CROCKER BLDG. SAN FRANCISCO
WORKS = LINCOLN, CAL.

Alfalfa Seed Melilotus Seed
Grass Seed Vetch Seed
Write for Sample and Prices
California Seed Company
151 MARKET ST., SAN FRANCISCO

PIPE
For Every Purpose NEW Threads & Couplings Hot Asphaltum Dipped
Second Hand and NEW Screw Casing
Fittings and Valves Special Fittings Made to Order
PACIFIC PIPE CO.
MAIN AND HOWARD STS. SAN FRANCISCO, CAL.

PEACH GROWERS:

Your co-operative company pays you on the quality of the fruit you produce. It will pay you in hard dollars to spray, thin, hand pick, plow deep, have plenty of sweat boxes and good sulphur houses.

There will be a shortage of labor during next season. Get ready now during the winter months and be prepared when the rush season comes to turn out fancy peaches and lots of them. We make these suggestions for your own profit.

CALIFORNIA PEACH GROWERS, Inc.
FRESNO, CALIFORNIA

PACIFIC IMPLEMENT COMPANY
SAN FRANCISCO

Distributors for Northern California, Nevada, Arizona and Northern Mexico of

WALTER A. WOOD M. & R. MACHINE CO.
Haying Machinery, Binders, Reapers, Headers, Tillage Tools, Complete Stock Competitive Repairs (All Machines).

SOUTH BEND CHILLED PLOW CO.
Walking and Riding Plows, Casaday Power Lift Tractor Plows.

NEWELL SANDERS PLOW CO.
Disk Plows, Plain and Power Lift.

BATAVIA MACHINE CO.
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Twin Reversible Disk Plows, Cane Mills.

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Bull Automobile Tires.

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Hay Presses, Corn Shellers, Hay Loaders, Side Delivery Rakes, Gas Engines.

AMERICAN SEEDING MACHINE CO.
Farmers Favorite Drills, Buckeye Cultivators, Evans Corn Planters.

SMALLEY MANUFACTURING CO.
Ensilage and Alfalfa Cutters.

NEW IDEA SPREADER CO.
Nisco Manure Spreaders.

THORNBURGH MANUFACTURING CO.
Mulchers, Pulverizers, Land Rollers and Side Delivery Bunchers.

MOORE PLOW & IMPLEMENT CO.
Garden Tools.

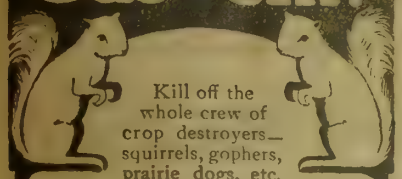
OHIO RAKE CO.
Imus Tractor Double Disk Harrows.

SUPERIOR MANUFACTURING & MILL CO.
Grinding Mills.

ELECTRIC WHEEL CO.
Trucks and Gears.

These are all standard, reliable and well established lines. If not carried by your dealer, write us

Gas 'em!



Kill off the whole crew of crop destroyers—squirrels, gophers, prairie dogs, etc.

Gas 'em with Carbon Bisulphide quickly, easily and economically.

One burrow of squirrels will destroy more grain than your family can save in fifty wheatless days. Remember—these ground pests cost the farmers of the Pacific Coast more than $6,000,000 last summer. So be forehanded—be truly patriotic—*conserve the seed in your fields.*

The University of California says: "From November until the end of February (the rainy season in California) the best way to attack the ground squirrels is to fill their burrows with gas from Carbon Bisulphide."

So too in other states! If the ground is full of moisture, whatever the month may be, Carbon Bisulphide is the best killer of squirrels, prairie dogs, gophers, etc.

A squirrel killed before March is worth a dozen killed later. Because—most young squirrels are born late in March or early in April. *So—gas the old squirrels now.* Write today for prices and interesting folder telling how Carbon Bisulphide—the profit-saver—works.

WHEELER, REYNOLDS & STAUFFER
625 California Street
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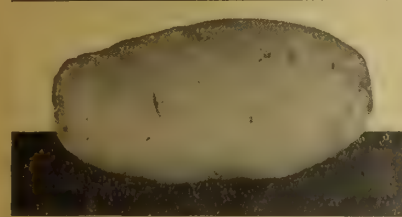

CANN'S Seed Potatoes

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Sure to grow—and produce big crops of the choicest potatoes.

Oregon-grown. Ready for December delivery.

POTATO CATALOG FREE—tells you all about potatoes and potato growing.

ARTHUR CANN
SEEDSMAN
196 S. First San Jose, Calif.

the most prosperous one in the history of the organization. One hundred and seventy carloads of fruit were forwarded to thirty-four Eastern markets and sold on an average for $1,605.85 gross per car.

Citrus and Semi-Tropical.

The bottling of pomegranate juice at Porterville, it is said, promises a new industry in that district.

The San Bernardino Eighth National Orange Show will be held in San Bernardino February 20 to 28.

The olive crop of Riverside county now being harvested is estimated by Horticultural Commissioner Sharp at 640 tons.

Placer county oranges are practically all shipped. It was only 25 per cent of a crop, according to J. A. Livingston.

The returns of the 1917 orange crops of the Stewart Fruit Company, Oroville district, show that the oranges netted the growers, after paying for freight, packing and similar charges, $2.40 to $2.75 a box. The crop was only 20 per cent of normal.

Imperial Valley's fifth crop of grapefruit, said by Southern enthusiasts to be the finest quality grown on the continent, is just moving to market. The output this year will run about 35 carloads and will net the growers $3.75 per box in the orchard.

Grapes.

The seedless grape crop in the San Joaquin Valley increased from 13,000 tons to 50,000 tons in five years.

President Giffen predicted the Thompson seedless tonnage would increase rapidly owing to the planting of 30,000 acres in three years and that before existing Associated Raisin contracts expire the tonnage will be $80,000 to 90,000 annually.

To induce their countrymen to join in the movement to sign California Associated Raisin Company contracts covering 125,000 acres by February 1, Armenians of Fresno and vicinity called a mass meeting December 22. Armenians will wage an intensive campaign in Fresno and neighboring counties. E. E. Manheim, a Fresno banker, declared the Fresno Clearing House would burn the contracts held in escrow unless the required acreage was signed on time.

Miscellaneous.

The call for Chinese laborers is growing rapidly throughout Western America.

Farm tools are to get prior rail right of transportation, it is announced.

Grain bags are being quoted at 20c each to the users. How long until the man with a 5,000-sack crop will build a $2,000 elevator rather than buy sacks for two crops?

Farm for Profit

and help U. S. win the war

Authoritative tests have proved that as high as 50% increase in crop production may be expected from the proper use of fertilizer. Do you realize what that increase means? Fertilizer is the basis of crop production, and compared to the prices of the crops they help to produce, fertilizers were never so cheap as they are today.

MORE CROPS

will be raised in America this year than ever before. Make every acre you own or rent, produce to the limit. Fertilize your land—the increase in yield and price of crops will more than pay all the fertilizer expense—it will enable you to farm with profit. Don't spend your time working worn out land. Make it pay—Fertilize with Hauser's Organic Fertilizer.

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SEED POTATOES
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University Tractor Short Course—V.

LUBRICATION—Concluded.

[From notes taken at University Farm Tractor Short Course]

In selecting oil for an engine, consider the speed, the clearance, the pressure on bearing surfaces, and the temperatures of the oiled parts. A correct lubricating oil should be of such consistency that when the connecting rod revolves it makes a vapor which provides a nice lubricating film on the various surfaces.

For the crank case and cylinders, too heavy oil is perhaps worse than too light oil. As most crank cases are oiled by splash, an oil that is too heavy will not splash enough to lubricate the upper parts, especially in slow-speed engines. When they get dry, you have scored cylinders to rebore at $25 each, worn piston rings and camshafts, etc. An engine must run half an hour before an oil that is too heavy commences to lubricate at all because it is not warm and thin enough. Meanwhile you may be losing compression past the piston.

Oil too light will be drawn from the lower parts of cylinder walls past the pistons into the combustion chamber, due to the excessive amount splashed into the cylinders. Some of this gets on the valves and valve seats. Then when the next explosion comes it partially burns part of the lubricating oil and leaves soot or carbon. This holds valves open, causes loss of compression, forms with oil a splendid grinding compound, and grinds the valves excessively, sticks valve stems, shorts the spark plug and more grief. An oil that is too light does not close tight enough the space between piston and cylinder, so compression is lost into the crank case and you find smoke there.

The clearance between connecting rod bearings and the crank shaft when properly fitted is about one one-thousandth of an inch. When it warms up due to running, the clearance may be one-half of one one-thousandth of an inch. It takes a light, fine oil to penetrate such a thin space. Heavy oils are very slow getting there.

But in selecting oil fluid enough to penetrate these close quarters remember that there it will be subjected to tremendous pressure, so you want an oil that can stand the pressure without letting the bearing surfaces together, which would result in excessive friction.

Remember also that, like molasses, oil gets thinner at higher temperatures. The heaviest, stickiest oil at low temperatures may have the least body to withstand pressure at higher temperatures. An apparently lighter oil may have better body when hot as it gets around the piston wrist-pins. You can't tell by appearances.

DIRTY OIL GRINDS STEEL.

Oil gets dirty. Then it grinds the machinery. Some people drop dirt into the crank case when it is open. Some people get dirt in the oil before using it. If dust removers are not provided for the carbureter, dust gets all through the cylinders and crank case. If wrong lubricating oil is used, or carbon forms from other causes, some of this gets washed into the crank case oil. The head of the piston is the hottest part of the engine. Oil splashing against the under side of this cakes and flakes off.

To tell when oil is dirty, put your hand into the lower oil in the crank case and rub it between finger and thumb. If grit is noticeable, it is dangerous. Drain it out while the engine is warm and save it for gears or tracks, etc., or filter the dirt out. If you wait till the engine is cooled off, the oil in bearings gets sticky and you have harder work turning the engine over. Wash out the case with kerosene. Distillate tends to cut the lubricating film.

Every two weeks is often enough generally to change the oil where ground is heavy with little dust and the tractor is worked ten hours a day. In the northwestern grain fields, where they work twenty-four hours a day in light, sandy dust, they change about every five days. Don't put off the job when it should be done or you will be out of luck.

Manufacturers generally test various oils and recommend certain kinds for their machines. Don't let anyone bluff you into using something else if the recommended kind is available.

TRANSMISSION LUBRICATION.

A good grade of heavy black oil is needed in the transmission, so it will splash and get into the bearings. A semi-fluid grease will not work into bearings in cold weather. Fiber grease generally fills up the gears, so they track through it with very little lubrication.

CUP GREASES.

Get a high grade of cup grease that is soft enough to screw down and be squeezed outward to edges of bearings, easily by hand. Most operators will not screw down a hard grease.

EXPOSED GEARS AND TRACKS.

Do not use semi-fluid or ordinary cup grease on exposed gears and tracks. Get a good grade of gear dope or standard gear grease. It is harder to put on, but will stay there a few rounds and prevent wearing.

GRAPHITE GREASE.

For spring leaves and bronze bushings in springs, graphite grease will do, but nowhere else. It will make a hard rim around ball races or rollers and force them to grind new races.

TRACTOR CUTS SILAGE.

[Written for Pacific Rural Press.]

A tractor was bought a year ago by Mrs. E. C. Clowes of San Joaquin

Our Engine Discs are built in sizes from 5 to 12 feet in width. The Discs are made *extra heavy* for this class of work—they are *stronger* than anything obtainable on the market. The *arbor bolts* are large and *all castings* are made *heavier* in proportion to stand the *extreme strain* required of the Tractor Tools. The discs are equipped with *weight boxes* to give the necessary weight to insure the *proper penetration* on different characters of soil. The pitch of the disc is controlled by connecting arms bolted solidly in place, but which can be changed to any pitch desired within a radius of 15 degrees.

Built with care—to give good service, under extreme conditions, and of the best material obtainable. KILLEFER QUALITY.

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Harness costs money these days. Take care of it. Make it last years longer by using Eureka Harness Oil - the preservative oils protect the leather fibre from dirt, sweat and moisture. Keeps harness jet black.

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"NONPAREIL" AUTOMOBILE TRAILERS

Capacities:
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Prices:
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SOLID TIRES

Prices F. O. B. San Francisco knocked down and crated

Complete Stock for Immediate Shipments—Write for Catalog

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Every ball of the YUBA TREAD kept at work at food production helps as much as a hundred balls flung into German trenches.

WRITE FOR THE CATALOG

YUBA MANUFACTURING CO.

Dept. A-9

433 California Street

San Francisco

county with the idea of keeping it busy as possible on her dairy farm. Nearly two hundred acres were plowed and worked down for barley during the winter. Some of that barley was used to fill two silos of 188 tons each, the tractor running the silage cutter while horses cut and hauled the corn. The land was then plowed for corn with the tractor, which in the fall cut up some of that crop for a siloful. Twice on holidays, when the engine which pumps water for irrigation gave out, the tractor ran over and took its place until the engine could be fixed.

MILKING MACHINES SAVE LABOR.

When the dairy hands were called to the colors there was talk of selling the milk cow for beef, but when Mr. Hoover informed us of the need our armies and our allies have for milk and milk products immediately the fine loyal spirit of the farmer asserted itself. Here was a need greater than anyone appreciated. Already we are exporting ten times the condensed milk we did before the war. And now it is announced that milk production must be increased or thousands of city babies will die.

And right here is where our mechanical resources are already being made use of, for the wide adoption of milking machines to take the place of the boys in khaki is general. An officer of the Empire Cream Separator Company, which manufactures Empire mechanical milkers, says that in Canada alone the first three years of the war resulted in a trebling of Empire sales throughout the Dominion. And now throughout the United States there has become an even greater adoption of them. Many of the larger dairies have been using milkers for years, but today it is the small dairy and the farmer with but six or eight milk cows who are installing outfits.

It seems fortunate that this labor-saving device should have passed the experimental stage some years before this great and critical need of it appeared. Once assured by long, continuous use that the milker "got the milk," that the cows give down to it contentedly, that it does not give sore teats and does keep the cows "in milk" for the full period of lactation, it became only a matter of time for the use of such a milker to become general.

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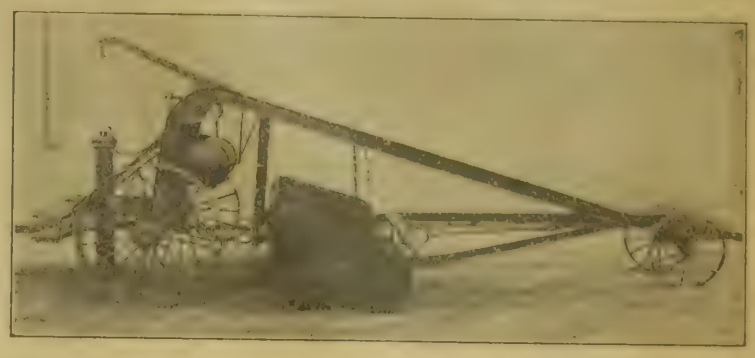
A Schmeiser Leveler
of the "Giant" Type
WILL WORK WONDERS ON YOUR FARM



Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnos to tackle, SCHMEISER POWER LAND LEVELLERS are now being used with utmost success by a great many ranchers, large and small, also by contractors, saving their owners time, labor and money.

WE SEND THEM ON THREE DAYS' TRIAL

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

Send today for full information and our latest catalog of earth-moving machines

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Sure Pop Almond Huller and Separator, 3 sizes; McCarvin Fruit and Olive Graders, any size; Schandoney & Harrington Equalizing Hitches, any size; Diamond Special Harrows, Baker Clips, Clerises; Martin Farm Ditcher and Road Grader, and Schmeiser Portable Automatic Hay Derricks.

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FOR WOOD PIPE AND TANKS

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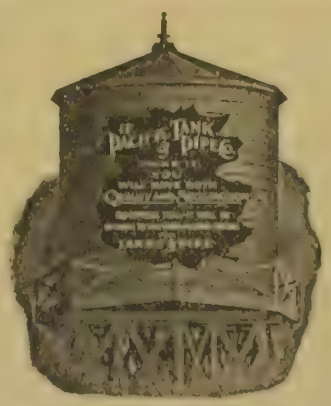

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No valves to pack or plunger to get out of order. For use in any well ten inches in diameter or over.

A complete line of irrigating pumps of all descriptions, horizontal, and vertical for belt drive or direct connection to electric motor.

Prices as low as are consistent with good quality and workmanship.

WRITE FOR CATALOGUE NO. 47.

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SAN FRANCISCO.

LOS ANGELES, STOCKTON, VISALIA

CATERPILLAR TRACTORS TO BE TRIED IN CHINA.

The French Government of Cochin China has become interested in the employment of caterpillar tractors for the cultivation of rice. On September 29, 1917, a 45-horsepower track machine valued at more than $5,000 United States currency was purchased telegraphically. If the experiment is successful, larger orders will follow. Everything depends upon whether the tractor can operate in the soft ricy-paddy fields of Cochin China.—Consular Report.

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Live Stock and Dairy Notes

Livestock breeders all over the State are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

Dairymen in Northern and Central California are mobilizing and planning to take measures tending to increase dairy products.

The Tulare Cow Testing Association is now testing about 4,000 cows per month, and keeping accurate account of the production of each cow in hundreds of herds.

A recent consignment of Holstein cattle to Chile is the first exportation of California cattle to the west coast of South America. The cattle were prize winners at the recent State Fair.

Such & Underwood, dairymen in the Oakdale Irrigation District, have sold their dairy herd. They have purchased a big herd of cattle and range in the mountains above Oakdale and will go into the cattle business on an extensive scale.

Another Ayrshire purebred herd has been started in San Mateo county. The latest to join the Ayrshire ranks is the B. D. Weeks ranch, on the La Honda-San Gregoria Highway. They have installed a herd of five cows and a bull, all of which were purchased from E. B. McFarland, the pioneer Ayrshire breeder of California. Mr. McFarland's farm is located on the ridge above Crystal Lakes, back of San Mateo.

Guy H. Miller, proprietor Venadera Herd, registered cattle, recently received a fine bull calf from Meridale Farms in Delaware county, New York. This calf carries the blood of the well-known bulls The Imported Jap, Oxford Lad, King of St. Lambert and Interested Prince, and is particularly strong in the blood of Spermfield Owl, sire of forty-eight cows in the Register of Merit with yearly records of twenty-eight of them having records over 500 pounds of butterfat, two of them records over 900 pounds butterfat in a year.

As noted elsewhere, the winner of the Pacific Rural Press prize in the State Dairy Cow Competition for November was Gilbert E. Trigg, Ferndale, with an average production of butterfat by five grade Jerseys of 41.950 pounds; Stenzel, 41.361 pounds; Beebe, 40.931 pounds; Hollow Hill Farm, 38.085 pounds; Southern California State Hospital, 37.312 pounds; Iversen, 35.551 pounds; Bohnett Bros., 32.941 pounds. The winner of McAlister & Sons' prize for November was Iver Iversen, Arcata, with the highest production of butterfat by a grade Jersey cow of 57.103 pounds. The average production of competition cows for November (132 cows) was 809.7 pounds milk, 33.598 pounds butterfat. Range, 78.106 to 11.136.

Beef Cattle.

It is reported that stockmen are now paying 40 per cent more for grazing acreage than in the past.

According to Secretary Houston, the regulations and cost of grazing in the U. S. forests will not be changed for the present.

More stock were grazed on the National Forests of California this season than ever before, which is due to war demands for wool, leather and meat, and was made possible by improved measures for handling stock upon the range.

The Great Western Cattle and Sheep Company is planning the development and impounding of water in the San Francisco mountains north of Flagstaff, Arizona, the water to be piped to surrounding grazing territory for the purpose of watering cattle to be grazed on the lands which are not now available on account of the absence of water.

Swine and Swinemen.

Eastern men are planning a 1,600-acre hog ranch in the Natomas district which adjoins Sacramento.

Sixty Berkshires belonging to the Napa State Hospital were shipped to San Francisco buyers recently at 15c delivered at Napa.

We recently saw two big wagonloads of pigs going to the butcher. They averaged some over 100 pounds. This movement is general. Who is breeding for the high prices that are sure to come next year?

Any hog raiser in California can obtain full particulars as to how to protect his swine from cholera by writing to the College of Agriculture of the University of California at Berkeley and asking for the free publication on "Hog Cholera Prevention and the Serum Treatment."

N. M. Lester of Gridley has made

FEED THE SOIL AND THE SOIL WILL FEED YOU

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Manufacturers of Complete Fertilizers of All Kinds.

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This little marvel is backed by the AVERY CO.'S 35 years of tractor building experience and guaranteed to do all that is claimed. Recommended even by OUR competitors.

Pulls Two 12 in. plows or three 10 in. plows Six-foot double disc harrow, two loaded wagons or any load usually drawn by four or five horses.

AVERY TRACTORS MADE IN SIX SIZES— FOR EVERY SIZE FARM.

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C. E. SCOFIELD Napa

the following December sales of Poland-Chinas: Gilt to George P. Ahlf, Colusa, and boars to Louis Mitchell of Tipton and H. Jameson of Plymouth, Amador county. Mr. Lester's sows have much of the Wonder blood and are being bred to Wonder boars not closely related.

The Highland Stock Farm of Fair Oaks reports the delivery of the following hogs recently: Hiram Hendren of Fair Oaks, a gilt; Reginald Kumbly of Fair Oaks, a gilt; A. L. McLean of Stockton, 20 head of feeders; Harold Broadley of Fair Oaks, a gilt; J. H. Stoner of Baptiste, a boar; and Herbert Cooper of Auburn, two sow pigs. It also reports the arrival of a herd boar from W. T. Barr of Ames, Iowa. He is a son of the champion of champions, Wm. A., and is out of Our Maid 3rd, grand champion sow at the National Swine Show of 1917. No doubt more will be heard from this boar, as he is only a youngster as yet, having been farrowed last March.

R. H. Whitten of Los Angeles, owner of the Whitten Ranch at Terra Bella, has recently made sales of registered Poland-Chinas as follows: Service boars to J. W. Brown, Glenville; Tejon Ranch, Bakersfield; D. S. Llewellyn, Lathrop; L. C. Mullis, Mendota; Alfred Mathews, Yerington, Nev.; C. A. Rives, Burbank; Alvin E. Weaver, Merced. Bred sows and gilts to H. N. Colver, Wasco; P. L. Buckheim, Hemet; A. R. Doctor, Van Nuys; Mrs. Nettie Douglas, Chico; J. C. Grupe, Stockton; J. W. Kingry, Highland Springs; W. E. Levee, Lowell Hill; C. K. Loe, Silverton, Ore.; Dr. W. R. Livingston, Oxnard; L. C. Mullis, Mendota; L. J. Popp, Turlock; Mrs. Viola L. Renwick, Santa Barbara; Elmer C. Rutherford, Raisin City; Mrs. E. Raspide, Livermore; Frank H. Sharp, Fort Jones; Mrs. S. M. Smyser, Holtville. Weaned pigs to L. C. Mullis, Mendota; Frank H. Sharp, Fort Jones; Elmer C. Rutherford, Raisin City; S. M. Smyser, Holtville. Prices ranged from $35 for weaned pigs to $250 for the highest priced boar.

Goats.

The demand for canned goat milk resulted in the establishment of a canning factory in Southern California, which finds a ready market for its output.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue.

SWINE.

Poland-Chinas.

HIGH DOLLARS ASSURED for the hog-raiser. The scarcity is bound to make pork high for years to come. Improve your herd with a good Poland-China boar. 20 of the finest you ever saw, from six months to 18 months of age. Price from $40 to $100. Sows sell in the Kings County Poland-China Breeders' Sale, February 20th. Bernstein's Ranch, Hanford, Cal.

WILL OFFER MY SPRING BOARS at exceedingly low prices to give room for my fall litters; these boars are all sired by the world's grand champion, Superba, out of my best sows. Rough's Greenfields, Arlington Station, Riverside, Cal.

REGISTERED POLAND-CHINAS — Young boars ready for service. Weanling pigs, both sexes. Prices attractive for quick sales. J. H. Cook, Paradise, Cal.

MY POLAND-CHINAS are prolific and profitable. Write for description and prices. Dr. J. A. Crawshaw, Hanford, Kings County, Cal.

LAKESIDE STOCK FARM POLAND-CHINAS are money-makers. Satisfaction or money refunded. Geo. V. Beckman & Sons, Lodi, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large type Poland-China hogs. H. I. Marsh, Modesto, Cal.

BIG TYPE POLAND-CHINAS—A few choice open gilts and young boars for sale. L. C. Trewhitt, Hanford.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt county, Cal.

POLAND-CHINAS — Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy.

Berkshires.

GRAPEWILD FARMS BERKSHIRES awarded Premier Breeders' Ribbon at P. P. I. E.; herd headed by Royal Superbus, half brother to Grand Leader 2nd, and by Majestic King 6th, Grand Champion at the State Fair, 1917. We are offering a number of choice boars of exceptional breeding and are also booking orders for fall pigs. A. B. Humphrey, Escalon, San Joaquin county, Cal.

BERKSHIRES — Fair Oaks Ranch, Willits, California.

BERKSHIRES — I have one of the best herds on the Pacific Coast, including Grand Champion Sow, Reserve Grand Champion Boar under one year, Third Aged Boar, etc. Frank A. Brush, Santa Rosa, Cal.

FOR SALE—Two Thoroughbred Berkshire Boars. One is 2 years old, the other 3 years old. A. F. Roach, Montebello, Calif. Phone Boyle 3164.

CROLEY'S BALANCED HOG FEED — the cheapest feed to fatten hogs. Write Geo. H. Croley Co., Inc., Livestock Supplies, 8th and Townsend streets, San Francisco.

REGISTERED BERKSHIRES—Young stock for sale sired by a first prize son of Laurel Champion; prices right. Imperial Stock Farm, Morgan Hill, Cal.

BERKSHIRES—Fine, growthy, May pigs, both sexes, sired by Star Leader, reserve Grand Champion P.-P. I. E. Prices reasonable. Anchorage Farms, Orland, Cal.

ROSE CREST BERKSHIRES—Rival's Champion Best blood. Open and bred gilts. Service boars. F. L. Hall, Perris, Cal.

BERKSHIRES—Sired by Star Leader, the $1,500 boar, ready for service. Kounias Registered Stock Farm, Modesto.

MODEL HERD BERKSHIRES—Bred for size and quality. Weanlings and gilts. J. L. Gish, Laws, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

CARRUTHERS FARMS BERKSHIRES — Cholera immune. Mayfield, Cal.

FOR WELL-BRED BERKSHIRES, write Glenwood Acres Stock Farm, Paso Robles, Cal.

Duroc-Jerseys.

DUROC-JERSEY PIGS FOR SALE from prize-winning stock. Price, $10 to $25 each. They are all in good condition. For further particulars write to W. C. Chisholm, Route 4, Santa Rosa, Cal.

BIG TYPE DUROCS—Well grown; out February and March; pigs of either sex in any quantity; we ship only the tops and butcher the culls. F. M. Johnson, Napa, Cal.

DUROC-JERSEYS OF THE BIG TYPE—Cholera immune. Reasonable prices. Derryfield Farm, Odd Fellows Building, Sacramento.

EUREKA FARM DUROCS—Herd headed by Mandy 13s Taxpayer. A few weaned sow pigs for sale. F. M. Barney, Hanford, Cal.

MOST MONEY IN DUROC-JERSEYS—Bred sows and weanlings, either sex, at all times. Delta Farm and Live Stock Co., Colton, Cal.

DUROCS OF GUARANTEED BREEDING—Pigs $15 up, sired by State Fair prize winner. H. E. Boudier, Napa.

RANCHO DEL SUR DUROC-JERSEYS — Large type herd, headed by Super Dreadnaut 183339. Donald Graham, Lancaster, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, Cal.

DUROC-JERSEY WEANLINGS from champion stock; price $35. River Bend Farm, St. Helena, Cal.

DUROCS—Defender, Clintic B and Golden Model strain. The big type. Allen Thompson, Tulare.

DOS HERMANOS DUROCS—Young boars and gilts. Hans Duveneck, Ukiah, Cal.

REGISTERED DUROC-JERSEY SWINE—Both sexes. Big-boned type. B. F. Kendall, Hardwick.

RANCHO RUBIO DUROCS sold out except some choice fall boar pigs. Write for prices. Elmer Lamb, Ceres, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Cal.

THE DE VILBISS HERD of large type Durocs. J. M. DeVilbiss, Patterson, Calif.

Yorkshires.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Cal.

Essex.

LITTLE BLACK ESSEX—New crop nearly ripe. A few fine youngsters left. L. W. Millsap, Yolo, Cal.

Chester Whites.

THE BILLIKEN BRAND of Chester Whites. Am entirely sold out of bred sows and gilts. Have a very few open gilts of March and April farrows, also 6 boars, same age; have 9 young tested sows to offer for late December shipment; these have each farrowed once and will be bred to farrow again in late March or early April. Fall pigs, both sexes, are now being weaned; will be ready for shipment during December. Good breeding stock is getting very scarce and is rapidly increasing in price. If you want some of this easy feeding, mellow type, get busy with your orders. C. B. Cunningham, Mills, California.

HIGHLAND STOCK FARM CHESTER WHITES—We are making special prices on some young boars and gilts for immediate delivery; shipped on approval; satisfaction guaranteed; cholera immune; registered and crated free; write for booklet and prices Robinson & Ward, Fair Oaks, Cal.

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BELLA VISTA HAMPSHIRES — Service boars and bred or open gilts. J. W. Henderson, First National, Berkeley.

Tamworths.

BEAVER LODGE TAMWORTHS — Service boars. Write for prices and pedigrees. A. G. Lane, Amsterdam, Cal.

DAIRY CATTLE.

Holsteins.

GRANDSONS OF HENGERVELD DE KOL and out of A. R. O. cows for sale. Prices reasonable. Write for pedigrees. Many years of constructive breeding has made my herd one of the prominent ones of the San Joaquin Valley. R. F. Guerin, Visalia, Cal.

REGISTERED HOLSTEINS—Grandsons of King Segis and of world's record cow Creamelle Vale. Will build up the production and value of your herd. Write or call and see them. F. H. Stenzel, San Lorenzo, Cal.

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REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

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EL DORADO HERD OF HOLSTEINS. Alex Whaley, Tulare, Cal.

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SUNSHINE FARM JERSEYS—Bulls from officially tested dams for sale. E. E. Greenough, Merced, Cal.

BREEDER OF REGISTERED JERSEY CATTLE—Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

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REGISTERED JERSEY COWS for sale. O. J. Ames, Oakdale, Cal.

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NORABEL FARM AYRSHIRES—Purebred young stock for sale at reasonable prices. Le Baron Estate Company, Valley Ford, Cal.

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Calf Value, Here or There?

[Written for Pacific Rural Press.]

Does it pay to raise veal? A Holstein calf at birth weighs, say, 80 pounds. He will consume 15 pounds of whole milk a day, or 600 pounds of 3.5 per cent milk in six weeks and weigh 125 pounds. The local butcher graciously offers 7c per pound for this animal and the return would be $8.75—less the haul to town. If shipped dressed by express to San Francisco, he would weigh, say, 100 pounds and return at 14c, $14—less $1 for express, 50c commission, and would net $12.50. The entrails as hog feed might pay for hauling.

If kept until the third day after birth (to help the cow's udder, by nursing) and killed, what would the hide weigh and what would be the price in the city? What would meat be worth (as tankage) for hog feed?

I once read that the law forbidding the marketing of veal under six weeks was based only on sentiment. That both by chemical experiment and actual eating test the meat was perfectly wholesome. Is this true? This, if true, ought to give at birth at least 40 pounds of meat for home use worth $5 or $6, and if true the law should be changed.

Now, if the calf were killed at birth, the 600 pounds of milk saved, testing 3.5 at 40c, would be worth $8.40. The 579 pounds of skim milk under Governor Hoard's rule that 100 pounds is worth five times the pound value of hogs (13c here) would be worth $3.75: total for milk saved, $12.15. Then one would have the equivalent of 50 pounds of tankage as hog feed. Tankage isn't quoted, but say it costs $75 a ton, or 3¾c a pound, or $1.87. The total return if killed at birth would be $12.15, plus $1.87, equal to $14, plus the hide.

Some of these smart city Alexs say it is a crime to kill a calf! What about it? R. D. KELLOGG.

Richfield.

Rations for Dairy Cows

To the Editor: A. W. S. at Burrel, Fresno county, writes as follows: "Can you balance a ration for me on a 90-cow dairy? I have on hand plenty of Larrowe beet pulp (plain) and whole barley. I have a grinder (no roller); first-cutting silage (alfalfa and foxtail) and number one hay (well salted). Also I am putting my cows into a testing association. What shall I set as a standard (butterfat quantity) for each cow, ¾—1, or 1¼ pounds.

[Answered by Prof. F. W. Woll, University Farm, Davis.]

The following average ration is suggested for the cows: All the alfalfa hay that they will eat, 20 pounds of alfalfa silage, and a mixture of three parts of dried beet pulp and one part ground alfalfa, by weight, one pound of this mixture being fed for every five or six pounds of milk that the cows produce. More silage may be fed if the cows are eating it with a keen appetite and appear to want more.

As to a standard of production for the herd, would say that this will depend on the kind of cows that the subscriber has. If they average over ¾ of a pound of butterfat per day, set the standard at 1 pound. If they average nearly a pound, set it at 1¼ pounds per head, etc. Try and raise the standard for the whole herd up to that set by the best cows in the herd, giving the poor cows a chance to show what they can do under a good system of feeding.

Good dairy cows will pay for grain feeds given in the proportion suggested, even at present feed prices, and will, as a rule, yield a greater profit the more feed they are induced to eat by catering to their appetites.

HAS HAY BECAUSE HE FED ALFALFA GREEN.

[Written for Pacific Rural Press.]

O. J. Ames of Oakdale has enough alfalfa hay put up from fourteen acres to feed fourteen cows and about nine head of other stock, after feeding the cows green alfalfa from the same ground all summer except during November, when he cut green corn for them. It would take three times as much acreage if the alfalfa were pastured, says Mr. Ames; and would take more if fed as hay than when fed freshly cut, as he does through the growing season. We found him, December 6, hauling the last of this season's green alfalfa to his utility-type registered Jerseys, which are kept in the corral at all times. For feeding green alfalfa Mr. Ames prefers to let it get nearly five weeks' growth, as younger, slushier growth might bloat them. He feeds it at noon, when all moisture has dried from the outside.

RAISING PIGS BY HAND.

To the Editor: I note in your valuable paper of how Mrs. Donahue raises pigs. As I am from a corn State, my father was a hog raiser and feeder. We always had some large litters and had to raise some of the pigs by hand. We gave them sour or clabber milk, warm, never losing a pig. The sow's milk is sour and, not everybody knowing this, they make a mistake giving sweet milk, causing scours (diarrhoea) and death follows. I. M. PERRY.

Orange Cove.

[Our correspondent is probably incorrect in his idea that sows give sour milk, but his experience with souring or thickening cows' milk for pigs may be right for all that.—Editor.]

HUMBOLDT AGAIN WINS DAIRY COMPETITION PRIZE.

I beg to inform you that our records show that five grades owned by Gilbert E. Trigg of Ferndale, Cal., had the largest average production of butterfat for the month of November, of this number of grades in a herd entered in the State Dairy Cow Competition, among those eligible to compete for the Pacific Rural Press prize. Mr. Trigg is, therefore, entitled to this prize.

The five grades averaged 612.2 pounds milk and 41.950 pounds butterfat, with an average per cent of 6.85. The production of the individual cows ranged from 48.990 pounds to 32.655 pounds butterfat. The production of five grades in other dairy herds in the competition that competed for this prize during the past month was as follows: Stenzel, 41.361 pounds; Beebe, 40.931 pounds; Hollow Hill Farm, 38.085 pounds; Southern California Hospital, 37.312 pounds; Iversen, 35.551; and Bohnett Bros., 32.941 pounds.

F. W. WOLL, Supt. of Dairy Tests.

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Write for free information. No obligation we have nothing we want to sell you.

THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA, Box 230, Brattleboro, Vt.

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(Continued from page 672.)

ranges when the cost of production is so uncertain and not profitable? Why not run lighter cattle on these high ranges, when the grass is good, and get the full value of what they produce at the right seasonable time? No cow band with their calves at foot can work on these high ranges and do themselves any good—not considering the product of enough milk to support the calf.

THE CALF PROBLEM.

Here is one of the great stumbling blocks in the high percentage of calf production—so many of the little fellows never getting a good start, and making too many dry cows when the round-up is made to go to the butchers. This light percentage of calves is no fault of the cow, but the fault of the man who owns her. Give her a better chance by allowing her to calve on the lower lands and we would not be shipping so much cow stuff to the packers as we are already doing.

The breeding herds maintained on the high ranges are never so successful in the breeding season because the heavy bulls will not traverse these high ranges and follow the cows. The question may arise: Why not use lighter and cheaper bulls? But this does not solve the problem of producing more and better calves. The lighter and cheaper bulls are, the farther we are driven away from what we are trying to get at. These lighter and cheaper bulls have never had natural flesh, never will have natural flesh, and never can distribute natural flesh to their progeny. The heifers kept from such methods will not be as good as their mothers. They may be better acclimated to traverse the high and rough range, but when the butcher gets them there will be disappointment for the owner when he reads the weights from the scales. The breeding herd must not be handled by anyone who has not given thought, time, experience, and actual labor connected with this work. Such men are hard to get, but they are here and are not under the draft age.

A SUGGESTION OF APPLICABILITY.

The system this article is trying to suggest is to have one outfit handle one enterprise in three great divisions, and handle it successfully. The breeding season must take place when the grasses are most luxurious around the fields close to headquarters. This may necessitate, if the herd is very large, a sheltered barn or two being erected in several of the most distant fields, so that the system of running herd bulls during the sixty-day breeding season can be handled by alternating the bulls a week at a time. Two-thirds of the bulls would be in service and one-third should be kept up. In sixty days most of the breeding ought to be over. If this method is carried on, generally from one year to another, the system will become so successful that most all the calves from this breeding plant will be dropped within sixty days of each other. This makes a uniform lot of cattle, which is desirable not only when they are on the range but when they are shipped to the open market to be sold. Their uniformity will command a higher price than if they were not evenly balanced.

There are so many details necessary to the regulating of the range breeding herd that only time and experience can work them out. Should a breeding herd succeed in a manner like this, their owners will have no difficulty in selling their calves at weaning time at a reasonable price. These calves should be sold to go into the second grade division of the cattle industry, or be disposed of to the small farmer who has surplus feed around the field to care for eight or ten of these calves to maturity. This would be the salvation of our meat production. There are few small farms in our State today that could not handle this work at a great profit, if the breeding herds from which these calves were produced had been handled in a systematic way.

This is conservation of our meat production. It is not necessary for the smaller farmer to have any more than a few head, because if more are purchased than can be cared for the conservation work is lost sight of, as it is being made a special business, which is not the object of this article.

Specifically speaking, the idea is to let any farmer have six to eight head of calves to eat up the roughage, which would go to waste if these cattle were not on the place. The grain fed these cattle would hardly be missed, and if properly cared for they would be ready for the market almost any day of the year, when the top price would be paid for them. This manner of producing beef has been carried on in the older European countries for centuries, and it is this method of farming, in conjunction with their agricultural pursuits, that has made their lands so enormously rich today.

The E. Clemens Horst Co., which has been concentrating horses from its various ranches on the one at Wheatland, is to auction 100 of them and 25 mules at the ranch on the morning of January 3.

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Several one-line leader Mules.
Good Lunch HENRY VAN TIGER, Marysville, Auctioneer

VETERINARY QUERIES

[Answered by Dr. H. B. Wintringham.]

[Subscribers wishing an immediate reply should send money order for $1.00. No charge for questions answered through this department. Name and address of subscriber must accompany each query.]

Tuberculosis—Nits.

To the Editor: I got a Jersey cow this spring that was very weak and poor. She is about ten years old and freshened last March. She has chronic diarrhoea. The manure is thin and rough. The cow is otherwise healthy, but very poor. What can I do for her? Also have a colt eight months old covered with botfly nits. What will prevent bot worms?—A. W. L., Booneville.

This cow should be tested for tuberculosis. The nits on the colt may be killed by a light application of kerosene. This is the only way to prevent their becoming mature bots in the stomach.

Cows May Be Stripped Too Close.

To the Editor: I am milking a cow and every once in a while when I start to milk I find a blood clot in one of the teats. Sometimes one and then another. It is near the opening of the teat, and as soon as I have forced this clot out the milk flows natural; there is no pain, as the cow does not move while I am forcing the clot out. Is it possible to strip a cow too close? If you will please.—J. E. B., Paso Robles, Cal.

Cows can be stripped too close, which damages the delicate blood vessels of the teats. This is probably your trouble.

Glanders.

To the Editor: T. B. Bryant of Soledad has a horse that runs at the nose; keeps in good flesh, but finds it difficult to breathe at times. Started a year ago.—T. B. B., Soledad.

Have this horse tested for glanders.

Warts on Teats.

To the Editor: Please tell me why my milk cows have warts on their teats. What can be done to get rid of them?—K. C. L., Selma.

Paint these warts once a day with 3 per cent solution of chromic acid.

A GOOD YEAR 1917 has been a good year at BUTTE CITY RANCH

We have sold a lot of good Berkshires, Shorthorns, Shropshires and Ponies, and have on hand for sale now the best lot of bulls, pigs and ponies we have ever had to offer.

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1501-3-5 So. Main St., Los Angeles, Cal.

Stringy Milk.

To the Editor: I have a cow three years old—second calf. She was dry about two weeks, calved clean, and everything all right, and she milked all right for about a week. Now she is developing stringy milk in one front quarter, and this morning that quarter is very swollen. I have had the calf with her all the time.—R. M. S., Sutter.

Give this cow one ounce of formaline diluted in one quart raw linseed oil every other day, four doses.

SHIPPING LIGHT HOGS EAST TO FEED.

[Written for Pacific Rural Press]

Better markets and prospects of cheaper feed have led W. C. Robinson of Nebraska to buy in California, through G. C. Galbraith of Yuba City, 430 head of feeder hogs averaging about 130 pounds. They were easily bought at a trifle more than local butchers were paying. These pigs have been shipped to Nebraska to be fed from the bumper Indian corn crop, part of which is frosted and soft and must be fed soon.

Since barley is practically equal to Indian corn in feed value, we asked Mr. Galbraith why California farmers could not make more money feeding those hogs. If necessary to ship any part of them East, they could keep the fertilizer here and save freight on the carcasses.

"We need union stockyards here," answered Mr. Galbraith. "I took a trip last summer through the Union Stockyards of Omaha and Kansas City, and hogs certainly were selling freely at good prices. People there who have feed make a practice of going to the stockyards to buy hogs sent in too light for good packers. This furnishes a double market. The farmer can sell his own hogs or hire an experienced commission man to sell them for him.

MILK BAD BEFORE ABORTION.

The milk from a certified dairy went bad in a California city. The trouble could not be located until the city bacteriologist suggested that one of the cows being milked was about to give birth to a calf prematurely. The calf came two months early.

The Annual State Poultry Show will open at Coalinga, December 28.

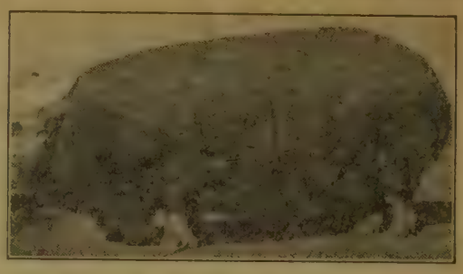
The Evolution of Irrigation

Just as the open irrigation ditch was superseded by wooden and concrete flumes, so were the latter in turn forced to give way to the "K-T SYSTEM" of underground conduits, equipped with gates and valves—the only perfect water distributor.

As the indications all point to further advances in prices, you can save money by installing your Irrigation System NOW. Don't delay. Time is money. Write today.

KELLAR-THOMASON COMPANY
1234 EAST TWENTY-EIGHTH ST.
LOS ANGELES, CALIFORNIA
"Originators of the Valve System of Irrigation"

Bassett's Poland Chinas



For many years at widely separated show rings, under many different judges of varying type ideals, my Poland-Chinas have been consistent prize-winners. My herd is large and I cull closely. The animals sent out as breeders are the very tops of a large number. I KNOW that my kind of Poland-China is a profitable farmer's hog, for I send carloads of them to the packer every year — uniform in size, high in quality, quickly and economically matured and finished.

Grand Champion Sow, P. P. I. E., 1915; Sacramento, 1916.

$30 UP.

FAIR DEALING, UNIFORM EXCELLENCE, SATISFIED CUSTOMERS, BEST PORK PRODUCERS, RESULT FROM YEARS OF SELECTIVE BREEDING.

M. BASSETT Hanford, Cal.

Grand Champion Herd of Hampshires

COMPEER'S DESCENT 2d
One of Our 60 Matured Brood Sows.

BOARS
Big Husky Boars for November trade.

Write to

F. V. Gordon or F. A. Langdon
Llano Vista Ranch, Perris, Cal.

SPELLMIRE-LYONS CO.
BERKSHIRES
Brood Sows and Boars for sale.
Young and Matured Stock.
A. F. ROACH, Manager
Phone Boyle 3164 MONTEBELLO, CAL.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes.
Sure to please.
SWINELAND FARM,
W. O. Pearson, Prop. Woodland, Cal.

Hauser's Digester Tankage
GIVES GREATEST VALUE FOR LEAST MONEY.
IT MAKES THEM FAT.
Hauser Packing Co. Los Angeles

DIGESTER TANKAGE
Send for Sensible folder on feeding hogs
WESTERN MEAT COMPANY
Animal Food Dept. 704 Townsend St., San Francisco

Champion Ram, P. P. I. E.

SAN RAMON SHROPSHIRES
WINNINGS P. P. I. E., 1915
Aged Ram, First and Second. Yearling Ram, First. Ram Lamb, First, Second, and Third. Champion Ram. Yearling Ewe, Second. Ewe Lamb, Second and Third. Get of Sire, First. Pen of three Lambs, bred by Exhibitor, First and Fourth. Pen of Four Rams, bred by Exhibitor, First and Fourth. Flock, any age, Second. Flock, any age, bred by Exhibitor, Second. Flock, one year old, First. Flock, one year old, bred by Exhibitor, First. Flock under one year, First. Flock under one year, bred by Exhibitor, First. Produce of Ewe, First, Second and Third. Premier Championship for Breeder. Premier Championship for Exhibitor. A total, including American Shropshire Specials, of 15 Firsts, 9 Seconds, and 6 Championships.
Purebred Registered Rams and Ewes.
Individuals or Carload Lots.
BISHOP BROS., Agents, SAN RAMON, Contra Costa County, California.

Getting Ready for 1918 Poultry Harvest?

[Written for the Pacific Rural Press by Susan Swaysgood.]

Economy is to be the keynote this year for all branches of industry. The man who has been in a rut, has simply got to get out, or go under. We are promised cheaper feed, and I believe it will come very soon, so let us prepare to reap the benefit, while making the best of what we have.

GET RID OF THE DRONES

Have a working flock to commence with. You can't possibly make money by supporting three drones to one working hen. Cull them out and send to market when quotations suit you. While all pure-bred fowls are not good layers, the majority are. No breeder can now keep a flock of poultry just for feather, they must be producers.

THE BREED.

The farm flock should be one of the heavy or medium heavy breeds. All breeds are good, if you like them; the strain is what counts. Farm hens should be good layers, good foragers, and without the inclination to fly fences. All the heavy breeds will bring back in cash what it cost to raise them, plus the eggs and chicks you get from them. This is not theory, but actual working experience. I can raise chickens now, with feed at its top price, that will bring a net profit when marketed, outside of what the hens have given me in eggs and chicks.

HOW TO DO IT.

Start right, with good laying stock. Breeding hens must be healthy and vigorous, and be fed so that they exercise to develop the internal organs. Then the chicks from them will be livable. If you have young stock raised from a mating you bought from a reliable breeder, pick out the best cockerel, judging him from outside appearance—by stout, short beak, legs wide apart, head up with a defy in his eye, chest deep, back straight and broad across the hackel. Now, mate him to the original pen of old hens, then mate the old male to the most likely laying pullets of his own get. Inside examination of the cockerel—see if the pelvic bones are straight; a male with crooked pelvic bones will get that kind of pullets, and these pullets can't lay as well as those with straight bones.

FEEDING BREEDERS.

Don't try to force breeders to lay all the eggs they are capable of laying; this is the greatest mistake anybody can make. Economize the strength of your breeders by feeding sprouted grain, bone and a little hard beef scraps in deep litter. Keep a feed hopper of non-stimulating mash open about three hours a day. Thos can be a mixture of ground oats, wheat bran, and ground bean meal. Broken black eyed beans can be bought cheap; they are more like peas than beans and very rich in protein. For supper, to the sprouted grain, add a little Gyp corn or milo maize, or cracked eastern corn. Constantly supply charcoal, shell material, and plenty of fresh water. Green feed must be fed intelligently; nothing of a very watery character being given; the sprouted grain is best. Dust the males every week, with a good commercial insect powder, and the hens twice a month. No patent ointments to be used on breeders.

GETTING READY TO HATCH.

Remember that if your building has only thin boards, the machine cannot be held at the same temperature by night as you keep it during the day. The machine and the hens are not to blame for poor results in such a building; walls should be thick enough to keep out cold and heat. Gather the eggs often, cover with a flannel cloth, and keep in an even temperature. Two weeks is the limit for holding eggs before putting in incubators, but they may go a little longer for hen hatching.

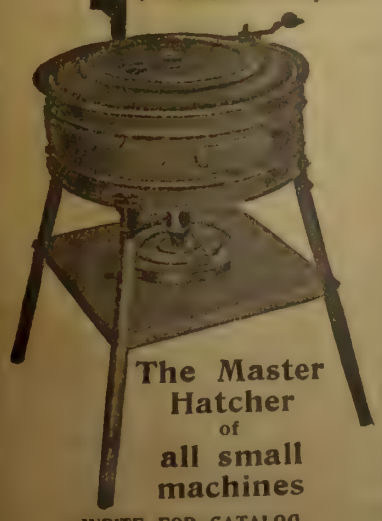
Carefully clean up your machine; spray, disinfect and make it wholesame; use the best quality of oil; and regularly fill the lamp. Always turn your eggs before filling the lamp, then your hands will not be dirty or ill smelling from oil. All these things count in the hatching.

Chicks may be raised cheaply if you commence right; and this is doubly important at this time. Economy in feeding will lower the cost.

Bread of any kind, left over from table, can be toasted brown in the oven when it is not hot enough to burn, and broken up or ground in a food chopper. This with rolled oats, wheat bran, and a little ground oyster shell makes a very good dry mash for small chicks. As they get older add fish meal or meat scrap and cornmeal, about five per cent of each; this mash is good and cheap. To this add a variety of green feed, anything that the chicks like. Broken black-eyed beans can be bought for 2½ cents a pound. Crack them in a food chopper and mix the cracked beans with Gyp or Indian cracked corn, coarse cracked barley, or rolled barley. This makes a chick scratch feed. And by sprouting oats you can certainly raise cheap, healthy chicks in this country if anywhere in the world.

And don't forget, that while engaged in your humble calling you are doing your bit in this war. All the heroes are not dressed in khaki, nor will they all go to France; some of them will be raising food for those who are lucky enough to go.

PEERLESS 66
INCUBATOR
$7.00 Delivered anywhere



The Master Hatcher of all small machines
WRITE FOR CATALOG
GLOBE MILLS, Los Angeles, Cal.

SLOBBERS.

For young rabbits with slobbers change the feed from green feed to dry, give water and rock salt. Slobbers are merely indigestion caused by wrong feeding.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue.

MISSION HATCHERY CHICKS, January, February—R. I. Reds, Barred and White Rocks, Black Minorcas, Anconas, White, Brown, Buff Leghorns; first-class utility stock, well mated; hatched right in our large modern plant. 12,000 chicks weekly. Price and quality talk; see our free circular about them. Mission Hatchery, Box 107, Campbell, Cal.

ORDER NOW — Purebred White Leghorn chicks, 15 cents until March 15th; then 12 cents. Eggs $1.00 per 15, $2.00 per 30, $6.00 per 100. Big plant, best strains, foundation stock, thousands of breeders, 20,000 feet under roof, green feed and fresh cut bone fed daily. Remember, the chick or egg cost is small compared to the feed cost, so get the best. Catalogue free. Newton Poultry Farm, Dept. 1, Los Gatos, Calif.

The SANTA CLARA VALLEY HATCHERY —The big hatchery of the valley. For baby chicks, white and brown leghorns, barred and white rocks; Anconas; black minorcas; Rhode Island reds. Can book orders for January delivery. Place orders early. We want to give them the best attention. Lincoln Ave., San Jose, Cal.

"FINEST HATCHERY IN THE WORLD" Baby Chicks,—White Leghorns, Rhode Island Reds,—settings, 100's, 1000's,—hatched right in our $60,000.00 brick and concrete hatchery from our selected heavy layers. Reasonable prices. Stock,—Eggs. Pebbleside Poultry Farm, Sunnyvale, California.

MODEL POULTRY FARM—White Leghorn specialists. Now booking orders for hatching eggs and baby chicks for 1918 delivery. A few choice breeding cockerels for sale. We have been established 14 years. W. C. Smith, Corning, Cal.

SPRING CHICKS—We are booking orders now; we start our run in January; Rhode Island Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. Remember, order early. Campbell Poultry Ranch, Campbell, Cal.

SPRING CHICKS—We are booking orders now. S. C. White Leghorn, only selected and fully matured stock that is bred to lay used in the breeding pens, which assures strong and vigorous chicks. $12 per 100, $100 per 1000. H. A. Schlotthauer, Route A, Exeter, Cal.

BARRED PLYMOUTH ROCKS—Winners at leading shows and wonderful layers. Choice stock for sale. "Nothing better in poultry." Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

HATCHING EGGS—S. C. White Leghorns. Bred-to-lay Hoganized birds from Pine Tree strain. Fertility guaranteed. Eight years established and still growing. Address Pine Tree Farm, "B," Los Gatos, Cal.

BOURBON RED TURKEYS — Fine stock; dark rich color. My breeding Tom weighs 35 pounds; imported from the highest class Eastern breeder. Albert E. Balmer, Alhambra Valley, Martinez, Cal.

SINGLE AND ROSE COMB Prize Rhode Island Reds. Hatching eggs, breeding pens, cockerels. Send for circular. Wm. Larm, 3915 39th ave., Fruitvale, Cal.

WHITE ORPINGTONS, heavy egg type; Buttercups, fall and winter layers; eggs, chicks; Hoganized stock of all kinds for sale. M. S. Woodhams, R. F. D. 1, San Mateo, Cal.

BOURBON RED TURKEYS for sale. Mrs. Geo. F. Smith, Hardwick, Cal.

BABY CHICKS — From select free range White Leghorn stock; place orders early; prices on application. Western Hatchery, Petaluma, Cal. W. S. Waldorf, Prop.

PLACE YOUR ORDERS NOW with the Madera Hatchery, Madera, Cal., for Barred Rock, R. I. Red and White Leghorn chicks. Spring delivery.

"EASTMAN'S BRED-TO-LAY" Hoganized, Trapnested Barred Plymouth Rocks. January chicks. Eggs. Fairmead Poultry farm, Fairmead, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Cal.; large yearling hens; young birds of both sexes; egg orders now being booked.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, Cal. Stamps.

SIXTY R. I. RED PULLETS—Ready to lay; $1.50 each. Ten Bronze cobblers, $8 each. Wm. A. French, Stockton, Cal.

WHITE WYANDOTTES—A choice lot of breeding males, pullets and hens. R. W. Stawetski, Route B, San Jose, Cal.

MAMMOTH BRONZE TURKEYS FOR SALE —The best in the West. Geo. A. Smith & Son, Corcoran, Cal.

BUFF ORPINGTONS, Buff Leghorns, Bourbon Red Turkeys. Breeding stock. The Ferris Ranch, Route 2, 144D, Pomona, Cal.

GIANT BRONZE TURKEYS and eggs; choice breeding stock. M. M. Reiman, Plansada, Cal.

MAMMOTH BRONZE TURKEYS—Breeding Stock for Sale. Mrs. H. B. Kimball, Farmington, Cal.

MAMMOTH BRONZE TURKEYS and eggs our specialty; also Collie dogs. John G. Mee, St. Helena, Cal.

MAMMOTH BRONZE TURKEYS—from my prize-winning stock. N. E. Mulick, Willows, Cal.

1918 Features that Assure Good Hatches

Twenty patented improvements in all. X-Ray Gas Arrestor prevents [illegible] X-Ray Nursery Tray insures [illegible] X-Ray Egg-Tester, most perfect [illegible] ever conceived; Handy Height; 148 Quick-Cooling Egg Trays - all exclusive features that make poultry success sure.

The 1918 X-Ray Incubator

[illegible] one filling of oil during a hatch.

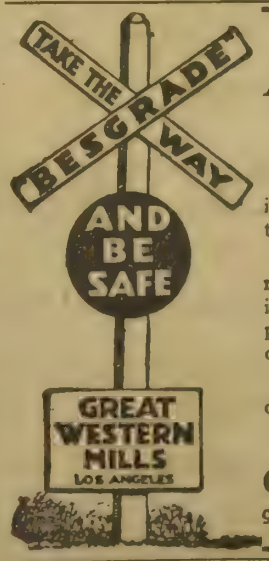
WRITE FOR FREE 1918 CATALOG

Remember, X-Ray Incubators and Brooders are shipped Express Prepaid to most points. Address

BECKER-HART POULTRY FARM
Dept. 21, Beaverton, Ore.
[illegible]

Express Prepaid

X-Ray Incubator Co.
Des Moines, Iowa



Besgrade Milk Mash

is a recognized standard among successful poultry raisers.

You must realize that upon proper nutrition now, depends the baby chick's health and strength in later years—upon proper nutrition now depends its vigor in the sturdy growing youngster of tomorrow.

Future success is too important for you to take chances with improper feeding.

Be safe and do it the "Besgrade Way."

GREAT WESTERN MILLS
9TH AND ALAMEDA STS., LOS ANGELES

PCA Products

The Home of Co-operative Dry Mash
POULTRYMEN'S CO-OPERATIVE MILLING ASS'N.
LOS ANGELES, CALIFORNIA.

P. C. A. DRY MASH

MADE BY POULTRYMEN FOR POULTRYMEN.

A Balanced Ration for Laying Hens. Hundreds of Poultrymen have adopted its use.

ALL FEED. NO WASTE.

Try our Buttermilk Mash. It Gets Results. Ask for "FEEDS AND FEEDING."

Poultrymen's Co-Operative Milling Assn.
Main 2935, A2076
1516 Industrial St., Los Angeles, Cal.

Mrs. Best's Letter.

WHAT TO WEAR AT THE PARTY.

My Dear Friends: If any of you have a young daughter who thinks she must have a new party dress, try freshening up the old one by the use of lace or tulle or net.

THE SKIRT.

If the material is not figured, it will answer for the foundation slip and you can use ruffles of lace for the skirt or layers of tulle or net. If you use the lace, do not have the slip too full and have it well fitted over the hips and then put on the lace rather scantily. Either gold or silver lace is pretty and very good style; and as the beauty is in the freshness rather than the richness of the material it need not be expensive, nor it need not be wide. Narrows ruffles are just as pretty.

If you decide to use tulle or net, it may be of the same color as the silk, and if the silk is not fresh make a tulle skirt that entirely covers the silk one. Then use two large squares of tulle for the drapery, the opening for the waist being in the center of the squares and the points falling to the front, back and sides. Tulle comes two yards wide, so this is possible without seaming. The edges may be picoted or just rolled with a thread of the same color. You see the edges bound with satin for a finish, but it looks heavy to me and would certainly be lots of work. If you want something more fancy in style, the tulle can be put onto the skirt about four inches down from the waist with a deep heading that stands out, giving much the same silhouette that the new bustle skirt does.

THE WAIST.

The waists of all the party dresses are very simple, a little lace and enough of the silk to show that it belongs to the skirt and straps of tulle over the shoulders are about all they consist of. The new butterfly sleeve is very graceful and easily made. It may be any length that is becoming and should be shorter in the front with a tassel or ball at its lowest point in the back to keep it from flying out.

SCARFS AND SLIPPERS.

Many girls like scarfs with their dancing dresses, and those may be of tulle or net the color of the dress or more elaborate ones of Georgette crepe with satin borders, or beaded or spangled ones may be purchased. Fabric slippers are the most popular for evening wear—either brocaded effects or gold or silver cloth with stockings to match. Rhinestone buckles are coming into vogue again and are worn on slippers of any color. At the shoe stores they will furnish you with black paper in which to wrap gold or silver slippers to keep them from tarnishing.

ORNAMENTS NOT IN GOOD TASTE.

Very few hair ornaments are worn by girls even to big parties. The same simple hair dressing that is used for every-day wear is the best style for evening. The same thing is true of necklaces or bracelets—very few of them are seen and those very inconspicuous. The charm of the young girl is in her own freshness and daintiness—not in elaborate clothing and costly jewelry.

ROSABELLA BEST.

THE HOME CIRCLE

CORNMEAL RECIPES.

Cornmeal Griddle Cakes.—Three-quarters cup cornmeal, ¼ cup corn starch, ½ teaspoon salt, ¾ cup boiling water, ½ cup milk, 1 egg well beaten, 2 tablespoons flour and 3 teaspoons baking powder. Sift dry materials, except the flour and baking powder, together, pour on the boiling water and stir quickly. Add gradually the milk and egg, then the baking powder sifted into the flour. Beat well. Bake on a hot griddle until done.

Sour Milk Corn Bread.—Two cups cornmeal, ¾ teaspoon soda, 1 teaspoon baking powder, 1 teaspoon salt, 1 egg, 1½ tablespoons melted shortening, 2 cups sour milk. Mix dry ingredients. Add milk, egg, melted shortening, bake in a shallow pan thirty minutes.

Eggless Muffins.—One cup cornmeal, ½ cup flour, 1 teaspoon salt, 2 teaspoons baking powder, ¼ cup sugar, 1 cup milk, 2 tablespoons melted shortening. Mix dry ingredients, add milk and shortening. Pour in well-greased muffin tins, bake thirty-one minutes.

Every housewife is asked to serve only corn bread at three meals in each week—to save on the wheat flour.

Do not handle goods roughly when cleaning.

The Toy-Strewn House

Give me the house where the toys are strewn
  Where the dolls are asleep in the chairs,
Where the building blocks and the toy balloon,
  And the soldiers guard the stairs;
Let me step in the house where the tiny cart
  With its horses rules the floor,
And the rest comes into my weary heart
  For I am at home once more.

Give me the house with the toys about,
  With the battered old train of cars,
The box of paints and the books left out
  And the ship with her broken spars;
Let me step in a house at the close of day
  That is littered with children's toys,
And dwell once more in the haunts of play
  With the echoes of by-gone noise.

Give me the house where the toys are seen,
  The house where the children romp,
And I'll happier be than man has been
  'Neath the gilded dome of pomp.
Let me see the litter of bright-eyed play
  Strewn over the parlor floor,
And the joys I knew in a far-off day
  Will gladden my heart once more.

Whoever has lived in a toy-strewn home,
  Though feeble he be and gray,
Will yearn, no matter how far he roam,
  For the glorious disarray
Of the little home with its littered floor
  That was his in the by-gone days,
And his heart will throb as it throbbed before
  When he rests where a baby plays.

—By an unknown poet.

Beginning the New Year with Our

Great Annual Clearance

Commencing, Wednesday, January 2nd

Furniture and Home Furnishings at Prices to Effect Decisive Clearances in all Departments

Watch Our Daily Announcements in Los Angeles Newspapers

IF YOU CANNOT COME
WRITE OUR MAIL ORDER DEPARTMENT

Our Mail Order Department will give your requirements careful attention to secure for you the very best bargains. Write for information and prices on any furniture or furnishing you need.

Barker Bros
ESTABLISHED 1880

The House of COMPLETE and COMPETENT Home Furnishing Service

BROADWAY, Between 7th and 8th Streets, LOS ANGELES

SAVORY POTATOES.

Potato Pie.—To 1 quart of hot boiled potatoes add enough hot milk to moisten. Season with butter and salt. Mash in kettle in which they were boiled and beat with a fork until light. Stir in ½ cup of minced ham. Have ready 4 hard-boiled eggs and ½ cup of stock or gravy. Arrange potatoes and sliced eggs in dish in alternate layers with potatoes forming top and bottom layers. Moisten with the gravy. Brush over the top with milk or egg and brown in hot oven. This dish can be arranged in three layers with the middle layer some kind of meat hash bound together with egg or thickened gravy.

Potato Turnovers.—Boil and put through the ricer enough potatoes to measure a pint. Add 1 well-beaten egg, 1 tablespoon of flour and season with salt. Turn on floured board, roll out and cut in circles size of saucer. Place on each a large spoonful of dry hash seasoned with onions and parsley chopped fine. This hash should be dry or bound together with thickening. Double over and pinch together like a turnover. Place on greased baking sheet and brown in hot oven. Serve with a thickened sauce made from the gravy in which the meat was cooked or with a tomato sauce.

Potato Roll.—Heat 1 pint of mashed potatoes and ½ cup of milk in saucepan. Add 1 tablespoon of chopped parsley, salt, and a little red pepper or paprika. Stir in 4 well-beaten eggs and mix thoroughly. Remove from fire and beat until light. Heat 1 tablespoon of fat in frying pan and spread the potato mixture evenly over the pan. Cook until golden brown. Roll like an omelet and serve smoking hot.

Red pepper, or paprika, is preferable to black pepper in these potato dishes.

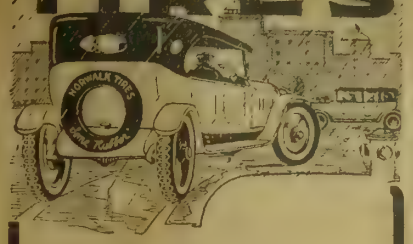
SCHOOL LUNCHES.

A growing child at school needs plenty of good, wholesome food that is easily digested. No child can study well when the system is burdened with heavy food. Good, wholesome sandwiches must form the basis of the lunch and it is better to use two kinds rather than one. One chicken and one jam sandwich, or one of minced ham and one of lettuce, one of brown bread and butter and one of cottage cheese makes a good combination. Cookies with raisins and nuts are better than cake and fruit of some kind should always be added with baked custards or rice puddings for dessert. Apples are especially good and should be generously enough furnished that they can be eaten at recesses.

FOOD SAVING.

It may be interesting to housekeepers to know that some of the churches have conservation committees that get out cards to be signed by their church attendants. These cards have blank reports to be filled: First, the number of wheatless meals served during the week; second, the number of meatless meals; and third, the number of wasteless meals. From these cards are compiled reports that show how well the church members are aiding the Food Administration.

"For All Weather"
NORWALK TIRES



"HOLD" ON SLIPPERY ROADS WITHOUT CHAINS

No need to worry about skidding if your car is equipped with Norwalks. They hold even better than ordinary tires equipped with chains. The wonderful Norwalk tread makes this possible. Every Norwalk user to a man will tell you that Norwalks are absolutely the most efficient nonskid casings ever produced. Eliminate the risk of wrecking your car, eliminate the use of chains, obtain thousands of miles of extra service by using Norwalks. Let us demonstrate the many remarkable Norwalk features.

Factory Distributors

Lichtenberger-Ferguson Company

1211 Van Ness Ave., San Francisco, California.
Cor. Pico and Hope Sts., Los Angeles.

Electric Light for Your Home

The Uni-Lectric is a complete electric service station in home size. Generates standard 110-volt direct current. Big capacity—operates one to 50 lights, electric motors up to 1 h. p., electric irons, electric heaters, vacuum cleaners, force pumps, churns, separators, washing machines, etc.—24 hours a day, every day in the year if you wish. Uses standard lamps and fixtures.

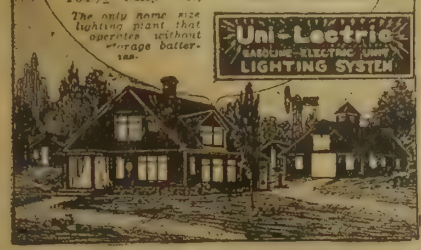
No Belts—No Batteries

Our patented, high-speed, rotary sleeve valve engine operates the modern, high-speed generator with such smoothness that *all necessity* for storage batteries is eliminated. Thus the renewal of batteries and battery up-keep cost is entirely done away with. Outfit comes in one small compact unit, ready for quick installation. Simple, dependable and economical. The entire outfit is absolutely guaranteed. Write today for free copy of Our new catalog of farm-lighting plants.

KARL A. HEDBERG,
104½ Clay St., San Francisco

The only home size lighting plant that operates without storage batteries.

Uni-Lectric GASOLINE-ELECTRIC (UNIT) LIGHTING SYSTEM



Good Health.

[By H. E. Pastor, M. D.]

Crying, the Language of Babyhood.

Baby is mute except for his lusty cry, and it devolves on the mother or nurse to correctly interpret the various forms of crying if baby's wants are to be intelligently heeded and his health properly cared for. If baby is ill, his cry will probably be weak or whining, or subdued and moaning, the latter especially if he is insufficiently nourished. If the child is healthy and there is a lusty scream persisted in, you may rest assured that he believes meal time has arrived and takes this means of apprising you of the fact. Perhaps he is merely thirsty and wants liquid refreshment. When baby gets sleepy and feels like being rocked to sleep or petted or cuddled, he usually indulges in a short, fretful, pettish cry, closes his eyes a good deal, and opens them at intervals for an extra loud yell. If he is not hungry, and is comfortably warm, he will go quietly to sleep when given a chance. If in pain, the cry is a sharp scream and intermittent. The cry subsides when the pain does and begins again suddenly with its return. Under these circumstances the infant should be examined carefully and thoroughly with a view of ascertaining what ails him and affording relief. If it is some adventious thing like a pricking pin, twisted or too tight clothing, too much heat or too much cold, rectify the matter. If there are indications of something more serious, as colic, coryza, earache, etc., better send for a doctor. Sometimes a baby cries just because he enjoys the exercise. This form of cry is loud and lusty, the face shows a lobster redness, and arms and legs are in perpetual motion — and mamma should allow him to enjoy himself to the limit. Likewise if he cries for meanness.

Federal Food Restrictions.

The restrictions on food consumption sought to be imposed by the Government through the Food Administration in nowise militate against the maintenance of a perfect standard of physical health so far as food sufficiency and variety go. It will be observed that a rather sharp distinction between perishable and non-perishable food is made by the public food authorities in recommending or commanding abstention from certain articles of diet on certain days or limiting the quantities consumed. The foodstuffs in the use of which economy is enjoined are the non-perishable and exportable, as wheat, meat, fats and sugar. But unlimited quantities of these on our daily bill of fare are not essential to good health. The perishable foods, on which no restrictions are placed, as dairy products of all kinds, eggs, poultry, fish, fruits and vegetables, and certain grains, easily take their place in whole or in part. Indeed, good health could be maintained on these perishable foods alone, and suffice for all purposes of wholesome nutrition. So that, except to the excessively self-indulgent, no hardship whatever results from Government food restrictions made necessary by the exigencies of the war.

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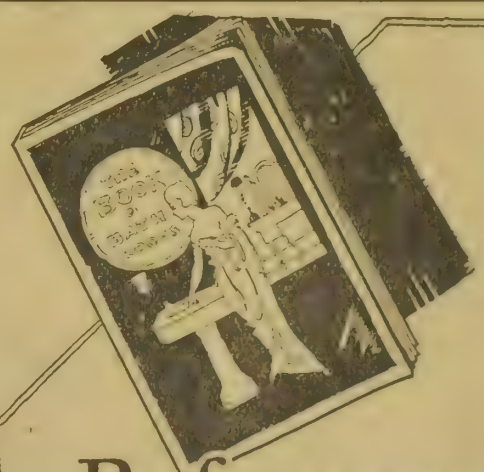

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THE MARKET REPORTS

Figures Given are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, December 26, 1917.

WHEAT.

The rain which began on Christmas day, if it continues long enough, will result in a demand for seed wheat and seeds of all the other grains. Market is unchanged.

(Federal Grain Corporation quotations for bulk grain. Sacked grain 7c per hundred more.)

Sonora wheat	$3.43
Northern Club	3.43
California Club	3.43
Northern Bluestem	3.50
Northern Red	None offering
Russian Red	None offering

BARLEY.

The speculation in barley has not yet run its entire course and quotations this week were again higher. The promise that the long dry spell may soon be broken also had a bullish effect upon the market.

Shipping, per ctl	$2.85@2.90
Brewing	None offering
Choice feed, per ctl	$2.85@2.90

OATS.

The oat market, in sympathy with barley, was somewhat stronger this week. There were few transactions in any of the grains. The holiday season prevents much interest. Heavy rain would show an immediate effect, although buying would not commence for two or three weeks.

White Feed, per ctl	$2.75@2.80
Red Feed, per ctl	2.70@2.75
Red Seed, per ctl	3.25
Black Oats	3.10@3.45

BEANS.

The bean market is affected by the season and is practically dead. Prices are nominal and are unchanged. If the canners take advantage of the Government's permission to can 25 per cent of the normal amount this buying will have a strengthening effect on the entire list.

(Quotations are for choice recleaned stocks, f. o. b. San Francisco.)

Bayos, per ctl	$ 9.00@ 9.25
Blackeyes	8.00@ 8.25
Cranberry beans	11.75@11.90
Horse beans	5.75@ 6.00
Small whites (south)	11.75@12.00
Large whites	11.40@11.60
Limas (south, recleaned)	12.25@12.40
Pinks	7.50@ 7.60
Red kidneys	12.75@13.00
Mexican reds	8.50@ 8.75
Tepary beans	8.75@ 9.00
Garbanzos	7.50@ 7.75

CORN.

The quotations of corn were slightly higher this week, although there is practically no business. The strengthening of the market was due to the more hopeful tone of the general grain market on account of the expected rains.

(First-hand prices on strictly first-class grain, San Francisco.)

Eastern Yellow, ctl., bulk	None offering
California sacked	$3.70@3.85
Milo maize	3.25@3.30
Egyptian	3.25@3.30

HAY.

Receipts of hay this week were 1116 tons. The railroad situation remains the same. The Government has placed orders in California for shipments outside the State. If large quantities are taken by the Government for this purpose and stocks of hay are cut down to a considerable extent, it is a question whether these stocks are large enough to stand the drain and still take care of local requirements as well as furnish hay in the districts where it is needed to sustain cattle which have no pasturage. The hay crop is short this year throughout all the Pacific Coast States. The prices all over the United States are approximately $30.00 and the range of values are on a parity with the California markets.

Wheat, No. 1	$26.00@28.00
No. 2	23.00@25.00
Tame oats	27.00@27.50
Wild oats	23.00@25.00
Barley	24.00@26.00
Alfalfa	24.00@27.00
Stock hay	20.00@22.00
Straw, per bale	60@90c

FEEDSTUFFS.

Tankage and rolled oats are somewhat higher this week. The future of feedstuffs depend to an extent upon the kind of weather which is developed in the next few weeks and also upon the action of the Government in the shipments of hay from this State. (See panel on this page.)

(Per ton, San Francisco.)

Beet pulp, per ton	None offering
Alfalfa meal, per ton	$30.00@32.00
Bran, per ton	38.00@40.00
Oilcake	None offering
Coconut cake or meal	$45.00@46.00
Cracked corn	83.00@84.00
Middlings	52.00@55.00
Rolled barley	55.00@56.00
Tankage	65.00@70.00
Rolled oats	60.00@62.00
Rice middlings	None offered
Rice bran	None offering
Shorts	$45.00@47.00

POTATOES, ONIONS, ETC.

The market for potatoes and onions was stronger this week. The demand was excellent and a considerable stock was cleaned up. Outside of this the vegetable market was firm without changes in prices.

Peas, large	6@8c
String beans, per lb	10@12c
Wax beans, per lb	10@12c
Hubbard squash, per sack	$1.00@1.25
Cucumbers (hothouse), per box	$2.00@2.25
Celery, per crate	$2.00@2.25
Lettuce, Sacramento, per crate	1.75@2.00
do, Los Angeles, per crate	1.75@2.00
Tomatoes, per lug box	1.25@1.75
Potatoes, Salinas	3.00@3.25
Idahos	2.00@2.25
Oregon	2.10@2.35
Rivers, per ctl	2.10@2.25
Sweets, per lb	2¼@2½c
Onions, yellow, per sack	$2.15@2.40
Reds	None offering
Garlic, per lb	5½@6c
Turnips, per sack	$1.00@1.25

POULTRY.

Present prices will probably be maintained until after New Year's Day. The demand for chickens is expected to be especially good, as that fowl is a favorite for the coming holiday. Receipts of turkeys will be light this week, as most of the available stock was shipped in for the Christmas holidays. Some carloads of Eastern chickens are arriving.

(Quotations are for stock sold on commission. Net returns to shippers are about 4c under quotations.)

Turkeys, live, per lb., young	26@28c
do, dressed	32@34c
Broilers, 1½ to 2 lbs	35@36c
do, 1¼ lbs	40@43c
do, under 1¼ lbs	40@43c
Fryers	29@30c
Hens, extra, per lb., colored	26@28c
Small Leghorn	26@28c
Smooth young roosters, per lb., (8 lbs. and over)	26@28c
Old roosters, per lb	18@20c
Geese, per lb	25c
Squabs, per lb	43@45c
Ducks	25@25c
Old	20@22c
Belgian hares (live)	20@21c

BUTTER.

The San Francisco Wholesale Dairy Produce Exchange has sent out a circular letter to the dairies, through its members, regarding the change in the method of quotations on the exchange after the first of the year. It states that after January 1, 1918, quotations of butter will carry a discount of 8 per cent. This discount is the commission charged for handling the produce and the quotation on the exchange thus becomes the wholesale price paid by the retailer. Butter closed 2c lower than the high this week, mainly on account of the holiday.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	50	50½	51	51	...	49

EGGS.

The quotations on eggs after January 1, next, will be the wholesale price and, like butter, will be subject to a discount of 8 per cent in making settlements with the egg raisers. Eggs closed weak on account of the falling off in the demand and increased arrivals after the holiday.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	53	52½	50	49	...	49½
Extra pullets	52	50½	48½	45½	...	45

CHEESE.

The cheese market was dull. The wholesale price of cheese after January 1, 1918, carries a 10 per cent discount for commission.

Y. A.'s	25c
Fancy California Flats, per lb	23c
Monterey cheese	18@22c

FRESH FRUITS.

The market for fresh fruits was unchanged this week. The demand was steady, especially for apples. Lady apples from Oregon sold well, as they always do at Christmas time.

Apples	$1.00@2.00
Casabas, per crate	50@75c
Pomegranates	$1.25@2.00
Persimmons	1.00@1.50
Grapes, Malaga, crate	1.00@2.00
do, Muscats, crate	1.00@2.00
do, Verdell	1.00@2.00

CITRUS FRUITS.

The market for citrus fruits was firm, with the demand good. No changes in prices are quoted. Valencias are becoming scarcer and navels more plentiful.

Oranges:	
Navels	$3.50@4.25
Valencias, fancy	3.00@3.50
Valencias, choice	2.50@3.00
Lemons:	
Fancy, per box	6.00@7.00
Choice	5.00@6.00
Standard	3.50@4.50
Lemonettes	2.00@3.00
Grapefruit, fancy, new	3.00@3.50
Tangerines	1.25@2.50

DRIED FRUITS.

Owing to Christmas week, the market for dried fruits was dull and sluggish.

(Net to growers, bulk basis, f. o. b. San Francisco.)

Apples, new crop	14@15c
Apricots, per lb	Nominal
Figs, black, 1917	Nominal
do, white, 1917	8½@11½c
Calimyrna, 1917	15½@16½c
Prunes, 4-size basis, 1917	6½@8¼c
Pears	6½@11½c
Peaches, 1917	9½@10¾c

BERRIES.

Strawberries	Nominal
Raspberries	Nominal

HONEY.

The honey market has not changed during the past week. The demand is excellent.

Comb—	
Water white	Nominal
Light amber	13@15c
Amber	12@13c
Extracted—	
Water white	Nominal
Light amber	14@16c
Amber	12@14c

RICE.

California rice was unchanged this week. The holiday season affected the market and no new demands are in sight. Inactivity is expected for the next week.

Paddy	$3.40@3.50
Clean Run No. 1 California	$6.45

Special Citrus Market Report

Los Angeles, December 24, 1917.

Shipments of citrus fruits from Southern California from November 1 to December 19: Oranges, 2016 cars, and lemons, 446 cars. Same week last year: Oranges, 2202 cars, and lemons, 655 cars. From Central California: Oranges, 1489 cars, and lemons, 51 cars. Same time last year: Oranges, 3222 cars, and lemons, 96 cars. From Northern California: Oranges, 165 cars, and lemons, none.

Valencias nearly all marketed and the supply of navels on the Eastern markets the past week light, quality superior for this time of year, which encouraged buyers and a sharp advance was had on all new navels. Lemons met with a good demand and market for them reported firm. As Valencias are now about all gone and it is thought all navels from the Tulare district will have been shipped in a week or two, and the Southern California crop of navels will be but a 25 per cent at best, high prices may be expected to continue and a free movement had. The improved conditions of the markets East and the high prices at which apples and other deciduous fruits are selling encouraging buyers to take hold of oranges more willingly. Local packers paying 2@2½c per pound for navels, delivered. Grapefruit dull and lower, packers paying 2@2½c per pound loose, delivered. Lemons in very good demand and firm at 2½@3c per pound, delivered.

AUCTION SALES.

New York, December 22.—Three cars navels and two cars lemons sold. Market strong on navels and lemons. Navels averaged $3.25 to $5.10; lemons, $3.50 to $7.45.

Boston, December 22.—Five cars navels, one car of Valencias, and one car of lemons sold. Market strong on both oranges and lemons. Navels averaged $3.25 to $4.60. Valencias $4.20 to $5.00. Lemons averaged $4.45 to $6.20.

Mill Feed Prices are Lower.

The U. S. Food Administration has issued a circular, in effect December 26, which automatically reduces the prices of feed materially. It reads as follows:

New Rule No. 19—No licensee engaged in the business of milling flour and feed from wheat shall, after December 25, 1917, sell wheat mill feed at any price in excess of the following prices: Bran: Bulk price, per ton of 2,000 pounds, at mill in carload, in no case shall exceed 38 per cent of the average cost to such mill of one ton of wheat at the mill, which cost of wheat shall be the average cost as shown by the previous months' records of said mill, and shall include the 1 per cent administration fee paid by the mill on all wheat ground. Shorts: $2 over bran. Mixed feeds: $4 over bran. Middlings: $9 over bran. Red dog: $15 over bran.

This reduced the price of bran from $38 per ton to about $27. Other millstuffs are to suffer proportionate reductions, viz: Shorts, per ton over bran, $2; mixed feeds, per ton over bran, $4; middlings, per ton over bran, $9; red dog, per ton over bran, $15. These prices—save in the case of middlings—are lower than those of December last. The revised price under the new regulation, and the prices for December, 1916 and 1915, respectively, for the three leading qualities of feedstuffs are as follows:

	Present Price.	Under New Regulation.	Dec., 1916.	Dec., 1915.
Bran	$38	$27	$31½	$24½
Shorts	40	29	32½	26½
Middlings	47	36	35½	30

The above are all bulk prices. Buyers will have to pay, in addition, the cost of sacks or containers.

LOS ANGELES.

Los Angeles, December 24, 1917.

BUTTER.

While receipts held up fairly well the past week, being 276,500 pounds against 267,880 pounds the same week last year, the demand was very good for extras from the consuming trade and there was an improved shipping inquiry. This with the dry weather and advance in San Francisco of 2c caused buyers to bid prices of extras up 2c and this improvement was maintained to the close. On Monday there was a further advance of 2c and no sales at this improvement. Holders reluctant to let go at the advance.

California extra creamery	51c
do, prime first	50c
do, first	49c

Daily quotations:

1917—	Tues.	Wed.	Th.	Fri.	Sat.	Mon.
Extra	47	47	49	49	49	51
1916—						
Extra	35	35	35	35	35	35

EGGS.

There was a very good movement in eggs the past week. Better receipts, however, caused prices to work lower. Receipts by rail for the week were 909 cases against 932 cases same week last year and the arrivals by truck also showed an improvement. The result was a decline of 4c up to Saturday. But at the lower range of prices there was very good trading. While storage stocks are being rapidly reduced, the increase in the fresh egg supply is making up for the loss in cold storage. This with the fact that the holiday demand is now over, is having a bearish influence upon the trade.

Daily quotations:

1917—	Tues.	Wed.	Th.	Fri.	Sat.	Mon.
Extra	50	53½	52	49	49	49
Case count	51	51	47	47	47	47
Pullets	51	51	48	47	47	[illegible]
1916—						
Case count	38	38	38	38	38	36

POULTRY.

The past week was a fairly active one in this market. Under a good Christmas demand all kinds of poultry sold readily and brought good prices.

We quote from growers per pound, live weight:

Broilers, 1¼ to 2 lbs	33@34c
Fryers, 2½ to 3 lbs	27c
Hens over 4 lbs.	25@26c
Hens under 4 lbs	21@22c
Ducks	22@23c
Geese	18c
Roosters, 3 lbs. up (soft bone)	25@26c
Turkeys, heavy, 12 lbs. and up	28@29c
Turkeys, light	26@27c
Squabs, live, per lb	35c
Dressed, per lb	45c

VEGETABLES.

It being the week before Christmas, there was little doing aside from supplying the local trade, and there are but few price changes to note.

We quote from growers:

Potatoes, Northern, per cwt	$1.50@2.00
do, local, per cwt	1.50@2.00
do, Idaho, per cwt	1.50@1.75
Onions, yellow, per cwt	1.50@2.00
do, White, per cwt	1.50@2.00
Garlic, per lb	3@4c
Cabbage, per 100 lbs	$1.25
Lima beans, per lb	8½@9c
Bell peppers, per lb	8@8½c
Chile peppers, per lb	3½@4c
Celery, per crate	$1.75@2.00
Eggplant, per lb	3@4c
Sweet potatoes, per cwt	$2.75@3.00
Cauliflower, per crate	1.50@2.00
String beans, per lb	7@9c

FRUITS.

Apples and Japanese persimmons made up most of the offerings the past week from the country. They were both in fair demand. Other fruits were represented by cold storage stocks.

We quote from growers:

Apples—	
Bellefleur, 4-tier	$1.40@1.45
Jonathan, 4-tier	$1.75@1.90
Local apples, per box	$1.10@1.20
Japanese persimmons, per lb	4@8c

WALNUTS.

The market continues firm. No good nuts can now be had from first hands. A number of culls continue to arrive.

Association prices:

	1917	1916
No. 1	20c	15.50c
No. 2	16c	12.50c
Budded	24c	19.90c
Jumbo	24c	17.50c
Culls	5@12c	.....

BEANS.

This market is much the same as a week ago. Demand light. The trade is only taking such lots as needed for immediate use.

We quote from growers:

Limas, per cwt	$11.50
Large white, per cwt	11.50
Small white, per cwt	11.50
Pinks, per cwt	8.00
Blackeyes, per cwt	7.50
Tepary	7.50

HAY.

The market continues firm under light arrivals and good dairy hay is in demand. The better grades of horse hay are also moving fairly, but not selling as freely as the best grades of alfalfa, that are wanted for dairy purposes.

We quote f. o. b. Los Angeles:

Barley hay, per ton	$27.00@28.00
Oat hay, per ton	28.00@29.00
Alfalfa, northern, per ton	26.00@27.00
Alfalfa, local, per ton	28.00@29.00
Straw, per ton	10.00@12.00

COTTON.

A fairly active market was had in New York last week. January in New York closed at 29.65c and spot middling in New Orleans at 29.13c, which is higher than a week ago.

HIDES AND PELTS.

The market continues dull for all hides.

Pelts, however, remain firm and demand good.

HIDES—Green Salted:
Heavy steers, per lb.....17c
Light steers, per lb.....16c
Kips and calf skins, per lb.....23c
Bulls and stags, per lb.....14c

PELTS:
California full wooled, per lb.....25c
California medium wooled, per lb.....18c
California short wooled, per lb.....15c

Special Livestock Market Report

San Francisco, December 26, 1917.

CATTLE—In addition to the usual subsidence of interest in beef cattle around the holiday season, due to the preference for poultry, the recent call of the Government for an inventory of holdings seems to have had some effect in the way of beef conservation and some stockmen are holding back supplies.

Steers—
No. 1 weighing 900@1200 lbs..9½@10 c
No. 1 weighing 1200@1400 lbs..9½@10 c
Second quality .....8¾@9 c
Thin undesirable .....6 @8 c
Cows and Heifers—
No. 1 .....7¾@8¼c
Second quality .....7 @7½c
Common to thin, undesirable...4 @6 c
Bulls and Stags—
Good .....5¾@6¼c
Fair .....5 @5½c
Thin .....4 @4½c
Calves—
Lightweight .....9 @9½c
Medium .....8½@8¾c
Heavy .....7 @7¾c

SHEEP—Between the feeling of sheepmen that sheep are too valuable for wool to sell for mutton, and the partiality of the consuming public for beef at prevailing market prices, the mutton sheep market is not active. However, light receipts suffice for the light demand.

Lambs—
Milk .....15½@16 c
Sheep—
Unshorn wethers .....12½@13 c
Unshorn ewes .....9½@10½c

HOGS—A notable feature of the hog market at this writing is a marked slacking up in receipts of lightweight hogs, holders evidently feeling that at present prices it will pay them to feed up and put on more weight before marketing.

Hard, grain-fed, 100@140 .....14½c
do, 140@175 .....15 c
do, 175@300 .....15½c
do, 300@400 .....15 c

Los Angeles, December 24, 1917.

CATTLE—A rather quiet market was had the past week. Feeders were offering quite freely and the tone of the market was weak. A dull beef market caused them to buy rather sparingly.

Per cwt., f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs.....$8.50@9.00
Prime cows and heifers..... 7.00@7.50
Good cows and heifers..... 6.50@7.00
Calves, per cwt..... 8.00@9.00

HOGS—The supply of hogs coming in continues very good, also quality. This with weak markets East and the end of the year being at hand causing killers to hold back and take on only moderate supplies. The tone of the market is downward.

Per cwt., f. o. b. Los Angeles:
Heavy, averaging 250@300 lbs.$12.75@13.75
Mixed, 200@250 lbs..... 14.25@15.25
Light, 175@200 lbs..... 14.25@15.25

Rough docked 20 pounds, piggy sows 40 pounds, and stags 40 per cent.

SHEEP—Receipts continue light and market firm. The high prices causing killers to handle but few sheep and lambs as the demand of the trade for mutton and lamb at the high prices asked is limited.

Per cwt., f. o. b. Los Angeles:
Prime wethers .....$ 9.50@11.00
Prime ewes ..... 10.50@11.00
Yearlings ..... 10.50@11.50
Lambs ..... 14.00@15.00

North Portland, Ore., Dec. 24, 1917.

The Christmas market was, comparatively speaking, a lively affair in the Portland Union Stockyards, embracing about 800 cattle, 1600 pigs and 100 sheep.

The cattle market was especially active, carrying with it an advance of 25c to 35c in the various departments. Steers went at $10.25 and at that were not as good quality as those which brought the same price at the high time and a short time since. Cows are about 10c better than they have been any time during the season, showing a $7.85 top. An extra quarter was added to the top end of the bull market for the first time in several weeks and calves went at 10c.

In the hog department a very active business was shown. More hogs brought $15.60 on to-day's market than on any previous market for the past week.

The sheep market bore a very small offering and sales were comparatively sluggish.

CATTLE — Medium to choice steers, $9.75 to $10.50; good to medium steers, $8.75 to $9.65; common to good steers, $7.25 to $8.40; choice cows and heifers, $7.00 to $7.85; common to good cows and heifers, $5.75 to $7.35; canners, $3.00 to $5.50; bulls, $4.50 to $7.00; calves, $7.00 to $10.00; stockers and feeders, $6.00 to $8.00.

HOGS—Prime light, $15.35 to $15.50; prime heavy, $15.40 to $15.60; pigs, $13.50 to $14.50; bulk, $15.50.

SHEEP—Western lambs, $13.00 to $13.50; valley lambs, $12.50 to $13.00; yearlings, $12.00 to $12.50; wethers, $11.75 to $12.25; ewes, $8.00 to $10.00.

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	26.65	34.91	28.16	36.90
" 16	27.83	35.83	28.10	37.00
" 23	28.85	36.91	28.50	35.00
" 30	36.33	38.48	36.66	38.87
Feb. 6	30.25	40.00	32.33	41.19
" 13	31.40	39.70	33.25	39.00
" 20	32.00	36.00	32.00	37.00
" 27	30.90	37.00	35.25	36.00
March 6	24.08	35.50	24.16	34.50
" 13	29.91	33.50	28.83	33.00
" 20	28.33	33.25	27.16	33.00
" 27	28.50	36.00	28.08	33.00
April 3	28.50	37.91	28.83	36.33
" 10	29.31	39.33	28.00	37.00
" 17	27.33	39.58	27.50	38.00
" 24	25.25	35.66	25.00	36.50
May 1	24.33	33.08	25.33	33.00
" 8	24.10	34.05	25.00	33.20
" 15	24.58	35.50	25.66	34.16
" 22	25.00	36.30	25.00	35.16
" 29	26.50	36.60	26.50	37.33
June 5	25.50	36.30	27.00	37.66
" 12	25.83	36.50	27.00	38.00
" 19	24.50	36.00	25.91	36.33
" 26	24.50	36.16	25.91	37.50
July 3	24.60	35.06	26.00	37.00
" 10	26.40	36.41	26.60	37.16
" 17	25.83	37.83	26.00	38.66
" 24	26.00	40.25	26.00	40.61
" 31	26.00	42.82	25.91	42.58
August 7	21.00	43.00	29.16	44.00
" 14	26.50	41.66	26.00	43.00
" 21	26.50	41.50	27.95	42.00
" 28	27.25	41.91	28.50	42.00
Sept. 4	30.00	42.10	30.50	41.33
" 11	30.20	42.00	32.00	41.00
" 18	30.41	45.00	31.09	43.00
" 25	30.41	45.00	30.50	45.50
October 2	31.66	44.90	32.16	45.91
" 9	32.91	44.90	32.83	46.33
" 16	33.50	46.25	33.50	47.00
" 23	32.75	45.41	33.00	46.50
" 30	32.59	43.50	33.00	44.83
Nov. 6	32.66	41.41	33.00	42.00
" 13	32.80	40.83	33.00	41.33
" 20	35.25	40.83	35.66	42.22
" 27	36.41	40.83	36.50	41.33
Dec. 4	35.60	41.70	36.80	42.00
" 11	34.83	44.50	35.16	44.66
" 18	33.75	46.00	34.50	46.00
" 26	34.10	50.30	35.00	48.66

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week Ending	San Francisco 1916	San Francisco 1917	Los Angeles 1916	Los Angeles 1917
Jan. 9	31.41	37.91	32.00	38.16
" 16	30.33	41.83	30.75	40.83
" 23	34.83	32.50	34.33	33.12
" 30	36.33	32.08	36.66	33.01
Feb. 6	35.66	34.99	35.50	34.70
" 13	28.90	33.30	28.00	31.66
" 20	23.66	33.01	20.33	30.75
" 27	20.30	29.00	18.50	27.66
March 6	18.33	24.75	18.00	24.91
" 13	19.50	25.96	18.91	26.08
" 20	20.00	25.66	19.08	25.91
" 27	21.41	27.16	20.83	28.00
April 3	21.75	28.58	21.00	29.25
" 10	22.00	29.66	21.00	30.41
" 17	21.16	32.33	20.91	32.08
" 24	21.83	32.01	22.58	32.83
May 1	21.00	32.00	22.58	31.83
" 8	21.20	32.75	21.41	32.00
" 15	24.58	34.20	20.83	32.50
" 22	25.46	33.40	22.50	34.00
" 29	25.00	33.80	22.50	33.50
June 5	25.00	33.20	24.51	34.66
" 12	25.00	31.16	24.16	33.00
" 19	24.83	31.41	23.75	33.10
" 26	24.66	30.16	24.58	32.16
July 3	24.60	31.90	24.00	34.25
" 10	26.10	33.50	24.00	36.00
" 17	27.16	33.66	27.00	34.41
" 24	28.20	35.25	28.00	35.91
" 31	28.50	38.00	28.00	36.91
August 7	26.16	42.58	26.00	40.16
" 14	33.08	41.41	31.00	37.08
" 21	33.09	43.33	31.83	42.25
" 28	33.50	43.50	32.00	43.50
Sept. 4	36.13	43.80	32.00	43.58
" 11	37.90	45.08	36.00	44.91
" 18	38.83	47.83	37.00	47.83
" 25	39.75	47.58	38.66	49.50
October 2	39.75	47.00	40.50	50.83
" 9	42.25	47.10	43.16	51.50
" 16	48.50	52.59	49.32	54.50
" 23	47.01	54.83	46.50	56.16
" 30	47.09	56.16	43.33	58.00
Nov. 6	47.66	57.41	45.50	57.80
" 13	49.50	56.25	48.00	55.16
" 20	52.59	56.25	49.50	54.36
" 27	53.33	56.25	49.66	55.16
Dec. 4	45.10	52.70	45.40	52.16
" 11	40.25	50.00	39.50	49.66
" 18	39.66	53.50	38.33	52.50
" 26	40.00	50.80	37.60	51.25

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